Initial Statement

UNITED STATES OF AMERICA

BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

SOUTHERN CALIFORNIA EDISON COMPANY - PROJECT NO. 2085

APPLICATION FOR LICENSE FOR MAJOR PROJECT–EXISTING DAM

1. Southern California Edison (SCE or Applicant) applies to the Federal Energy Regulatory Commission (Commission) for a new License for the existing Mammoth Pool Hydroelectric Power Project (Project), as described in the attached exhibits. The existing Project is designated as Project No. 2085 in the records of the Commission, pursuant to a License issued by the Commission on December 30, 1957 and effective on December 1, 1957, for a period of 50 years, and terminating on November 30, 2007. This Application For New License for Major Project – Existing Dam is filed pursuant to 18 CFR §§ 4.51 and 16.9.

2. The location of the project is:

   State: California

   County: Fresno County and Madera County

   Nearby Town: North Fork

   River: San Joaquin

3. The exact name and business address of the applicant are as follows:

   Southern California Edison Company
   Attention: Nino J. Mascolo
   Senior Attorney
   2244 Walnut Grove Avenue
   P.O. Box 800
   Rosemead, California 91770
   (626) 302-4459

The exact name and business address of the person authorized to act as agent for the Applicant in this Application is

Russ W. Krieger
Vice President, Power Production
Southern California Edison Company
300 N. Lone Hill Ave.
San Dimas, CA 91773
(909) 394-8667

4. The Applicant is a domestic corporation. No municipal preference exists under section 7(a) of the Federal Power Act for this existing licensed Project.

5(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 Section 1200, et seq.; Title 23 California Code of Regulations Section 650 et seq., permits an application to be filed with the California Water Resources Control Board to obtain a permit to appropriate water, which is otherwise declared unappropriated, for beneficial uses including power uses.

B. California Water Code Section 13160; Title 23 California Code of Regulations Section 3855, regulates the federally required filing of applications for water quality certification with the California Water Resources Control Board.

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

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

A. Applicant has either obtained the necessary permits and licenses or otherwise acquired water rights by appropriation and/or prescription for use of Project water.

B. Licensee will file an application for a water quality certificate or waiver thereof with the California Water Resources Control Board when the Commission issues its Notice of Ready for Environmental Analysis, and will furnish documentation of that application to the

Commission. The state water quality regulations require the federal license application to be filed with the state agency for an application for a water quality certificate to be complete.

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

6. The Applicant is the owner and existing licensee of the Project. The dam associated with the Project is not federally owned or operated.

Date: 11/22/05

By: Russ W. Krieger

Russ W. Krieger
Vice President, Power Production

VERIFICATION

This Application For New License For Major Project – Existing Dam is executed in the

STATE OF CALIFORNIA
CITY OF SAN DIMAS
COUNTY OF LOS ANGELES

By: Russ W. Krieger
Vice President, Power Production
Southern California Edison Company
300 N. Lone Hill
San Dimas, California 91773

Russ W. Krieger, being first duly sworn, deposes and says: that he is a Vice President of Southern California Edison Company, the Licensee making the Application for New License for the Mammoth Pool Hydroelectric Power Project (FERC Project No. 2085); that he has read said Application and knows the contents thereof; and that the same are true to the best of his knowledge and belief. The undersigned Applicant has signed the Application this 22nd day of November 2005.

Russ W. Krieger
Vice President, Power Production

State of California
County of Los Angeles

On November 22, 2005 before me, Helen B. Redondo, personally appeared Russ W. Krieger, proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

Witness my hand and official seal.

HELEN B. REDONDO
Commission # 1606236
Notary Public - California
Los Angeles County
My Comm. Expires Oct 1, 2009

Signature Helen B. Redondo

SECTION 4.32 GENERAL INFORMATION

This section of the Application for New License for the Project is intended to set forth the information required by 18 C.F.R §4.32, as follows:

a) Each applicant must:

(1) For a preliminary permit or license, 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) For a preliminary permit or a license, 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 potential 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 or any Federal facilities that would be used by the project;

(iv) Every 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.

(1) To the knowledge of the Applicant, no person, citizen, association of citizens, domestic corporation, municipality, or state, other than the Applicant has or intends to obtain any proprietary right necessary to construct, operate, or maintain the Project.

(2) (i) All Project boundaries and facilities are located in the County of Fresno and County of Madera, with the principal administrative offices located at:

Fresno County Board of Supervisors 2281 Tulare Street, Room 301 Fresno, CA 93721	Madera County Board of Supervisors 209 West Yosemite Ave. Madera, CA 93637

(ii) None of the Project boundaries or facilities are located within any city, town, or other similar local political subdivision. There are no communities of 5,000 or more people located within 15 miles of the Project.

(iii) There are no irrigation districts, drainage districts, or other similar special purpose political subdivisions located within the Project area or which own, operate, or maintain any Project facilities.

(iv) The following political subdivisions or organizations in the general area of the Project may be interested in the application:

North Fork Chamber of Commerce
P.O. Box 426
North Fork, CA 93643

North Fork Community Development Council
P.O. Box 1484
North Fork, CA 93643

Shaver Lake Chamber of Commerce
P.O. Box 58
Shaver Lake, CA 93664

Sierra Unified School District
31795 Lodge Road
Auberry, CA 93602

Big Creek Elementary School District
55190 Point Road
Big Creek, CA 93605

Pine Ridge Elementary School District
45828 Auberry Road
Auberry, CA 93602

Chawanakee School District
P.O. Box 400
North Fork, CA 93643

(v) The Federal recognized Indian tribe and other Indian organizations that may be affected by the Project include:

Big Sandy Rancheria*
PO Box 337
Auberry, CA 93602

Cold Springs Rancheria*
P.O. Box 209
Tollhouse, CA 93667

North Fork Rancheria*
PO Box 929
North Fork, CA 93643

Dunlap Band of Mono Indians
PO Box 45
Dunlap, CA 93621

Picayune Rancheria*
46575 Road 417
Coarsegold, CA 93614

Table Mountain Rancheria*
PO Box 410
Friant, CA 93626

Mono Nation
PO Box 197
Dunlap, CA 93621

North Fork Mono Tribe
13396 Tollhouse Rd
Clovis, CA 93611

Sierra Nevada Native American Coalition
PO Box 125
Dunlap, CA 93621

Bishop Tribal Council
50 Tu Su Lane
Bishop, CA 93514

Sierra Mono Museum
P.O. Box 275
North Fork, CA 93643

Native Earth Foundation
34329 Shaver Springs Rd.
Auberry, CA 93602

*Federally recognized tribal organization

SOUTHERN CALIFORNIA EDISON COMPANY

BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

MAMMOTH POOL PROJECT

(FERC Project No. 2085)

APPLICATION FOR NEW LICENSE

EXHIBIT A

NOVEMBER 2005

EXHIBIT A DESCRIPTION OF PROJECT

Exhibit A is a description of the Project. Pursuant to 18 C.F.R. §4.51(b), the description for the Project 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;
>
> (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 in 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.

(1) General Configuration

The Mammoth Pool Project is located in the central Sierra Nevada, within the San Joaquin River watershed, approximately 50 miles northeast of the City of Fresno. Project facilities, shown in Figure A-1, are located in Fresno County and Madera County, California and within the Sierra National Forest which is administered by the United States Forest Service, Department of Agriculture. The Project is operated as a reservoir-storage type plant with an installed operating capacity of 190.0 MW and a dependable operating capacity of 187.0 MW. Water for the Project is taken from the San Joaquin River, Ross Creek, and Rock Creek and conveyed to the Mammoth Pool Powerhouse through the Mammoth Pool Tunnel. The energy generated by the Project is transmitted to the SCE transmission and distribution system at the non-project Big Creek No. 3 switchyard, and used for public utility purposes.

Placeholder for Figure A-1

Non-Internet Public Information

This Figure has been removed in accordance with the Commission regulations at 18 CFR Section 388.112.

This Figure is considered Non-Internet Public information and should not be posted on the Internet. This information is provided in Volume 5 of the Application for New License and is identified as "Non-Internet Public" information. This information may be accessed from the FERC's Public Reference Room, but is not expected to be posted on the Commission's electronic library, except as an indexed item.

A. MAMMOTH POOL DAM AND SPILLWAY

The Mammoth Pool Dam is located on the San Joaquin River in the N1/2 of Section 14 T7S, R24E, M.D.B. and M. The dam is a compacted earthfill structure which is approximately 330 feet high. The crest of the dam is situated at an elevation of 3,361 feet msl and is approximately 828 feet long and 30 feet wide. The distance between the upstream and downstream toe of the dam is approximately 2,100 feet.

The Mammoth Pool Dam Spillway is located approximately 1,500 feet west of the western abutment of the dam and consists of a separate overflow channel that is cut through a rock ridge. The spillway is an ungated, chute-type spillway that has an ogee control section with an effective crest length of 403 feet at an elevation of 3,330 feet msl. The spillway is designed to discharge up to 170,000 cfs at a reservoir elevation of 3,355.7 feet msl. The spillway discharge channel joins the San Joaquin River a safe distance downstream from the toe of the dam.

The outlet works for the dam were converted from the 28-foot diameter, 2,150 foot long tunnel built to divert the river during construction of the dam. A concrete plug was placed in the tunnel near the intersection with the dam axis and two valves, a 72-inch butterfly and a 60-inch Howell-Bunger, are connected in tandem to a 72-inch diameter conduit that passes through the tunnel plug. The downstream of these two valves, the 60-inch Howell-Bunger valve, is the reservoir low-level outlet controlling valve and is designed to release 1,200 cfs at a minimum reservoir elevation of 3,125 feet msl and 2,100 cfs at the reservoir spillway elevation of 3,330 feet msl. Because of the proximity of the fishwater generator to the Howell-Bunger valve, SCE normally does not operate the Howell-Bunger valve at flows greater than approximately 800 cfs, to avoid saturating the fishwater generator windings. A 30-inch diameter penstock equipped with a 30-inch manual control gate valve also passes through the tunnel plug and extends to the outlet tunnel portal where it connects with a small turbine (the Fishwater generator).

The reservoir created by the Mammoth Pool Dam is known as Mammoth Pool Reservoir and has a gross storage capacity of 119,940 acre-feet at the spill crest elevation of 3,330 feet msl. The reservoir, with a length of over 8 miles when filled to the spillway crest elevation, covers about 1,100 acres of land in Sections 18, 19, and 30, T.6 S., R.25 E.; Sections 25, 35, and 36, T.6 S., R.24 E.; and Sections 1, 2, 3, 10, 11, and 14, T.7 S., R.24 E., all M.D.B. and M.

B. Rock Creek Diversion Dam

The Rock Creek Diversion Dam is located on Rock Creek approximately 3.5 miles south of the Mammoth Pool Dam in the NE1/4 of the SW1/4 of Section 34, T.7. S., R.24 E., M.D.B. and M. The dam is constructed of concrete and is approximately 9 feet high with a crest length of approximately 93 feet. The spillway elevation for the dam is 3,336 feet msl. The Rock Creek runoff is diverted into the Mammoth Pool Power Tunnel. The runoff is conveyed through 434 feet of 20-30 inch diameter steel pipe to a 20-inch diameter vertical borehole connected to the tunnel. There is no gage present at the diversion, as there is currently no minimum instream flow requirement.

C. Ross Creek Diversion Dam

The Ross Creek Diversion Dam is located on Ross Creek approximately 7 miles south of the Mammoth Pool Dam in the SW1/4 of the NW1/4 of Section 15, T.8. S., R.24 E., M.D.B. and M. The dam is constructed of concrete and is approximately 7 feet high with a crest length of approximately 53 feet. The spillway elevation for the dam is 3,359 feet msl. The Ross Creek runoff is diverted into the Mammoth Pool Power Tunnel. The runoff is conveyed through 607 feet of 10-12 inch diameter steel pipe into a 10-inch diameter vertical borehole connected to the tunnel. There is no gage present at the diversion, as there is currently no minimum instream flow requirement.

D. Mammoth Pool Power Tunnel

The water conveyance system consists of the following: 1) the 39,350-foot long (not including 211 feet of 13–foot diameter steel pipe at the Shakeflat Creek Crossing) Mammoth Pool Power Tunnel; 2) a surge chamber; 3) a rock trap; and, 4) a single 1,988 foot long penstock.

The Mammoth Pool Power Tunnel is 39,350 feet long (not including 211 feet of 13–foot diameter steel pipe at the Shakeflat Creek Crossing) and extends from the Mammoth Pool Reservoir to the connection with the upper end of the single penstock associated with the Mammoth Pool Powerhouse. The tunnel consists of a nominal 20-foot diameter horseshoe-shaped tunnel with a 0.5-foot thick concrete paved invert, except in sections where the rock is unsound in which the full-section of the tunnel is lined with concrete and supporting steel with a nominal diameter of 17 feet. Intake to the tunnel is controlled by a fixed-wheel gate that is powered by an electrically operated hoist.

The surge chamber is located approximately 800 feet upstream of the tunnel outlet portal. The chamber is approximately 23 feet in diameter and approximately 350 feet high extending from the base of the tunnel at an elevation of 3,022.52 feet msl to the ground surface at an elevation of 3,372.0 feet msl. The ground surface at the chamber outlet is lined with concrete and surrounded by an 8-foot high chain link fence.

The rock trap is located approximately 490 feet upstream of the tunnel outlet portal. The trap is 30 feet long by 6 feet deep and is lined with concrete.

E. PENSTOCKS

The Project includes a single 1,988-foot long penstock that consists of a 158 to 129-inch diameter steel pipe which bifurcates into two 93-inch diameter steel pipes just upstream of the Powerhouse. The upstream end of the penstock intersects with the Mammoth Pool Power Tunnel outlet portal. A 144-inch butterfly valve is located in the penstock approximately 30 feet below the tunnel portal. The legs of the Y-bifurcation are each 93-inches in outside diameter, approximately 93 feet long, and extend to 90-inch butterfly valves located immediately upstream of the two turbines. The Mammoth Pool power conduit is designed to carry approximately 2,500 cfs under optimum conditions.

F ADITS

There are two adits connected to the Mammoth Pool power tunnel. The adits were part of the construction of the tunnel and are occasionally used for inspection or maintenance of the tunnel.

G. TAILRACE

The tailrace for the Mammoth Pool Powerhouse is located immediately adjacent to the San Joaquin River, behind a low wing-wall made of native rock. The wing-wall creates a back-water pond which protects the turbines from turbulence.

H. POWERHOUSE

The Mammoth Pool Powerhouse is located in the SE1/4 of the NW1/4 of Section 22, T.8 S., R.24 E., M.D.B. and M., in the County of Madera, State of California.

The Powerhouse is designed as an unattended outdoor facility with a minimum of permanent facilities for personnel. The normally-unattended control room is located at the generator floor level and houses the control equipment. A maintenance shop, battery room, sanitary facilities, and storage facilities are located on the Powerhouse property to the west of the turbines.

The Fishwater generator is located underground in the outlet portal of the Mammoth Pool Dam diversion tunnel. The chamber contains the fishwater generator, waterwheel, transformer, circuit breaker, and limited storage cupboards. There are no facilities for personnel in the outlet tunnel.

I. CONTROLS

The Mammoth Pool Powerhouse operation may be controlled either locally from the powerhouse or remotely from the non-project Big Creek Powerhouse No. 3 Control Center. Under normal operation, the Powerhouse is unattended and is operated from non-project Big Creek Powerhouse No. 3 (FERC Project No. 120). The facility controls include the conventional switchboard instruments, switches, etc., for the main and auxiliary equipment. Telemetering, supervisory control, dam equipment control, ultrasonic flow meters, and communication equipment connect the Powerhouse with all parts of the Edison system. The control equipment is arranged such that normal operation, startup, and shutdown of the unattended plant can be and is conducted by automatic control from the non-project Big Creek Powerhouse No. 3 control station.

The Mammoth Pool Fishwater Generator and associated equipment is manually operated and controlled for start-up synchronization, but is normally unattended for service. The unit is controlled by system frequency. A speed switch and DC tachometer generator provide speed indication and over speed tripping. Tripping is alarmed at Big Creek Powerhouse 3 control station and must be manually reset. Protection for the generator is provided from relays as follows: over current, ground detection, over voltage, anti-motoring, transformer grounding, control power transfer, and a lockout relay.

(2) Storage Capacity

The Mammoth Pool Project operates as a reservoir-storage type plant. The Mammoth Pool Reservoir has a gross storage capacity of 119,940 acre-feet at the spill crest elevation of 3,330 feet msl.

(3) Turbines and Generators

The Mammoth Pool Powerhouse contains two Francis-type vertical shaft hydraulic reaction turbines rated at 100,000 HP each at 360 rpm under a design head of 1,004 feet. The two Powerhouse generators are Y-connected and consist of vertical shaft, closed circuit air-cooled/water heat exchangers, three bearing type. The Unit 1 and Unit 2 generators are rated at 95,000 kVA, unity power factor, 13.8 kV, three-phase, 60 Hz.

In addition to the Powerhouse turbines, the Project also includes the Fishwater turbine which is located at the downstream portal of the converted diversion tunnel for Mammoth Pool Dam. The turbine is used to recover the energy of minimum instream flow water released from the reservoir through the dam. The Fishwater turbine consists of a Pelton-type turbine that is rated at 1,400 HP at a design head of 310 feet and operates at 600 rpm. The Fishwater generator is a two bearing horizontal shaft, indoor, open type, self cooled waterwheel unit with an installed capacity of 937 kW, 1,250 kVA, 75% pf., 2,300 V.

(4) Primary Transmission Lines

The Mammoth Pool Project includes one primary 230-kV transmission line that is 6.7 miles long and connects the Powerhouse to the non-project Big Creek No. 3 Switchyard. The line consists of a 230-kV, 3-phase, single circuit line constructed of 605 MCM ACSR conductors supported by suspension-type insulators on single circuit steel towers.

A 0.6 mile project line connects the Fishwater generator to the Stevenson 12 kV (non-project) at pole switch No. 226 (non-project). This line consists of a 3-phase, single circuit, 12 kV line constructed of 336 MCM ACSR conductors supported by pin-type insulators on wood poles.

(5) Mechanical, Electrical and Transmission Equipment

A. Oil Storage and Handling System

The powerhouse contains an oil storage and transfer facility for governor oil and bearing lubricating oil. Separate clean oil and used oil tanks are provided. The powerhouse is designed to contain any oil spills within concrete containment walls or curbs, and has an oil-water separator which ensures that any runoff from the powerhouse deck does not discharge any oil off the property.

B. Cooling Water System

Cooling water for the generator heat exchangers and bearing oil coolers is taken from the turbine draft tubes or tailrace by two motor-driven cooling water pumps and returned to the tailrace after once-through use as a coolant. The system is protected by 8-inch Elliot automatic strainers at the pump intakes and again at the units by 4-inch Elliot automatic strainers. The cooling water system is designed to provide emergency cooling water from the penstock through a series of pressure reducing valves, a manual 10-inch duplex strainer and Elliot automatic 10-inch strainer, for either one or both units in case of a pump failure or other problems with the normal pump supply. The cooling water system for both turbine bearings was redesigned with the addition of external heat-exchangers, to prevent oil leaks into the tail race.

The Fishwater generator is air cooled.

C. VALVES

Mammoth Pool Powerhouse Units No. 1 and 2 turbine shut-off valves consist of 90-inch butterfly valves that operate on a horizontal shaft. The valves are hydraulically operated using penstock water downstream of the valve for opening and penstock water upstream of the valve for closing. Operation of the valves can be accomplished either manually at the control panel near the valve or remotely. The turbine shut-off valves can be operated from non-project Big Creek Powerhouse No. 3 (FERC Project No. 120) as part of the automatic control system.

The Powerhouse turbine relief valves are the fixed dispersion cone or Howell-Bunger sliding cylinder gate type valves. There is a valve for each unit that is directly connected to the respective turbine spiral cases. The valve operation is normally as a penstock relief valve but they can be adjusted to operate as synchronous bypass valves in conjunction with turbine operation.

The hydraulic operated 144-inch butterfly valve is located in the penstock about 30 feet below the tunnel outlet portal. A nitrogen gas accumulator over hydraulic system serves as a back-up for operation in case of power outages. Operation of the valve can be accomplished either manually at the local control panel near the valve or remotely operated from Big Creek Powerhouse 3 or from Mammoth Pool Powerhouse, as part of the automatic control system.

Intake to the Mammoth Pool Power Tunnel is controlled by a 10’9” by 22’4.5” fixed-wheel gate powered by an electrically operated hoist. The control equipment for the gate is a cable hoist, hoist tower structure, and building for equipment protection. The power source for gate operation is the Stevenson 12 kV distribution line. Operation of the gate can be accomplished manually at the local control panel near the valve.

The fishwater generator has a 30”-diameter manually operated gate-type shut-off valve in the penstock. A 16-inch manually operated Fishwater release bypass valve is situated off of the 30-inch flow line to maintain the required fishwater releases during unit maintenance or shutdown.

Two valves, a 72-inch butterfly and a 60-inch Howell-Bunger, are connected in tandem to a 72-inch conduit passing through the tunnel plug. The downstream of these two valves, the 60-inch Howell-Bunger valve, of the fixed dispersion cone valve sliding cylinder gate type, is the reservoir low-level outlet controlling valve and is designed to release 1,200 cfs at a minimum reservoir elevation of 3,125 feet msl and 2,100 cfs at the reservoir spillway elevation of 3,330 feet msl. Because of the proximity of the fishwater generator to the Howell-Bunger valve, SCE normally does not operate the Howell-Bunger valve at flows greater than approximately 800 cfs, to avoid saturating the fishwater generator windings. The 72-inch butterfly is designed as the Howell-Bunger valve guard valve. These valves are controlled locally.

D. GOVERNOR

Normal operating speed for the Powerhouse units is maintained by mechanical hydraulic cabinet actuator Woodward governors. The governors provide accurate speed control for synchronizing and for stable operation when the units are connected to the power system. Two separate governor oil systems provide the operating governor oil pressure. Two Woodward screw type pumping units with electric unloader valves, associated sumps, and pressure tanks provide operating oil pressure in the range of 260 to 300 psig.

The Fishwater generator unit control during starting, synchronizing, and load setting is accomplished manually at the local control points. After synchronizing to the line, the unit is left normally unattended. The unit is manually adjusted for the required amount of fishwater release required and the unit is then controlled by system frequency.

E. GAGES

Three stream gages and two reservoir gages are associated with the Mammoth Pool Project. The stream gages consist of the following:

- Mammoth Pool Fishwater Generator- USGS #11234750
- San Joaquin River above Shakeflat Creek – USGS # 11234760

The reservoir gages consist of the following:

- Mammoth Pool Dam- USGS # 11234700
- Mammoth Pool Powerhouse – USGS #11235100

USGS No.	SCE No.	Station Name
11234760	157	San Joaquin River above Shakeflat Creek
11234700	156	Mammoth Pool Dam
11235100	166	Mammoth Pool Powerhouse
11234750	158	Mammoth Pool Fish Water Generator

F. GENERATOR

The two Powerhouse generators are Y-connected and consist of vertical shaft, closed circuit air-cooled/water heat exchangers, three bearing type. The Unit 1 and Unit 2 generators are rated at 95,000 kVA, unity power factor, 13.8 kV, three-phase, 60 Hz. Each powerhouse generator is protected with a 15.5 kV, 4,000 A, 1,500 MVA oil circuit breaker. The 14.4 kV disconnecting switches are manually gang operated. The Powerhouse main exciter is directly connected to each main generator. Automatic voltage regulation is performed by a solid state type regulator.

The Fishwater generator is a two bearing horizontal shaft, indoor, open type, self cooled waterwheel unit with an installed capacity of 937 kW, 1,250 kVA, 75% pf., 2,300 V. The Fishwater generator is provided with a 2,400 volt indoor type metal clad switchgear assembly for use in the 2,400 volt, 3-phase, 60-cycle underground system to control and interrupt the power output. The switch assembly consists of a horizontal draw-out type power air circuit breaker in a drip proof case. The Fishwater generator is excited from a direct connected exciter at 125 v dc, through the generator field circuit breaker and controlled manually with an exciter field rheostat.

G. TRANSFORMER

The Powerhouse main power transformers are located outdoors on a foundation at the Powerhouse ground level and consist of one three-phase, forced air oil cooled (Class FA/FOA) transformer per unit. The transformers are rated at 90 MVA each, 13.2 kV delta to 230 kV grounded wye, 60 Hz. The switchrack located at the non-project Big Creek Powerhouse No. 3 (FERC Project No. 120) contains all necessary 230 kV rated oil circuit breakers, disconnects, line traps, lightening arresters, and related equipment. Oil leakage from these transformers would be contained within the powerhouse walls and curbs and oil-water separator connected to it.

The Fishwater generator transformer is an oil-immersed, 1250 kVA, self-cooled, type OA, 3-phase, 60 cycles, 124,670 volts wye-2400 volts delta.

H. Power Distribution Equipment

Powerhouse service power is obtained from a 500 kVA, 13.8 kV to 240 V transformer connected to Units No. 1 and 2 generator bus through a 13.8 kV transfer switch. Standby station service is obtained from a 500 kVA, 12.0 kV to 240 V transformer connected to the non-project 12 kV Stevenson distribution line. The Mammoth Pool Hydroelectric Generating Plant is connected to the SCE transmission network via a 230 kV transmission line that is 6.7 miles long. The line runs from the Mammoth Pool Powerhouse to the Big Creek 3 switchyard and has one 605 kcm ACSR conductor per phase each with 30 aluminum strands and 19 steel strands that are all supported on single circuit lattice steel towers. In addition, the towers support two overhead stranded steel groundwires for lightning protection. The normal thermal ampacity of the 605 kcm conductor used for this line is 895 amperes or 356 MVA based on a 230 kV base.

At the Fishwater generator station, service power is provided by a 15 kVA, 3-phase, 2400-120/240 volt, dry type transformer, connected to the 2400 volt terminals of the main power transformer, which is powered by either the Fishwater generator or the Stevenson 12 kV distribution system. The Fishwater generator is connected to the SCE Stevenson 12 kV distribution line which connects to Mammoth Pool Powerhouse and terminates at Logan meadow.

I. Heating, Ventilating, and Air Conditioning System

The powerhouse is ventilated by natural draft and has an external heat pump unit to provide heating and cooling in the control room. Comfort heating for the Powerhouse occupancy is provided as needed by electric radiant heating. The Powerhouse maintenance building is cooled with a combination of evaporative cooling and air conditioning. Comfort heating is provided as needed by electric radiant heaters.

The Fishwater generator tunnel is ventilated by natural draft. Comfort heating is provided, as needed, by electric radiant heaters.

J. Compressed Air System

The Powerhouse contains two motor-driven air compressors complete with an air receiver and piping to furnish air for the generator brake valves, general utility service, and for air cushions in the governor oil pressure tanks. The primary compressor is a Sullair rotary compressor Model 10-30 and the secondary unit is an Ingersoll Rand Model – 15 TX reciprocating compressor. Each unit includes a motor driven gear air compressor (depression air) that supplies air to lower water level in the draft tube below the runner during synchronous condenser operation or periods of unit motoring. Two General Electric motor-driven air compressors complete with air receivers and piping supply air for each of the generator oil circuit breakers.

Portable air compressors are provided at the Fishwater generator for maintenance service air when required.

K. Fire Protection System

Fire protection for the Powerhouse is provided by an automatic carbon dioxide system for the generators. Portable extinguishers, fire hoses, reels, and hydrants are provided in strategic locations within and outside of the powerhouse.

Portable extinguishers are provided at the Fishwater generator.

L. Sanitary Disposal System

The Powerhouse provides a sanitary facility in one location inside the machine shop building. The effluent is processed through a septic tank system. Bottled drinking water is provided at the Powerhouse for personnel operating and/or maintaining the Powerhouse.

No potable water is available at Mammoth Pool Reservoir. Potable water is provided, as needed, as bottled water. There are no sanitary facilities at the reservoir, except at campgrounds. Portable toilets are provided when required for maintenance activities at the dam.

M. Lighting

Normal powerhouse lighting service is supplied by three single-phase 240 V to 120/240 V dry-type indoor transformers connected through an air circuit breaker to the 240 V station service switchgear. Emergency DC lighting is provided from a 130 volt station battery system of sufficient capacity to enable station personnel to safely operate the plant in the event of a system outage.

At the Mammoth Pool Fishwater generator, lighting is provided from a single phase lighting panel, with thermal magnetic circuit breakers fed from the station service transformer.

N. Station Crane

The Powerhouse is equipped with a 180-ton traveling crane which provides hoisting facilities for all major equipment.

A mono rail and manual 5-ton chain hoist is provided at the Mammoth Pool Fishwater generator.

O. SWITCHING

The Mammoth Pool Powerhouse is connected to the SCE transmission network via a 230 kV transmission line to the non-project Big Creek No. 3 Switchyard.

The Fishwater generator is connected to the non-project Stevenson 12 kV distribution line which connects to Mammoth Pool Powerhouse and terminates at Logan meadow.

(6) Lands of the United States within Project Boundaries

Lands of the United States that are within the Project boundaries, including legal subdivisions and acreage are listed in Table A-1.

Table A-1: Lands of the United States within the boundaries of the Mammoth Pool Project. All lands are under the jurisdiction of the United States Forest Service, Sierra National Forest.

Township 9 South, Range 23 East, MDM		ACRES
Section 12		
	SE1/4 SE1/4	0.85
Township 9 South, Range 24 East, MDM		
Section 5		
	NE1/4 SE1/4	7.66
	SE1/4 SW1/4	10.58
	NE1/4 SW1/4	2.18
	NE1/4 NE1/4	3.02
	NW1/4 NE1/4	6.01
	SW1/4 NE1/4	9.73
	NE1/4 NW1/4	2.26
Section 7		
	SE1/4 NE1/4	0.85
	NE1/4 SE1/4	4.82
	SE1/4 SE1/4	8.43
	SE1/4 SW1/4	0.04
	SW1/4 SW1/4	1.23
Section 8		
	NW1/4 NW1/4	8.99
	NE1/4 NW1/4	4.78
	SE1/4 NW1/4	0.39
	SW1/4 NW1/4	10.52
	NW1/4 SW1/4	8.25
	SW1/4 SW1/4	0.03
Section 18		
	NE1/4 NE1/4	6.81
	SE1/4 NE1/4	1.37
	NW1/4 NE1/4	0.80
	NE1/4 NW1/4	1.20

Township 8 South, Range 24 East, MDM

Section 3

NE1/4 NW1/4	5.67
SE1/4 NW1/4	5.67
NW1/4 SW1/4	0.01
NE1/4 SW1/4	5.66
SW1/4 SW1/4	3.04
SE1/4 SW1/4	2.78

Section 10

NW1/4 NW1/4	6.34
SW1/4 NW1/4	6.34
NW1/4 SW1/4	6.34
SW1/4 SW1/4	6.34

Section 15

SW1/4 NW1/4	14.82
NW1/4 SW1/4	12.61
SW1/4 SW1/4	12.73
SE1/4 SW1/4	5.14
NW1/4 NW1/4	6.09

Section 16

SE1/4 NE1/4	0.05

Section 22

NE1/4 NW1/4	12.69
SE1/4 NW1/4	16.61
SW1/4 NE1/4	9.65
SE1/4 NE1/4	1.89
NE1/4 SW1/4	1.41
NW1/4 SE1/4	8.70
NE1/4 SE1/4	10.89
SE1/4 SW1/4	5.51
SE1/4 SE1/4	10.53

Section 23

NW1/4 SW1/4	3.20
SW1/4 SW1/4	0.95

Section 27

NE1/4 NE1/4	4.05
SW1/4 NE1/4	1.91
NW1/4 NE1/4	6.63
NE1/4 NW1/4	0.69
SE1/4 NW1/4	9.07
SW1/4 NW1/4	8.29
NW1/4 NW1/4	3.86
NW1/4 SW1/4	5.14

Section 28

NE1/4 SE1/4	11.31
SE1/4 SE1/4	0.94
SE1/4 NE1/4	1.18

Section 32

NE1/4 NE 1/4	0.22
SE1/4 NE1/4	9.02
SW1/4 NE1/4	1.33
NW1/4 SE1/4	11.55
NE1/4 SW1/4	4.53
NW1/4 SW1/4	0.12
NE1/4 SE1/4	1.03
SW1/4 SE1/4	6.11
SE1/4 SW1/4	1.16
SW1/4 SW1/4	4.45

Section 33

NW1/4 NW1/4	6.03
SW1/4 NW1/4	0.64

Township 7 South, Range 24 East, MDM

Section 1

NE1/4 NE1/4	1.38
NW1/4 NE1/4	15.38
NE1/4 NW1/4	13.45
NW1/4 NW1/4	14.92

Section 2

SW1/4 SW1/4	11.99
SE1/4 SW1/4	5.13
SW1/4 SE1/4	10.98
NE1/4 NE1/4	27.11
SE 1/4 NE1/4	4.52
NW1/4 NE1/4	28.81
NE1/4 SE1/4	30.22
SE1/4 SE1/4	29.97
NW1/4 SE1/4	13.32
SW1/4 NE1/4	30.36

Section 3

SE1/4 SE1/4	14.80
SW1/4 SE1/4	18.41
SE1/4 SW1/4	1.30

Section 10

NE1/4 NE1/4	38.78
SE1/4 NE1/4	32.60
NE1/4 SE1/4	18.96
SE1/4 SE1/4	9.69
SW1/4 NE1/4	0.36
NE1/4 NE1/4	19.32

Section 11

NE1/4 NE1/4	3.00
NW1/4 NE1/4	20.51
SW1/4 NE1/4	5.96
NE1/4 SE1/4	0.11
SE1/4 SE1/4	1.65
SW1/4 SE1/4	39.04
NW1/4 SE1/4	34.12
NE1/4 SW1/4	38.67
SE1/4 SW1/4	38.94
SW1/4 SW1/4	30.07
NW1/4 SW1/4	38.70
NE1/4 NW1/4	31.66
SE1/4 NW1/4	29.61
SW1/4 NW1/4	38.70
NW1/4 NW1/4	38.31

Section 14

NE1/4 NE1/4	12.16
SW1/4 NE1/4	0.57
NW1/4 NE1/4	32.90
NE1/4 NW1/4	38.94
SE1/4 NW1/4	11.67
SW1/4 NW1/4	5.38
NW1/4 NW1/4	15.20

Section 15

NE1/4 NE1/4	4.47
SW1/4 NE1/4	7.03
NW1/4 NE1/4	2.25
NE1/4 SE1/4	0.33
NW1/4 SE1/4	1.43
SE1/4 NW1/4	0.19
NE1/4 SW1/4	7.00
SE1/4 SW1/4	6.25

Section 22

SE1/4 NW1/4	6.12
NE1/4 SW1/4	6.12
SE1/4 SW1/4	6.12
NE1/4 NW1/4	6.13

Section 27

NE1/4 NW1/4	6.04
SE1/4 NW1/4	6.03
NE1/4 SW1/4	6.03
SE1/4 SW1/4	6.03

Section 34

SE1/4 SW1/4	5.76
NE1/4 NW1/4	5.76
SE1/4 NW1/4	13.91
SW1/4 NW1/4	0.68
NW1/4 SW1/4	0.77
NE1/4 SW1/4	15.35
SW1/4 NE1/4	1.98
NW1/4 SE1/4	2.45

Township 6 South, Range 24 East, MDM

Section 25

NE1/4 SE1/4	23.23
SE1/4 SE1/4	17.63
SW1/4 SE4	33.09
NW1/4 SE1/4	3.71
SE1/4 SW1/4	24.98
SW1/4 SW1/4	10.90
NW1/4 SW1/4	0.56

Section 35

NE1/4 SE1/4	2.14
SE1/4 SE1/4	36.83
SW1/4 SE1/4	26.54
SE1/4 SW1/4	0.08

Section 36

NE1/4 NE1/4	0.03
SE1/4 NE1/4	15.67
SW1/4 NE1/4	35.26
NW1/4 NE1/4	30.92
NE1/4 SE1/4	2.30
SE1/4 SE1/4	14.54
SW1/4 SE1/4	36.32
NW1/4 SE1/4	38.80
NE1/4 SW1/4	15.49
SE1/4 SW1/4	33.44
SW1/4 SW1/4	36.04
NW1/4 SW1/4	6.61
NE1/4 NW1/4	24.58
SE1/4 NW1/4	3.46
NW1/4 NW1/4	0.38

Township 6 South, Range 25 East, MDM

Section 18

SE1/4 SE1/4	4.00

Section 19

NE1/4 NE1/4	5.17
NW1/4 NE1/4	3.60
SW1/4 NE1/4	14.23
NW1/4 SE1/4	16.50
NE1/4 SW1/4	10.07
SE1/4 SW1/4	14.22
SW1/4 SW1/4	1.61

Section 30

SW1/4 SW1/4	0.64
NE1/4 NW1/4	9.06
NW1/4 NW1/4	11.33
SW1/4 NW1/4	19.73
SE1/4 NW1/4	17.52
NE1/4 SW1/4	2.37
NW1/4 SW1/4	29.46

TOTAL FEDERAL LAND ACREAGE **2036.64**

SOUTHERN CALIFORNIA EDISON COMPANY

BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

MAMMOTH POOL PROJECT

(FERC Project No. 2085)

APPLICATION FOR NEW LICENSE

EXHIBIT B

NOVEMBER 2005

EXHIBIT B STATEMENT OF OPERATION AND RESOURCE UTILIZATION

Exhibit B is a statement of Project operation and resource utilization. The exhibit must contain the information set forth in 18 CFR § 4.51(c):

> (1) A statement whether operation of the power plant 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 power plant 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 curve; and a specification of the period of critical stream flow 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 power plant (maximum flow through the power plant) in cubic feet per second;
>
> (iv) A tailwater rating curve; and
>
> (v) A curve showing power plant 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.

(1) Type of Operation

The Mammoth Pool Project powerhouse is located on the San Joaquin River in Fresno County in the State of California. The Project can be operated locally from the Mammoth Pool Powerhouse control room or remotely from non-project Big Creek Powerhouse No. 3 (FERC Project No. 120) which serves as the main control center for the entire Big Creek system.

The Mammoth Pool Project is part of a hydroelectric power system owned and operated by Southern California Edison (SCE) and known collectively as the Big Creek Hydroelectric System. The Big Creek Hydroelectric System consists of six major reservoirs (Mammoth Pool, Lake Thomas A. Edison, Florence Lake, Huntington Lake, Redinger Lake, and Shaver Lake) and nine powerhouses (Portal; Eastwood; Mammoth Pool; and Big Creek Powerhouse Nos. 1, 2, 2A, 3, 4 and 8) licensed under seven FERC Project licenses (Project Nos. 67, 120, 2017, 2085, 2086, 2174 and 2175). The flow of water through the Mammoth Pool Project is dependent on natural runoff during periods of snowmelt and wet weather and the operation of other components of the Big Creek Hydroelectric System that are located at a higher elevation within the drainage.

The Mammoth Pool Project operates in conjunction with the rest of the Big Creek Hydroelectric System in a stair step sequence of water chains. As shown in Figure B-1, these water chains are made up from combinations of different SCE FERC project powerhouses and reservoir facilities within the Big Creek Hydroelectric System.

The water chains consist of the following generating facility combinations:

- The “Big Creek Water Chain”: Portal/Big Creek 1/Big Creek 2/Big Creek 8/Big Creek 3/Big Creek 4;
- The “Shaver Lake Water Chain”: Portal/Eastwood Power Station/Big Creek 2A/Big Creek 8/Big Creek 3/Big Creek 4; and,
- The “Mammoth Pool Water Chain”: Mammoth Pool Powerhouse/Big Creek 3/Big Creek 4.

Mammoth Pool Reservoir receives flow from a large watershed, which includes Chiquito, Jackass, and Granite Creeks, and the North, Middle, and South Forks of the San Joaquin River. The South Fork of the San Joaquin River provides flow when the upstream reservoirs, Edison Lake and/or Florence Lake are in a spill condition. Mammoth Pool Powerhouse is the first generating opportunity in the Mammoth Pool Water Chain and moves water from Mammoth Pool Reservoir to the Dam 6 impoundment.

The operation of the Mammoth Pool Powerhouse is similar in all water year types in that water diverted from Ross Creek and Rock Creek are impounded in the Mammoth Pool Reservoir and utilized to generate power when the water is available. In an average (normal) water year, the Project is generally run at full capacity beginning in May until the end of peak runoff, which typically occurs in July. The Mammoth Pool Reservoir generally spills in an average water year and is filled to its maximum capacity until spill ceases. At that point, SCE gains control of inflows and begins managing the water to meet grid requirements by providing both baseload and peak cycling energy. Mammoth Pool Powerhouse releases are then matched to reservoir inflows except for strategic releases to eliminate predicted spills.

During dry water years, the Project runs at full capacity for a shorter duration in May and June or is not run at full capacity in order to fill the reservoirs to maximum capacity. Project generation is lower in dry water years and very little water bypasses the Mammoth Pool Powerhouse.

In wet water years, the Project runs at full capacity beginning in mid-April to May until the end of peak runoff, which typically occurs in late July. Project generation is greater during wet water years and the Mammoth Pool Dam outlet works and spillway are used to bypass water around the Powerhouse, if necessary.

The Big Creek Hydroelectric System is authorized under seven separate FERC licenses which are operated together in a manner to maximize the hydroelectric power produced from the available water supply. The coordinated operation of the seven FERC-licensed facilities is subject to certain constraints imposed to augment the operation of the federally-operated Millerton Reservoir (downstream) as appropriate. The Big Creek Hydroelectric System is subject to several operating constraints including the following:

- available water supply;
- electrical system requirements;
- both planned and unplanned maintenance outages;
- storage limits (including both recreation minimums and year-end carryover maximums);
- both minimum and maximum release limits (from storage); and
- various provisions contained in water rights agreements.

The water rights agreements contain stipulations that stem from the senior status of certain downstream water rights holders and include the Mammoth Pool Operating Agreement between SCE and the U.S. Bureau of Reclamation (Bureau) pertaining to the storage and release of water from the SCE Big Creek reservoirs which are upstream of Friant Dam (Millerton Reservoir) and the associated Central Valley Project water distribution system operated by the Bureau on behalf of the downstream irrigators. Millerton Reservoir is a major irrigation storage facility serving the central San Joaquin Valley agricultural community. Meetings between SCE, the Bureau, and the downstream irrigators are held following the March 1 runoff forecast each year and periodically as needed to coordinate and optimize hydropower production consistent with irrigation needs of the downstream agricultural users holding senior water rights and emergency flood control operations of Millerton Reservoir.

(2) Capacity and Production

The Project is operated as a reservoir-storage type plant with an installed operating capacity of 190.0 MW and a dependable operating capacity of 187.0. The average annual capacity factor for the Project between 1990 and 2004 was 34.9%. The annual Project generation output between 1990 and 2004 is provided in Table B-1.

Table B-1. Average Project Generation Output Between 1990-2004

YEAR	PRODUCTION IN MWH (TRANSMITTED)
1990	324,460
1991	426,544
1992	319,780
1993	842,535
1994	358,510
1995	819,824
1996	867,187
1997	835,857
1998	760,690
1999	604,340
2000	616,530
2001	428,951
2002	486,423
2003	512,987
2004	500,302
15-year average =	**580,327**

(i) Daily average available flows – The Mammoth Pool Powerhouse utilizes water stored in the Mammoth Pool Reservoir and from diversions on Rock and Ross Creeks. As such, the available flow on any single day may be sufficient to operate the powerhouse at full load the entire day. The following statistics represent total available flow downstream of the Mammoth Pool Reservoir and were derived by summing the mean daily flows in the San Joaquin River recorded at USGS Gage No. 11234760 and the throughput at the Mammoth Pool Powerhouse recorded at USGS

Gage No. 11235100 between October 1, 1982 and September 30, 1983 and October 1, 1984 and September 30, 2002.

Minimum	7 cfs
Median	801 cfs
Mean	1,420 cfs
Maximum	28,120 cfs

Figure B-2 presents the monthly flow duration curves for the same period of record between October 1, 1982 and September 30, 1983 and October 1, 1984 and September 30, 2002.

(ii) Figure B-3 is an area capacity curve showing gross storage capacity of the Mammoth Pool Reservoir.

(iii) The total estimated hydraulic capacity for the Project is 2,365 cfs.

(iv) Figure B-4 presents the tailwater rating curve for the Mammoth Pool Powerhouse.

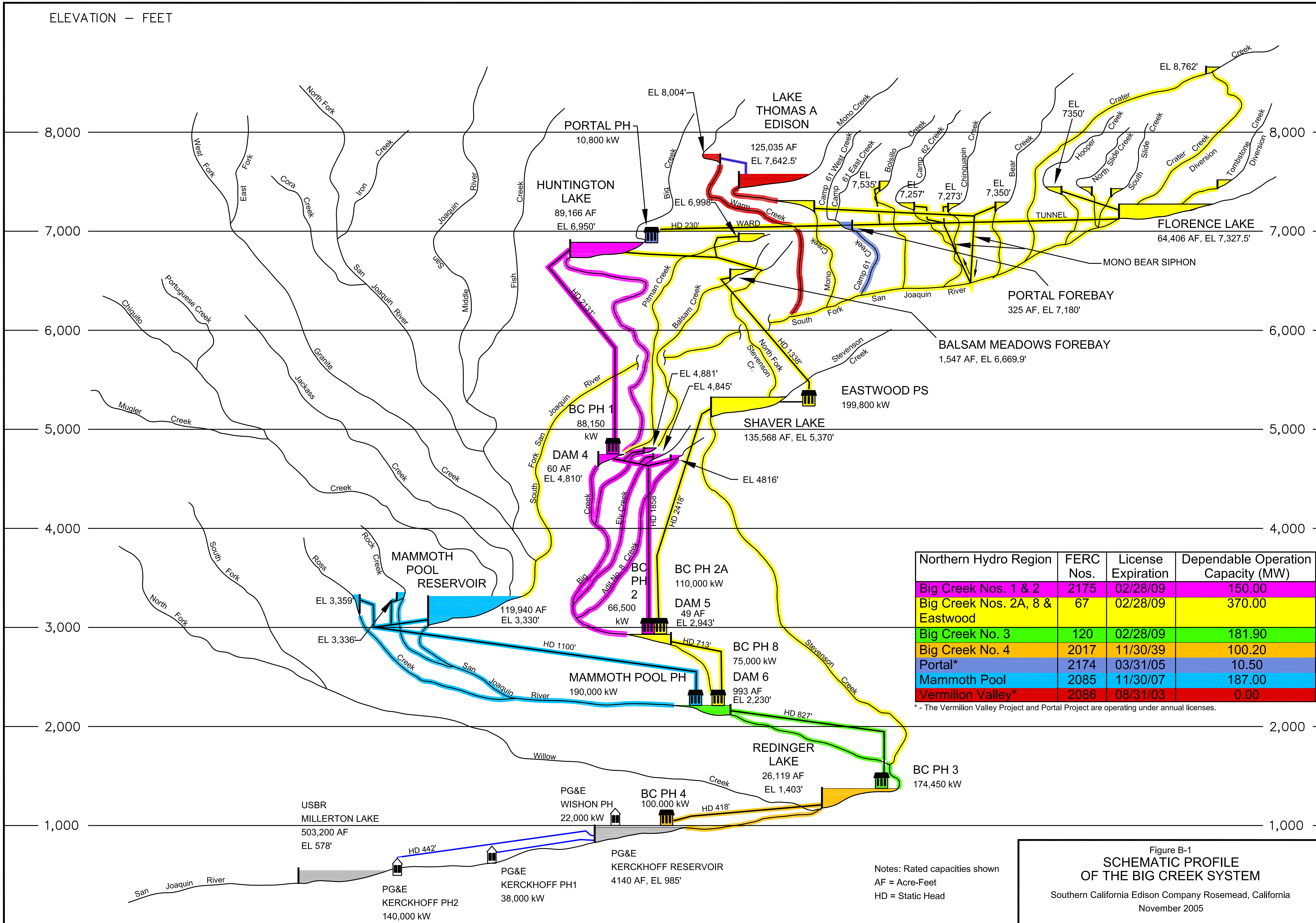
(v) Figure B–5 presents a curve of Powerhouse capability versus head.

(3) Use of Generated Energy

The Powerhouse operates as a baseload facility. All energy generated, minus that necessary to operate the plant auxiliaries, is transmitted to SCE's electrical system. The amount of energy necessary to operate plant auxiliaries averaged 155,031 KWh per month between 2000 and 2004.

(4) Plans for Future Development

(vi) SCE has no current plans for any future development of the Mammoth Pool Project.



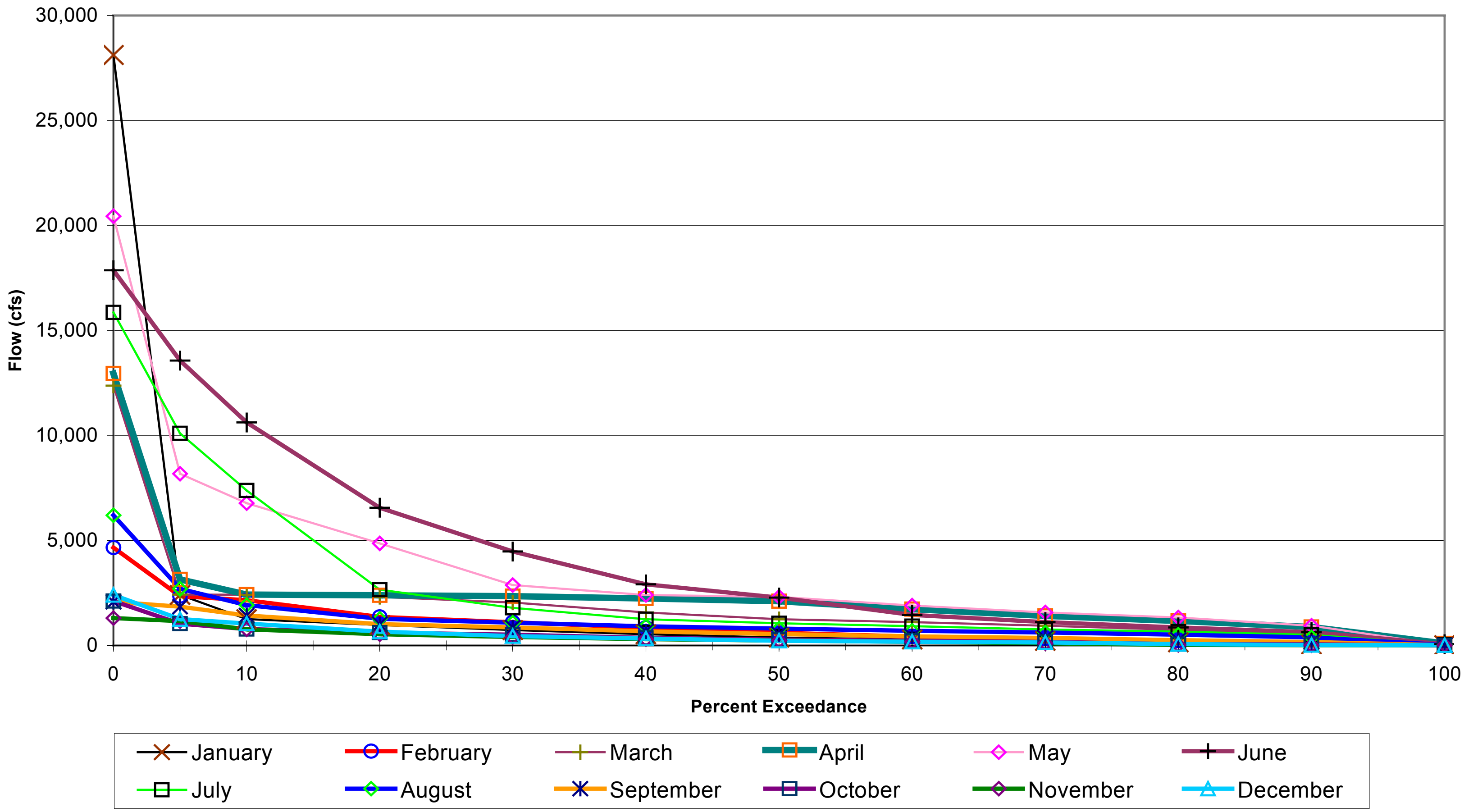
Northern Hydro Region	FERC Nos.	License Expiration	Dependable Operation Capacity (MW)
Big Creek Nos. 1 & 2	2175	02/28/09	150.00
Big Creek Nos. 2A, 8 & Eastwood	67	02/28/09	370.00
Big Creek No. 3	120	02/28/09	181.90
Big Creek No. 4	2017	11/30/39	100.20
Portal*	2174	03/31/05	10.50
Mammoth Pool	2085	11/30/07	187.00
Vermilion Valley*	2086	08/31/03	0.00

* - The Vermilion Valley Project and Portal Project are operating under annual licenses.

Notes: Rated capacities shown
AF = Acre-Feet
HD = Static Head

Figure B-1
SCHEMATIC PROFILE OF THE BIG CREEK SYSTEM
Southern California Edison Company Rosemead, California
November 2005

Figure B-2. Mammoth Pool Project – Monthly Flow Exceedance



Note: Flows represent total available flow downstream of the Mammoth Pool Reservoir and were derived by summing the mean daily flows in the San Joaquin River recorded at USGS Gage No. 11234760 and the throughput at the Mammoth Pool Powerhouse recorded at USGS Gage No. 11235100 between October 1, 1982 and September 30, 1983 and October 1, 1984 and September 30, 2002.

Figure B-3. Mammoth Pool Reservoir Area-Capacity Curve

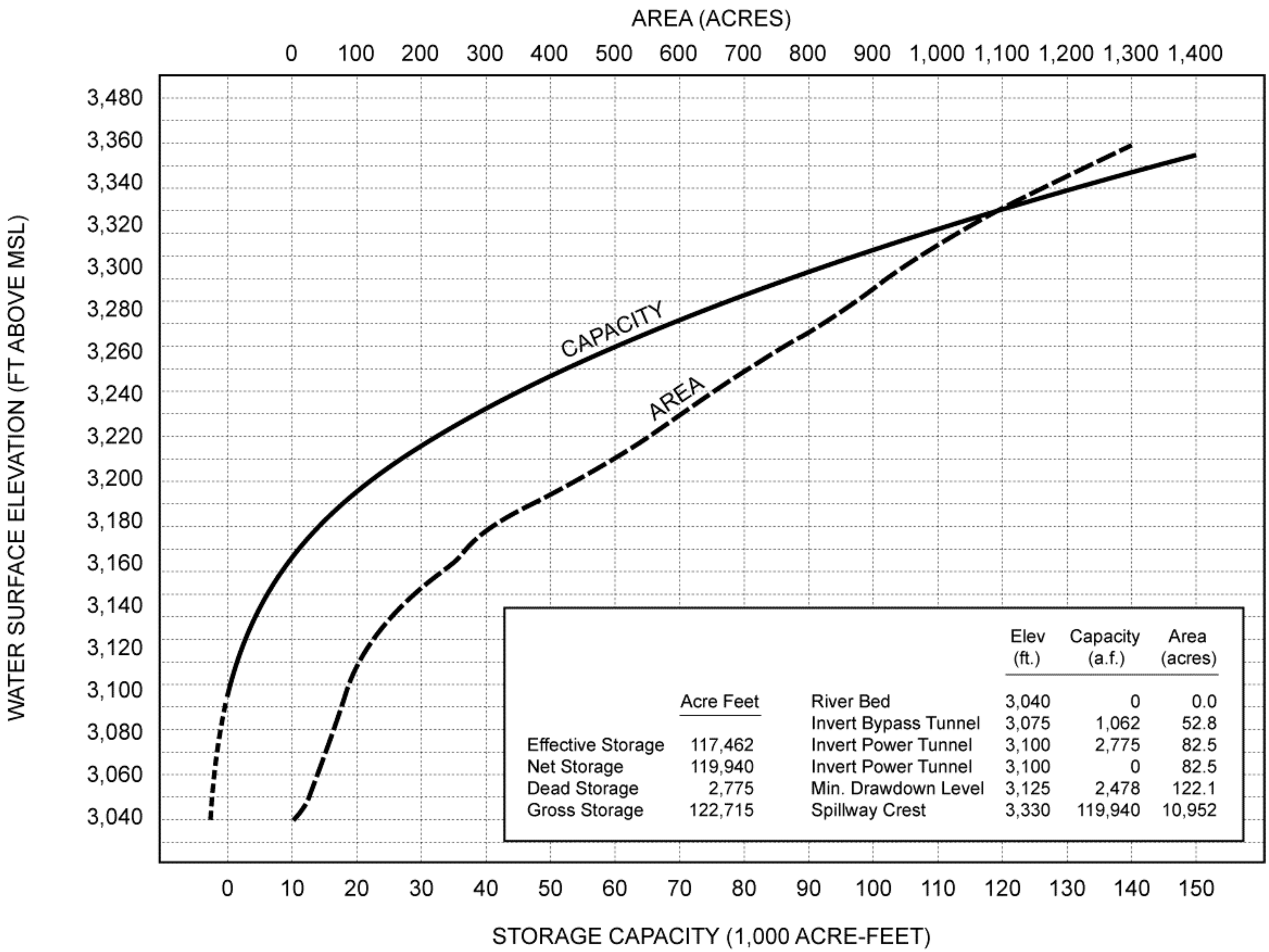


Figure B-4. Mammoth Pool Powerhouse Tailwater Rating Curve

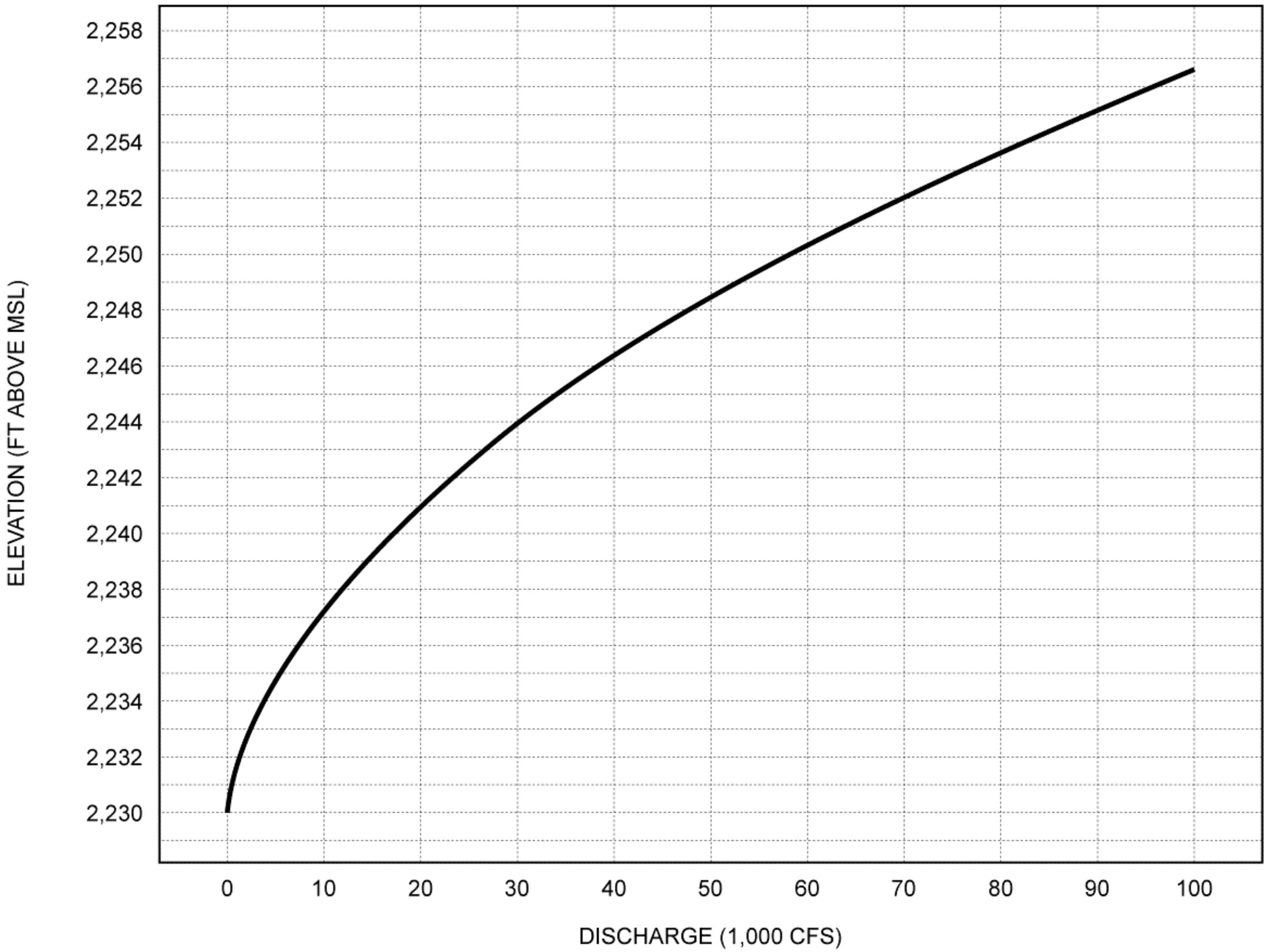
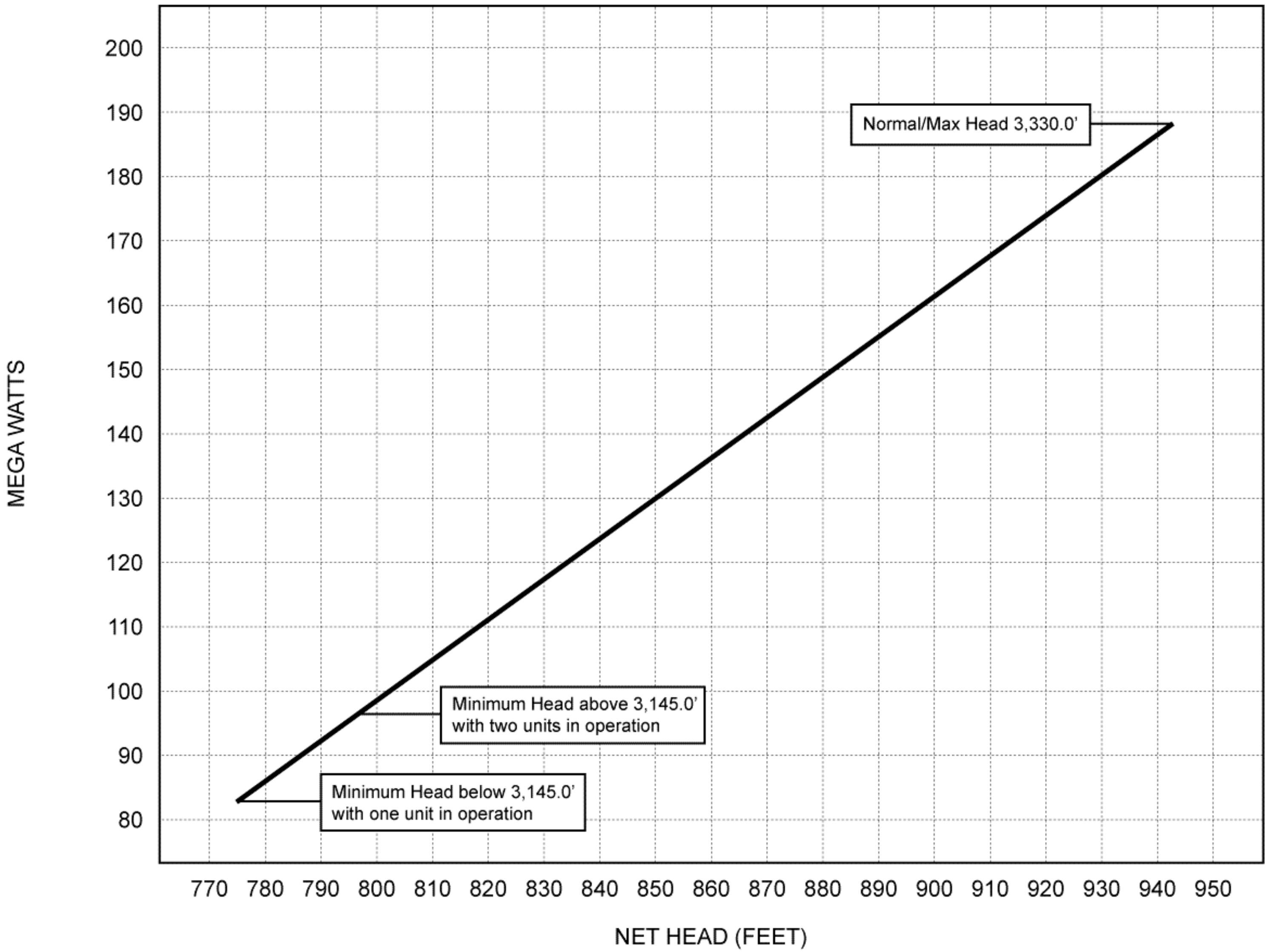


Figure B-5. Mammoth Pool Powerhouse – Estimated Project Capability as a Function of Reservoir Elevation



SOUTHERN CALIFORNIA EDISON COMPANY

BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

MAMMOTH POOL PROJECT

(FERC Project No. 2085)

APPLICATION FOR NEW LICENSE

EXHIBIT C

NOVEMBER 2005

EXHIBIT C CONSTRUCTION HISTORY AND PROPOSED CONSTRUCTION SCHEDULE

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

> (1) If the application is for an initial license, a tabulated chronology of construction for the existing project 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 *(in service)*; 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

(i) This Application is for a new license and not for an initial license. SCE provides the following construction history: the Project was constructed between 1958 and 1960. The Project was designed and constructed by Bechtel Corporation for Southern California Edison. Construction of the Mammoth Pool Dam, water conveyance system, and powerhouse commenced in the spring of 1958 and was completed in early 1960.

(ii) The Mammoth Pool Powerhouse was placed in operation on March 28, 1960.

(iii) The Project has undergone the following upgrades and modifications since start-up:

- In 1965, the Powerhouse circuit breakers for the Unit 1 and Unit 2 generators were installed.
- In 1972, the gate guides at the power tunnel intake were extensively rehabilitated.

- In 1978, the upstream face of the Mammoth Pool Dam, in the vicinity of Dalton Creek, was repaired and the outfall of the creek was moved upstream so that high flows discharge into the reservoir away from the dam.
- In 1980, the Unit 1 and 2 generators were rewound and upgraded from 66,000 kVA to 95,000 kVA.
- In 1982, the Unit 1 and Unit turbines were upgraded from 88,000 HP to 100,000 HP.
- In 1982, the Powerhouse turbine runners for Units 1 and 2 were replaced with stainless steel runners.
- In 1983, the Unit 2 generator was rewound.
- In 1986, seismic monitoring instruments were installed near the Mammoth Pool Dam.
- In 1990, the Unit 1 and Unit 2 generators were rewound.
- In 1991, the gate guides at the power tunnel intake were repaired.
- In October 1996, a measuring weir was installed to monitor the diversion tunnel leakage.
- In 1999, the heat exchanger and cooling water system were replaced.
- In 2000, the automated control system was installed, the seismic instruments at Mammoth Pool Dam were replaced, and Unit 1 transformer bank was repaired.
- In 2001, the generator circuit breakers for Units 1 and 2 were replaced, air coolers were installed at Unit 1, and the station battery was replaced.
- In 2002, the manual lockout relay “blackstart” was replaced.
- In 2004, the fire water lines outside of the Mammoth Pool Powerhouse were replaced.

(2) New Development

This is an existing project and no new construction activities are proposed at this time other than those planned during the course of routine operation and maintenance of the Project.

SOUTHERN CALIFORNIA EDISON COMPANY

BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

MAMMOTH POOL PROJECT

(FERC Project No. 2085)

APPLICATION FOR NEW LICENSE

EXHIBIT D

NOVEMBER 2005

EXHIBIT D PROJECT COSTS AND FINANCING

Exhibit D is a statement of costs and financing. The statement must contain the information required by 18 CFR § 4.51(e):

> (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.
>
> (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 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 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 or amortization, and

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

(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 costs 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.

(1) Original Cost

Original cost of Project construction and obtaining land and water rights does not apply because the Mammoth Pool Project is not an application for an initial license.

(2) Takeover Cost

It is the intent of SCE to continue to operate the Projects upon receipt of a new license. If the Project was to be taken over at the expiration of the existing license, the following values would apply.

(i) The Fair Value of the Projects is estimated to be $415.7 million in 2005 dollars.

The Fair Value of the project was determined by calculating the net benefits realized by customers from a revenue requirement perspective. The calculation nets the full capital recovery and operating costs against the energy and capacity benefits of the project. Energy benefits are defined as the value of replacement marginal-cost market energy; capacity benefits are defined as the deferral value of a combustion turbine (CT), given the least-cost characteristics of a CT for a capacity-only product with no associated energy benefits. These values are calculated on an annual basis and present valued to determine the Fair Value of the project.

(ii) The Net Investment of the Project was $27,172,069 as of December 31, 2004.

(iii) The severance value for the 580,327 MWh of annual generation is $415.7 million in 2005 dollars and equal to the Fair Value discussed above in D(2)(ii) (also see Attachment D-1).

(3) Cost of New Development

The costs of new development do not apply because this Application does not include any such proposals. Only upgrades to existing facilities are planned and these will be performed during routine maintenance or as planned capital replacement.

(4) Cost of Financing

The annual costs for this Project include expenses for Operations and Maintenance (O&M) as well as capital improvement work. The work currently scheduled for the Projects are plant upgrades and maintenance, not “new development.”

(i) The current SCE Cost of Capital is listed below:

Long-Term Debt	3.83%
Preferred Equity	0.36%
Common Equity	6.31%
Total Cost of Capital	10.50%

(ii) Property Taxes associated with the Project for 2004 were $291,310. State and Federal taxes are computed for all of the SCE Hydro assets combined and no amount is specifically designated for this Project.

(iii) Depreciation for the Project for 2004 was $952,498.

(iv) The average direct O&M expenses for the five-year period 2000-2004 were $2,282,830. Approximately $459,633 of these O&M expenses are represented by annual fees that are detailed in Exhibit H(b)(9). Additional expenses not mentioned above include Administrative and General (A&G)

expenses. These expenses are calculated for all of the SCE Hydro assets combined. An approximation of A&G expenses is equal to 1.25% times the Net Plant Investment or $339,651 per year.

(5) Value of Project Power

On January 1, 2003, SCE resumed the procurement role for its customers, procuring energy and related products to cover its "net-short" energy requirements. The "net-short" position is defined as the condition when the energy required to meet customer demand exceeds the energy that SCE can provide from its owned or contracted resources.

The Project's projected annual power value is determined by estimating the cost of replacing the energy and capacity provided by the Project at SCE's current forecast of the marginal cost for energy and capacity. The estimated annual amount of energy produced from the Project was derived from a 15-year annual average of historical production.

The amount of average annual replacement energy (MWh's) was multiplied by the marginal energy cost forecast and the dependable capacity of the Project was multiplied by the marginal capacity cost forecast. The sum of replacement energy and capacity costs is the total cost that SCE would expect to incur to replace the power being provided by this Project. The generation marginal costs used in these calculations were obtained from SCE's 2006 General Rate Case (GRC) filing. Since the forecast does not include information beyond 2008, it is assumed that the costs will increase according to the GDP Price Index escalation. SCE used an estimate of escalation from Global Insight (formerly DRI-WEFA) for the years beyond 2008.

The Project's forecasted power value for 2007 is $42.5 million. When the power value is escalated for the expected 46-year term of the license and discounted at the SCE cost of capital, it yields a net present value of $459.1 million. The levelized annual value of the energy benefits is $48.7 million (see Attachment D-2).

(6) Sources of Financing and Revenues

As previously discussed in Exhibit D(3), there is no major new development planned for the Project. As such, there is no need to acquire special financing for any major capital work.

SCE has filed a 2006 GRC with the California Public Utilities Commission in September 2005. Included in this Rate Case filing were the generation-related O&M expenses as well as A&G expenses. The 2006 GRC filings included the expected costs in the years of 2004 – 2008, which are associated with the operation and maintenance of all the SCE Hydro assets. It is anticipated that the 2006 GRC will be approved in late 2005 and that the O&M expenses will also be fully approved. When approved these costs will be the basis of the approved future rates. Also included in the GRC filing were costs associated with any anticipated incremental capital additions as well as projections of other expenses and costs. Assuming that the 2006 Rate case is approved, the capital and O&M expenses necessary for continued operation of the Projects will be collected through the approved rates. These approved rates may not include all costs associated with license condition requirements that may be imposed upon the Projects in this license application.

This Project is operated as a component of the entire Hydro Generation Division, which is part of the Power Production Department of SCE. The O&M expenses for this 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 department budget and would not be directly attributable to the individual Project.

ATTACHMENT D-1

Mammoth Pool Project (FERC Project No. 2085)

Fair Value

ATTACHMENT D-1

Mammoth Pool - Project 2085 Fair Value

Revenue Requirement Net Present Value Benefit $415,662 (In $2005) (In $Thousands)

Year	Project Costs ($)	Energy Benefits ($)	Capacity Benefits ($)	Net Benefits ($)
2005				0
2006				0
2007	105	29,204	13,277	42,376
2008	606	29,817	13,556	42,767
2009	1,296	30,447	13,843	42,993
2010	2,021	31,112	14,145	43,236
2011	2,955	31,848	14,480	43,373
2012	3,628	32,630	14,835	43,838
2013	4,119	33,407	15,188	44,477
2014	4,545	34,200	15,549	45,203
2015	4,968	35,024	15,924	45,980
2016	5,391	35,870	16,308	46,787
2017	5,816	36,755	16,711	47,649
2018	6,236	37,672	17,128	48,565
2019	6,656	38,609	17,553	49,506
2020	7,074	39,557	17,984	50,467
2021	7,495	40,536	18,430	51,470
2022	7,920	41,537	18,885	52,502
2023	8,347	42,570	19,354	53,577
2024	8,757	43,628	19,835	54,706
2025	9,170	44,707	20,326	55,863
2026	9,598	45,818	20,831	57,052
2027	10,049	46,958	21,349	58,257
2028	10,477	48,127	21,881	59,530
2029	10,918	49,331	22,428	60,840
2030	11,372	50,567	22,990	62,185
2031	11,851	51,828	23,563	63,541
2032	12,359	53,120	24,151	64,912
2033	12,890	54,445	24,753	66,308
2034	13,409	55,803	25,371	67,765
2035	13,943	57,194	26,003	69,255
2036	14,503	58,621	26,652	70,769
2037	15,009	60,083	27,316	72,390
2038	15,471	61,581	27,998	74,108
2039	15,978	63,117	28,696	75,835
2040	16,456	64,691	29,412	77,647
2041	17,059	66,304	30,145	79,391
2042	17,788	67,958	30,897	81,066
2043	18,561	69,653	31,667	82,760
2044	19,360	71,390	32,457	84,487
2045	20,248	73,170	33,267	86,189
2046	21,282	74,995	34,096	87,809
2047	22,477	76,865	34,947	89,335
2048	23,887	78,782	35,818	90,713
2049	25,685	80,747	36,711	91,773
2050	28,193	82,761	37,627	92,195
2051	32,239	84,825	38,565	91,150
2052	28,912	86,940	39,527	97,555
Total	**$567,079**	**$2,424,800**	**$1,102,430**	**$2,960,151**
NPV	**$47,991**	**$348,743**	**$158,555**	**$415,662**

(All above are $Thousands)

Assumptions:

Energy and Capacity value per Appendix D-2

Project costs are based on Revenue Requirements

SCE Cost of Capital: 10.50%

License Life: 46 years

ATTACHMENT D-2

Mammoth Pool Project (FERC Project No. 2085)

Total & Annual Value

ATTACHMENT D-2

Mammoth Pool Power - Project 2085 Total & Annual Value

Power Present Value $459,093 (In $2005), (In $Thousands)
Power Levelized Value $48,698 (In $2005), (In $Thousands)

Year	Total Value of Power ($)	Energy Value ($)	Capacity Value ($)	Energy Price ($/MWh)	Capacity Price ($/kW-yr)	Power Escalation Factor
2005	0					2.21%
2006	0			49.40	69.70	1.87%
2007	42,481	29,204	13,277	50.32	71.00	1.87%
2008	43,373	29,817	13,556	51.38	72.49	2.10%
2009	44,289	30,447	13,843	52.46	74.02	2.11%
2010	45,257	31,112	14,145	53.61	75.64	2.18%
2011	46,328	31,848	14,480	54.88	77.43	2.37%
2012	47,466	32,630	14,835	56.23	79.33	2.46%
2013	48,595	33,407	15,188	57.57	81.22	2.38%
2014	49,748	34,200	15,549	58.93	83.15	2.37%
2015	50,948	35,024	15,924	60.35	85.15	2.41%
2016	52,179	35,870	16,308	61.81	87.21	2.42%
2017	53,466	36,755	16,711	63.34	89.36	2.47%
2018	54,800	37,672	17,128	64.92	91.59	2.50%
2019	56,162	38,609	17,553	66.53	93.87	2.49%
2020	57,541	39,557	17,984	68.16	96.17	2.46%
2021	58,965	40,536	18,430	69.85	98.55	2.48%
2022	60,421	41,537	18,885	71.57	100.99	2.47%
2023	61,924	42,570	19,354	73.35	103.50	2.49%
2024	63,463	43,628	19,835	75.18	106.07	2.49%
2025	65,033	44,707	20,326	77.04	108.69	2.47%
2026	66,650	45,818	20,831	78.95	111.40	2.49%
2027	68,307	46,958	21,349	80.92	114.17	2.49%
2028	70,007	48,127	21,881	82.93	117.01	2.49%
2029	71,759	49,331	22,428	85.00	119.94	2.50%
2030	73,557	50,567	22,990	87.13	122.94	2.51%
2031	75,391	51,828	23,563	89.31	126.01	2.49%
2032	77,271	53,120	24,151	91.54	129.15	2.49%
2033	79,198	54,445	24,753	93.82	132.37	2.49%
2034	81,173	55,803	25,371	96.16	135.67	2.49%
2035	83,198	57,194	26,003	98.56	139.06	2.49%
2036	85,273	58,621	26,652	101.01	142.52	2.49%
2037	87,399	60,083	27,316	103.53	146.08	2.49%
2038	89,579	61,581	27,998	106.11	149.72	2.49%
2039	91,813	63,117	28,696	108.76	153.45	2.49%
2040	94,103	64,691	29,412	111.47	157.28	2.49%
2041	96,449	66,304	30,145	114.25	161.20	2.49%
2042	98,855	67,958	30,897	117.10	165.22	2.49%
2043	101,320	69,653	31,667	120.02	169.34	2.49%
2044	103,847	71,390	32,457	123.02	173.57	2.49%
2045	106,437	73,170	33,267	126.08	177.90	2.49%
2046	109,091	74,995	34,096	129.23	182.33	2.49%
2047	111,812	76,865	34,947	132.45	186.88	2.49%
2048	114,600	78,782	35,818	135.75	191.54	2.49%
2049	117,458	80,747	36,711	139.14	196.32	2.49%
2050	120,387	82,761	37,627	142.61	201.21	2.49%
2051	123,390	84,825	38,565	146.17	206.23	2.49%
2052	126,467	86,940	39,527	149.81	211.37	2.49%

(All above are $Thousands)

Assumptions:

2007 Energy Price ($/MWh):	50.32
2007 Capacity Price ($/kW-yr):	71.00
Mammoth Pool Generation (MWh):	580,327
Mammoth Pool Dependable Capacity (MW):	187
2007 Power Value (In $Thousands):	$42,481
SCE Cost of Capital:	10.50%
License Life:	46 years
Power Escalation Factor:	GDP Index (Global Insight)

SOUTHERN CALIFORNIA EDISON COMPANY

BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

MAMMOTH POOL PROJECT

(FERC Project No. 2085)

APPLICATION FOR NEW LICENSE

EXHIBIT H(A)

NOVEMBER 2005

EXHIBIT H(A) GENERAL INFORMATION

Exhibit H(a) describes information to be provided pursuant to 18 CFR § 16.10(a):

(1) 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:

(i) Increase capacity or generation at the project;

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

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

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

(i) 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;

(ii) 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;

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

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

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

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

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

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

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

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

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

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

(iii) For alternative sources of power, including generation of additional power at existing facilities, restarting deactivating 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:

(A) The total annual cost of each alternative source of power to replace project power;

(B) The basis for the determination of projected annual cost; and

(C) 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

(iv) The effect on the direct providers (and their immediate customers) of alternate sources of power.

(4) 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, it's workers and the related community.

(5) 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 tribe for electricity generated by the project to foster the purposes of the reservation.

(6) 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:

(i) 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;

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

(iii) 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 represents system operating conditions may be appended if applicants believe such data would be useful to show that the operating impacts described would be beneficial.

(7) 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.

(8) 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.

(9) 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.

(10) 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.

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

(i) 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

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

(12) 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.

(1) Efficient and Reliable Operation and Maintenance of Project

(i) Increased Capacity or Generation at the Project

Southern California Edison (SCE) currently has no plans to further increase capacity or generation at the Project.

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

The Mammoth Pool Project is part of a hydroelectric power system owned and operated by SCE and known collectively as the Big Creek Hydroelectric System. The Big Creek Hydroelectric System consists of six major reservoirs (Mammoth Pool, Lake Thomas A. Edison, Florence Lake, Huntington Lake, Redinger Lake, and Shaver Lake) and nine powerhouses (Portal; Eastwood; Mammoth Pool; and Big Creek Powerhouse Nos. 1, 2, 2A, 3, 4 and 8) licensed under seven FERC Project licenses (Project Nos. 67, 120, 2017, 2085, 2086, 2174 and 2175). The flow of water through the Mammoth Pool Project is dependent on natural runoff during periods of snowmelt and wet weather and the operation of other components of the Big Creek Hydroelectric System that are located at a higher elevation within the drainage.

The Mammoth Pool Project operates in conjunction with the rest of the Big Creek Hydroelectric System in a stair step sequence of water chains. As shown in Figure B-1 of Exhibit B, these water chains are made up from combinations of different FERC project powerhouses and reservoir facilities within the Big Creek Hydroelectric System.

The water chains consist of the following generating facility combinations:

- The “Big Creek Water Chain”: Portal/Big Creek 1/Big Creek 2/Big Creek 8/Big Creek 3/Big Creek 4;
- The “Shaver Lake Water Chain”: Portal/Eastwood Power Station/Big Creek 2A/Big Creek 8/Big Creek 3/Big Creek 4; and,
- The “Mammoth Pool Water Chain”: Mammoth Pool Powerhouse/Big Creek 3/Big Creek 4.

Mammoth Pool Powerhouse is the first generating opportunity in the Mammoth Pool Water Chain.

The Big Creek Hydroelectric System is authorized under seven separate FERC licenses which are operated together in a manner to maximize the hydroelectric power produced from the available water supply. The coordinated operation of the seven FERC-licensed facilities is subject to certain constraints imposed to augment the operation of the federally operated Millerton Reservoir (downstream) as appropriate. The Big Creek

Hydroelectric System is subject to several operating constraints including the following:

- available water supply;
- electrical system requirements;
- both planned and unplanned maintenance outages;
- storage limits (including both recreation minimums and year-end carryover maximums);
- both minimum and maximum release limits (from storage); and
- various provisions contained in water rights agreements.

The water rights agreement contain stipulations that stem from the senior status of certain downstream water holders and include the Mammoth Pool Operating Agreement between SCE and the U.S. Bureau of Reclamation (Bureau) pertaining to the storage and release of water from the SCE Big Creek System reservoirs which are upstream of Friant Dam (Millerton Reservoir) and the associated Central Valley Project water distribution system operated by the Bureau on behalf of the downstream irrigators. Millerton Reservoir is a major irrigation storage facility serving the central San Joaquin Valley agricultural community. Meetings between SCE, the Bureau, and the downstream irrigators are held following the March 1 runoff forecast each year and periodically as needed to coordinate and optimize the hydropower production consistent with irrigation needs of the downstream agricultural users holding senior water rights and emergency flood control operations of Millerton Reservoir.

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

SCE optimizes the use of the Project to provide maximum generation during runoff and peak demand periods. The entire set of SCE generation facilities is coordinated through the SCE Power Procurement Business Unit to maximize generation while minimizing economic and environmental costs. SCE's Big Creek generation output to the wholesale gird can be re-dispatched by the California Independent System Operator (CAL-ISO). This re-dispatch can occur for a number of reasons including: economics, transmission constraints, and emergency system requirements. The ISO is the impartial operator of California's wholesale power grid. Their dispatchers monitor projected and current system needs and direct electricity suppliers to meet the load demands of the transmission grid.

(2) Need for the Project

The need for the Project is twofold as: 1) SCE needs the capacity of the Project to supply its customers; and, 2) the value of the energy produced by the Project is greater than the costs associated with producing this energy. Continued operation of the Project will reduce the need for SCE to purchase replacement energy and capacity which would be significantly more expensive than the production costs associated with the Project. In addition, the Project contributes to the fuel diversity of SCE's energy supply and is a significant hedge against the potential impacts of the volatile natural gas market.

The environmental value of the Project mainly consists of using a non-polluting renewable fuel resource to displace other forms of generation such as gas-fired energy that creates air pollution as well as using non-renewable resources. The Project is, however, too large to be included as an Eligible Renewable form of energy, based on accounting regulations in California, and thus does not assist SCE in meeting the goals of California's Renewable Portfolio Standard (CA Senate Bill 1078).

(i) Costs and Availability of Alternative Sources of Power

SCE is presently unable to supply energy to its entire customer load from SCE owned generation resources for all hours.

Load management is not currently an option to replace the Project, as it might be able to supply capacity but cannot supply the amount of energy that this large hydroelectric facility produces. Energy efficiency is not a viable option, in place of this facility, because SCE is already planning on utilizing all of the available cost-effective energy efficiency programs. SCE was encouraged to, and eventually did, divest of all of its natural gas generation facilities when the California market deregulation occurred in early 1998, therefore SCE does not have any deactivated or retired plants that can be restarted to replace this capacity and energy.

SCE must therefore purchase its unmet capacity and energy requirements from the existing market. Since SCE does not currently have the necessary resources nor do we plan to develop sufficient resources to meet all our energy obligations, SCE would likely purchase "net short" customer load requirements from the market, either through bilateral transactions or through spot market purchases. It is estimated that the cost of replacement power would be approximately $42.5 million per year in nominal dollars for 2007 and this cost would escalate in future years. This energy is expected to be readily available in 2007 and beyond.

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

If the Project was not licensed, the replacement power could not be generated by SCE, but would be purchased from the market as discussed above. SCE would incur the costs associated with purchasing the replacement power for its customers. If firm energy contracts are purchased, the expected cost of those contracts is the same as above at approximately $42.5 million per year in 2007 and escalating thereafter.

If contracts are structured as tolling arrangements, where SCE provides the natural gas for a generator, SCE may be required to purchase the natural gas necessary for the contracted generator to produce this energy. It is estimated that the cost to purchase the gas and replace the energy provided by the Project would total $48.6 million for 2007. This assumes an average of 10,000 Btu/kWh heat rate for replacement energy and the gas price is based on a five-day average of NYMEX natural gas forward prices (as of August 16, 2005) plus a Southern California Gas Company transportation charge. Costs associated with the Project not obtaining a new license would include the cost of obtaining contracts to replace the energy and capacity provided by the Project. There may also be some additional costs in purchasing ancillary services (such as spinning reserve) if these hydro resources cannot be used for those purposes. No estimate of those costs has been provided in this filing.

(iii) Effect of Alternative Sources of Power

The Project provides a stabilizing low-cost base of generation with high reliability and, with a dependable operating capacity of 187.0 MW, accounts for approximately 16% of the total hydroelectric capacity for SCE's Northern Hydroelectric Division. If a new license is not granted, it will have a significant impact on SCE's total hydroelectric energy capability.

(A) The Project provides lower cost energy to SCE's customers than the cost of replacement energy. This cost savings is not specifically assigned to any one class of customers, including wholesale customers. System generation serves all customers through a diverse transmission system and with a generation mix based on many different resources such as gas, coal, nuclear, hydroelectric, and purchases from other utilities or non-utility power producers. If the resources mix shifts from low cost resources such as hydroelectric generation to higher cost resources such as gas-fired generation, the cost to all customers will increase. Without a new Project license, some of this resource shifting would occur and it is expected that all SCE customers would pay higher rates in the future.

(B) The generation and load projections for 2010 show that SCE hydroelectric generation will represent 6% of the supply of Utility-Retained Generation, which will enable SCE to meet approximately 5% of its load requirements. See Exhibit H(a)(3)(II) for more detail.

(C) The Project is located near the communities of North Fork and Big Creek. However, electrical service to these communities relies more on the local power grid in the area than the generation produced by the Project.

The costs associated with transfer of the license would be the same as the severance value described in Exhibit D(2)(iii).

(3) Need, Cost, and Availability of Alternative Sources of Power

The power produced by the Project cannot be replaced by an alternative source at a lower cost. Following the divestiture of the SCE gas-fired plants, it became necessary for SCE to purchase some power during on-peak periods. Changing to an alternative source of power would increase purchased power at a higher cost than continuing operation of the Project.

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

The Project has an installed capacity of 190.0 MW and a dependable operating capacity of 187.0 MW. Attachment H(a)-1 presents the Project's recorded annual generation output for 15 years (1990–2004). The lowest year of generation production in the 15-year period occurred in 1992 at 319,780 MWh and the highest occurred in 1996 at 867,187 MWh. The average production for the 15 year period was 580,327 MWh.

The Project Net Investment as of December 31, 2004 was $27,172,069 and the 5-year average (2000-2004) O&M expense is $2,282,830. Additional Project operating expenses and capital costs are discussed in Section D(4).

(ii) The Project Resources Required by SCE to Meet Capacity and Energy Requirements

(A) *Energy & Capacity Resources As Separate Components Of Total Resources Required*

SCE currently does not own or operate enough generation to meet all of its future projected load and energy obligations. Table H(a)-1 projects the amount of energy expected from the Utility Retained Generation (URG) in the years 2010 and 2015. This table also gives an estimate of how much of SCE's future energy needs, assuming that 14% of the load in the SCE service territory continues to be provided by other electric suppliers, will be met by the URG resources. Demand side management (i.e. conservation and energy efficiency) expectations are built into the table's Load forecast.

Table H(a)-1: Expected Utility Retained Generation (URG) in 2010 and 2015

Generation Source	2010			2015		
	GWh	% Supply	% Load	GWh	% Supply	% Load
Utility-controlled resources						
Nuclear	15,527	20%	18%	16,902	29%	18%
Hydro	4,775	6%	5%	4,687	8%	5%
Fossil	10,101	13%	11%	10,816	19%	11%
Must-take DWR	19,946	26%	23%	0	0%	0%
Qualifying Facility Contracts	23,581	31%	27%	23,208	40%	24%
Existing Renewable Contracts	2,438	3%	3%	2,434	4%	3%
Total URG*	76,368	100%	87%	58,047	100%	60%

Source: 2005 IEPR Alternate Case, Public Version of Form S-2; filed with CEC by SCE on April 1, 2005.

* URG less inter-utility contracts (i.e. Hoover, etc.)

(B) *Resource Analysis and System Reserve Margins*

The California Independent System Operator (Cal ISO) is responsible for maintaining statewide system operating reserve margins that meet the WECC required operating reserve margin requirements. The Cal ISO attempts to maintain an operating reserve of about 7%, with 3.5% as spinning reserve and 3.5% as non-spinning reserve. For a breakdown of utility-owned generation, see the above table. In addition to operating reserves, SCE will be required to provide the CAISO with documentation related to meeting the state Resource Adequacy or planning reserve margins. This Project can, and will, count towards meeting these planning reserve requirements.

(C) *Effects of Efficiency and Load Management Plans*

SCE has developed comprehensive efficiency and load reduction plans that will encourage electrical customers to decrease their load, especially during peak periods. Reference Exhibit H(a)(11).

SCE is committed to the continued development of cost effective energy efficiency and load management programs that will help the utility provide uninterrupted service to its customers. The 2004 SCE energy efficiency programs achieved over 950,000 MWh of net annualized energy savings and a net demand reduction of 175 MW.

(iii) Cost and Merits of Project Alternatives

As previously discussed in Exhibit H(a)(2)(i), SCE has very limited options regarding alternative sources of power. At the current time, the only feasible alternative is receiving energy from the wholesale energy market.

(A) *Annual Costs for Alternative Sources of Power*

The cost of replacement power in 2007 is $50.4 million per year (nominal dollars). See discussion above in Exhibit H(a)(2)(i).

(B) *Basis for Determination of Projected Annual Cost*

The projected annual cost of alternative power is determined by estimating the cost of replacing the power provided by the Project at SCE's forecast of its avoided cost of energy and capacity. As previously noted the number of MWh's needed for replacement was derived from a 15-year annual historical average. This average was then multiplied by the avoided cost of energy and capacity as forecasted by SCE in its 2006 General Rate Case filing. Since this forecast is not available past 2008, it is assumed that the avoided cost will increase at a level consistent with other escalation assumptions as discussed above. See also Exhibit H(a)(3)(i).

(C) *Relative Merits of Each Alternative*

Forward purchases of energy are likely to be characterized by market forces. Their availability is subject to the terms and conditions specified in contracts as well as forces at work in the marketplace. The Project's availability is limited by the amount of water available to be diverted and/or stored upstream of the Project, which is governed by the precipitation available in any given year.

(iv) The Effect on the Direct Providers of Alternative Sources of Energy

Relicensing of the Project would have a negative effect on suppliers of alternative sources of power. It would reduce the amount of purchases made by SCE and increase the total supply of generation in the market, thus likely causing power prices to decrease.

In addition, SCE has long- and short-term contracts with both public and private utilities. Generally, when utilities have different peak seasons they can exchange energy and capacity on a seasonal basis for each other's benefit. There would be minor effect to the other utilities from utilizing alternate sources of power as the overall average cost for exchange energy would increase which would create less opportunity to make exchanges.

(4) Effect on Industrial Facilities

The Project does not connect or otherwise provide direct electricity to any of SCE's industrial facilities.

(5) Tribal Need for the Project on a Reservation

Applicant is not an Indian tribe nor is the Project on a Tribal reservation.

(6) Comparison of Impact on Operations and Planning of Transmission System With and Without License Renewal

(i) *An analysis of the effects of any resulting redistribution of power flows on the line loading (with respect to applicable thermal, voltage, or stability limits), line existing facilities, together with the cost impact of these effects.*

The Mammoth Pool Project with a dependable capacity of 187 MW is connected by a single radial 6.7 mile 220 kV line from the Big Creek No.3 switch rack. The Project and other hydroelectric plants in the area dependably deliver a collective total of 1,000 MW of power to serve approximately 1.2 million customers in the San Joaquin Valley and the Los Angeles basin. Removal of the 187 MW of Project generation would result in SCE's inability to adequately serve its customers in the San Joaquin Valley and Los Angeles basin areas during high load conditions. Insufficient transmission capability south of the San Joaquin Valley, and, in particular, south of the Rector Substation limits SCE's ability to import power into the region. Additional capacity would be necessary to import power to serve the San Joaquin Valley. As a result, significant transmission upgrades, in the form of new 230 kV or 500 kV transmission lines, would be necessary if the Project generation is unavailable. The new transmission lines would need to be connected to the Magunden Substation located 65 miles south of Rector and possibly the Vincent or Pardee Substations located an additional 95 miles south of Magunden, if power were imported from southern California or the southwest. Until such time that the new transmission facilities are constructed, significant involuntary load interruption in violation of established Western Electric Coordinating Council Planning Criteria would be needed during normal and outage conditions when loads are high to ensure remaining transmission facilities do not load beyond the maximum allowable limits.

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

SCE's existing transmission system distributes the Project's power and utilizes the Project's power to serve local substation load. No other distribution or transmission system is currently available to transmit Project power.

(iii) *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 flows and loss data that represents system operating conditions may be appended if applicants believe such data would be useful to show that the operating impacts described would be beneficial.*

Customer load demand within the San Joaquin Valley is served by utilizing local area generation resources as well as importing power from the south. The local area generation includes Big Creek Hydro generation resources that collectively add up to over 1,000 MW. Mammoth Pool generation resource accounts for approximately 187.0 MW of this total generation. Power from the south is imported into the San Joaquin Valley through existing 220 kV transmission facilities that originate at the SCE Vincent (Los Angeles County Acton area) and SCE Pardee (Los Angeles County Santa Clarita area) Substations. These transmission lines connect together at the SCE Magunden Substation (Kern County Bakersfield area). From the Magunden Substation, four 220 kV transmission lines run north towards the Big Creek Hydro Facilities connecting three A-Stations (Springville, Rector, and Vestal 220 kV Substation) along the way that serve the local San Joaquin Valley loads. Collectively, these four lines are limited in capacity to approximately 1,000 MW with all facilities in service and 800 MW under loss of a single transmission line. A single-line diagram of the Big Creek System is shown in Appendix H(a)-2.

(7) Plans for Modifications

SCE has no plans at this time to modify existing Project facilities or operations.

(8) Conformance with Comprehensive Plans

The Project facilities and operations, including mitigation measures proposed in Exhibit E, are best adapted to a comprehensive plan for the San Joaquin 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, as proposed in this Application for new license, takes into account all existing and potential uses of the South Fork of the San Joaquin 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.

In addition, identification and review of the potentially relevant comprehensive plans indicate that relicensing of the Project will not conflict with the goals or objectives of any such plans. Accordingly, the Project adopts measures to ensure public safety, protect the environment, provide recreation opportunities, and operate for maximum efficiency and reliability, and thus provide the best possible overall mix of benefits.

(9) 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 the Commission annually.

SCE has personnel resources necessary to meet license obligations for the Project. A variety of training resources and approaches are used, including classroom training, workshops, textbooks, on-the-job training, and safety training to all personnel. 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.

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 who participate in job related courses, correspondence programs, and degree and/or certificate programs sponsored by accredited institutions.

(10) Notification of Expansion to Property Owners

SCE is not proposing to expand the Project to additional lands.

(11) Efficiency Improvement Program

(i) SCE is actively engaged in energy efficiency, conservation and environmentally beneficial programs. Successful program offerings include customer incentives, information and education, surveys and cooperative efforts with third-party contractors and other utilities. Some of the energy efficiency programs include:

Incentives

SCE's incentive programs include non-residential VESM Advantage Plus[2] Program, Small Nonresidential Hard-to-Reach, Express Efficiency, Standard Performance Contract, Savings by Design and the Upstream HVAC Motors Rebates Program.

SCE's residential incentive programs include Single-family Energy Efficiency Rebates, Multifamily Energy Efficiency Rebates and Appliance Recycling Programs.

Information Programs

SCE's non-residential information programs include Non-residential Energy Surveys, Building Operative Certification, and Pump Test & Hydraulic Services. SCE's Home Energy Efficiency Surveys target residential customers. Other information is disseminated to customers at Customer Technology Application Center (CTAC), located in Irwindale, California and SCE's Agricultural Technology Application Center (AgTAC) located in Tulare, California.

Additional information regarding energy efficiency and conservation programs is provided on SCE's website as follows:

- http://sce.com
- http://www.sce.com/PowerandEnvironment/BetteringEnergyEfficiencyPowerSources/
- http://www.sce.com/RebatesandSavings/EnergyCenters/CTAC/
- http://www.sce.com/RebatesandSavings/EnergyCenters/AGTAC/.

(ii) 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 California Public Utilities Commission pursuant to Protocols and Procedures for the Verification of costs, benefits and shareholder Earnings from Demand-side Management Programs revised June 1999.

(12) Indian Tribes Affected by Project

The project does not cross any Native American lands; therefore, no lands owned or reserved on behalf of any Native American tribe or tribal organization are affected by the Project.

SCE conducted consultations with the Native American organizations listed below. This contact list was provided by the Sierra National Forest.

Big Sandy Rancheria*
PO Box 337
Auberry, CA 93602

Cold Springs Rancheria*
P.O. Box 209
Tollhouse, CA 93667

North Fork Rancheria*
PO Box 929
North Fork, CA 93643

Dunlap Band of Mono Indians
PO Box 45
Dunlap, CA 93621

Picayune Rancheria*
46575 Road 417
Coarsegold, CA 93614

Table Mountain Rancheria*
PO Box 410
Friant, CA 93626

Mono Nation
PO Box 197
Dunlap, CA 93621

North Fork Mono Tribe
13396 Tollhouse Rd
Clovis, CA 93611

Sierra Nevada Native American Coalition
PO Box 125
Dunlap, CA 93621

Bishop Tribal Council
50 Tu Su Lane
Bishop, CA 93514

Sierra Mono Museum
PO Box 275
North Fork, CA 93643

Native Earth Foundation
34329 Shaver Springs Rd.
Auberry, CA 93602

*Federally recognized tribal organization

ATTACHMENT H(a)-1

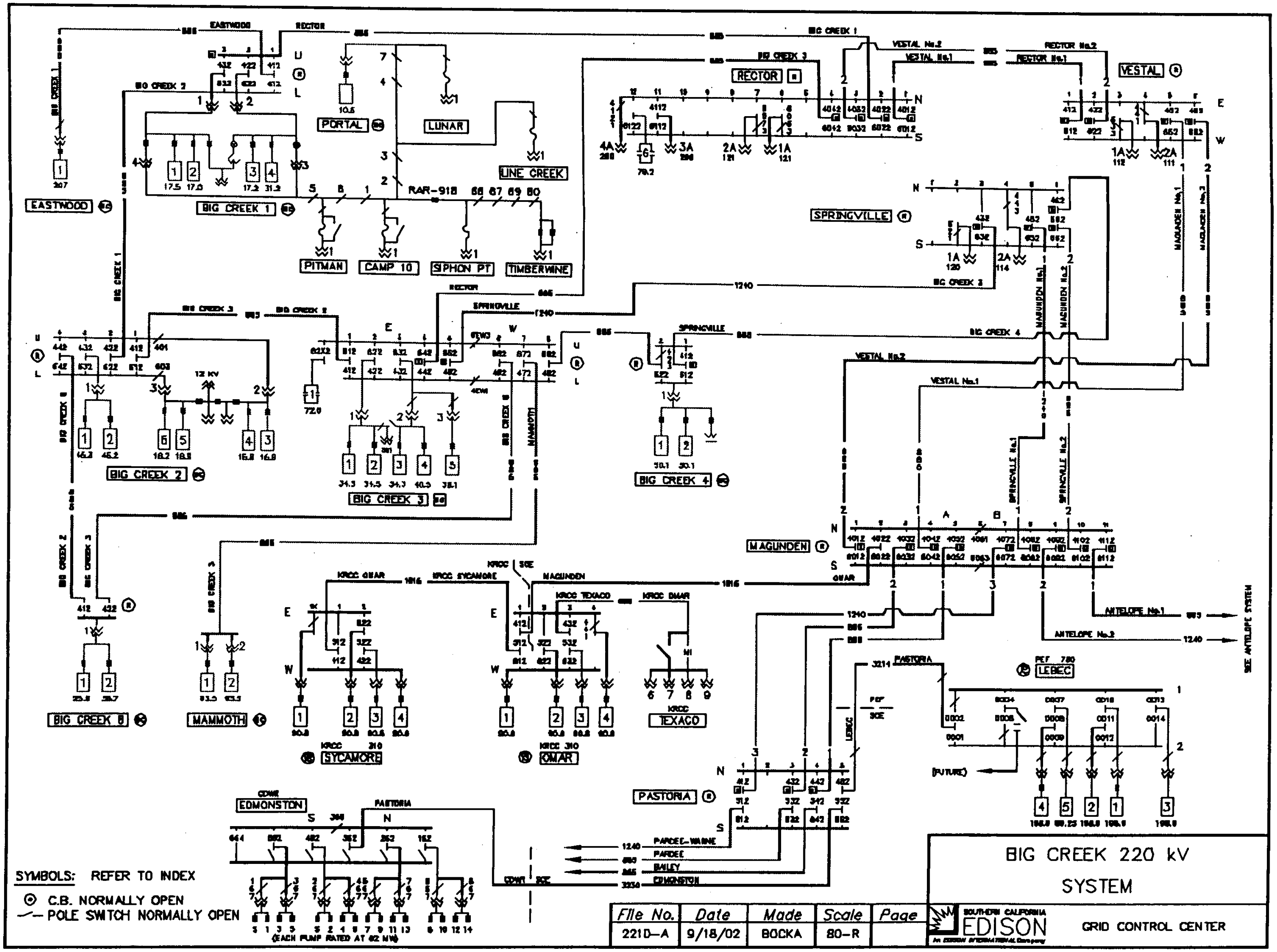
Project Generation

Attachment H(a)-1 Average Project Generation Output Between 1990-2004

YEAR	PRODUCTION IN MWH (TRANSMITTED)
1990	324,460
1991	426,544
1992	319,780
1993	842,535
1994	358,510
1995	819,824
1996	867,187
1997	835,857
1998	760,690
1999	604,340
2000	616,530
2001	428,951
2002	486,423
2003	512,987
2004	500,302
15-year average =	**580,327**

ATTACHMENT H(a)-2

Single Line Diagram


BIG CREEK 220 kV
SYSTEM
File No. 221D-A
Date 9/18/02
Made BOCKA
Scale 80-R
Page
SOUTHERN CALIFORNIA EDISON
GRID CONTROL CENTER
SYMBOLS: REFER TO INDEX
C.B. NORMALLY OPEN
POLE SWITCH NORMALLY OPEN
EASTWOOD
BIG CREEK 1
PORTAL
LUNAR
LINE CREEK
PITMAN
CAMP 10
SIPHON PT
TIMBERWINE
RECTOR
VESTAL
SPRINGVILLE
BIG CREEK 2
BIG CREEK 3
BIG CREEK 4
BIG CREEK 8
MAMMOTH
MAGUNDEN
SYCAMORE
OMAR
TEXACO
PASTORIA
LEBEC
EDMONSTON
SEE ANTELOPE SYSTEM
(EACH PUMP RATED AT 62 MW)

SOUTHERN CALIFORNIA EDISON COMPANY

BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

MAMMOTH POOL PROJECT

(FERC Project No. 2085)

APPLICATION FOR NEW LICENSE

EXHIBIT H(B)

NOVEMBER, 2005

EXHIBIT H(B) GENERAL INFORMATION

Exhibit H(b) is information to be provided by an applicant who is an existing licensee. An existing licensee that applies for a new license must provide the information as specified in 18 CFR § 16.10(b):

(1) The information specified in H(a).

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

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

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

(iii) 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;

(iv) 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

(v) 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.

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

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

(5) 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.

(6) 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 non-compliance, their disposition, and any documentation relating to each incident.

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

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

(9) 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.

(1) Information Specified in H(a)

See Exhibit H(a).

(2) Safety Measures

(i) *Operation of the Mammoth Pool Project*

Operation of the Mammoth Pool Project is fully automated. The Mammoth Pool Powerhouse may be controlled either locally from the powerhouse or remotely from the non-project Big Creek Powerhouse No. 3 Control Center (FERC Project No. 120).

A Station Order Binder is maintained at the Mammoth Pool Powerhouse. This document includes individual site specific plans outlining actions and considerations for high water flow events at each a station and/or its associated head and tail works. The Station Orders provide for contingency planning and response to both planned and unplanned project high water flow events. This includes the potential for a single event or, when considered in aggregate, for multiple Powerhouse high water and/or flooding circumstances. A copy of the Station Orders is maintained at the non-project Big Creek Powerhouse No. 3 Control Center and is available to personnel at all times.

In preparation for spill discharges at the Mammoth Pool Reservoir, the turbine floor flood gates in the powerhouse are fastened to prevent water from entering the powerhouse, the pressure regulator closing time is adjusted from 45 seconds to 4 minutes, and the cooling water supply to the cooling water pumps is supplied from the draft tube. In addition, if flooding is anticipated, the Rock and Ross Diversions are turned out, miscellaneous oil containments at the powerhouse are drained, and the cooling water filters are checked and cleaned, as necessary.

The entire “Big Creek Hydroelectric System,” including the Mammoth Pool Project, is operated together in a coordinated manner to maximize the hydroelectric power produced from the available water supply and to augment the operation of the federally operated Millerton Reservoir (downstream) as appropriate.

A safety plan outlining measures to protect against potential terrorism at the Project was updated on June 1, 2005. The plan outlines notification procedures and actions to be implemented in the event of a terrorist act. A copy of the plan is maintained at the Mammoth Pool Powerhouse and at the non-project Big Creek Powerhouse No. 3 Control Center (FERC Project No. 120).

(ii) Downstream Public Safety

In the event of a potentially hazardous situation or existing imminent dam failure condition involving the Project, the Emergency Action Plan is immediately implemented to assure downstream public safety. Once the situation is determined serious, operations personnel and the Edison Grid Control Center are contacted. The situation is then communicated by Control Center personnel to Northern Hydro Division Management, Pacific Gas & Electric, the U.S. Bureau of Reclamation, California Office of Emergency Services, California Highway Patrol, and the Fresno and Madera County Sheriff's Departments. Division management immediately notify FERC and the California Division of Safety of Dams (DSOD). A command center is immediately established at the Big Creek Division Office by Edison personnel to coordinate communications and actions of Edison personnel and maintain contact with each participating agency. At each step of the communication process, an assessment is made to determine whether the emergency situation requires immediate action and who is responsible for taking such action.

(iii) Changes Affecting the Emergency Action Plan

A copy of the Emergency Action Plan (EAP) is kept at the Mammoth Pool Powerhouse and at the Big Creek Control Center. The EAP is dated April 18, 2001. SCE has no current plans to change the operation of the project or any plans for downstream development that might affect the existing Emergency Action Plan.

(iv) Monitoring Devices

Pressures near the bottom of the penstocks are continuously monitored. If the pressure in the penstock drops below a preset level from the normal operation pressure, an alarm is activated at the non-project Big Creek Control Center near Powerhouse No. 3 (FERC Project No. 120). The operator would acknowledge the alarm and review other system parameters such as a drop in generation or unit flow and, after evaluating the system, make a decisions on whether to shut the water conveyance system down.

Water levels in Mammoth Pool Reservoir are continuously monitored by level sensors. The sensors are used to determine whether dam failure has occurred. If water levels drop at rates faster than preset levels, an alarm is activated at the non-project Big Creek Control Center near Powerhouse No. 3 (FERC Project No. 120).

The Project is not staffed although the dam and powerhouse are visited weekly by operations personnel. All Project facilities are inspected by SCE personnel at least once a year. The California Department of Water Resources, Division of Safety of Dams and FERC inspect the Project on an annual basis.

The Mammoth Pool Reservoir dam is inspected after significant seismic events. SCE inspects any dam that is within 50 miles of an event of magnitude 5.0 or greater.

A. Seepage

Seepage at the dam is intercepted by a central drain system and is conveyed through a 20-inch diameter pipe to the toe of the dam. The seepage discharge is measured using V-notch weir.

Groundwater conditions at the dam are monitored using 33 piezometers. During spring runoff and periods of high reservoir elevations, piezometer readings are taken weekly or at each 10-foot change in reservoir level between elevations 3,250 feet and 3,330 feet. During the winter (between November and the spring runoff), piezometer readings are taken every 2 weeks.

B. Settlement and Alignment Surveys

Settlement of the dam is measured at 24 survey monuments which are located on the crest of the dam. Settlement surveys are made annually at full reservoir.

C. Uplift

The dam is an earthen rock fill embankment. Uplift assumptions are not applicable.

D. Seismic Monitoring System

A K2 strong-motion accelerograph is located in the power tunnel intake gatehouse. The instrument triggers at 0.005g and records the earthquake motion digitally. After actuation, the data can be downloaded and interpreted to assess time histories and response spectra of the event.

E. Mammoth Pool Reservoir Levels

The water levels in Mammoth Pool Reservoir are continuously monitored at the non-project Big Creek No. 3 Control Center via telemetry.

(v) Employee and Public Safety

No lost-time industrial accidents have been recorded at this Project in the last ten years. SCE has no knowledge of any deaths or serious injuries having occurred to the public within the Project boundary. A Public Safety Plan is on file with the FERC that identifies all public safety devices installed at the Project.

(3) Project Operation and Constraints

The Project was placed into service in 1960. The Mammoth Pool Powerhouse contains two Francis-type vertical shaft hydraulic reaction turbines rated at 100,000 HP each at 360 rpm under a design head of 1,004 feet. The two Powerhouse generators are Y-connected and consist of vertical shaft, closed circuit air-cooled/water heat exchangers, three bearing type. The Unit 1 and Unit 2 generators are rated at 95,000 kVA, unity power factor, 13.8 kV, three-phase, 60 Hz. The Powerhouse is typically unattended with supervisory control and remote restart capability at non-project Big Creek No. 3 (FERC Project No. 120).

The Fishwater turbine consists of a Pelton-type turbine that is rated at 1,400 HP at a design head of 310 feet and operates at 600 rpm. The Fishwater generator is a two bearing horizontal shaft, indoor, open type, self cooled waterwheel unit with an installed capacity of 937 kW, 1,250 kVA, 75% pf., 2,300 V. The Fishwater generator and associated equipment is manually operated and controlled for start-up synchronization, but is normally unattended for service. The unit is controlled by system frequency. A speed switch and DC tachometer generator provide speed indication and over speed tripping. Tripping is alarmed at Big Creek Powerhouse 3 control station and must be manually reset.

Mammoth Pool Reservoir has a gross storage capacity of 122,715 acre-feet with a normal full reservoir surface level of 3,330 feet msl. Inflow to the reservoir is from the upper sections of the San Joaquin River, North, Middle, and South Forks; Chiquito Creek, and Jackass Creek. The reservoir level can vary as much as 205 feet in a year, but normally only about 100 feet of drawdown is used. Depending on water supply, in-stream flow release requirements, and system needs, Mammoth Pool Powerhouse is operated from the Big Creek Control Center for base load generation or in a peaking mode.

Project operation and constraints are discussed further in Exhibit B, Section (1).

(4) Project History and Upgrades

The Project was constructed between 1958 and 1960. The Project was designed and constructed by Bechtel Corporation for Southern California Edison. Construction of the Mammoth Pool Dam, water conveyance system, and powerhouse commenced in the spring of 1958 and was completed in early 1960.

A discussion of the Project upgrades and modifications since start-up is provided in Exhibit C, Section 1(iii).

(5) Unscheduled Outages

Five years of unscheduled (forced) outages, 1999 to 2004 inclusive, are listed below in Table H (b)-1:

Table H(b)-1 Unscheduled Outages, 1999 to 2004

Unit	Date/Time	Hour Off	Reason	Corrective Action
1	1/29/99 16:06	19.6	Motor failed in gen. CB air compressor.	Repaired wire connection to motor.
1	2/10/99 6:55	2.5	Cooling water pump seized.	Replaced pump
1	3/5/99 0:01	471.7	Repair stator winding, and complete A.I.	Repaired stator winding.
2	4/3/99 3:08	9.2	Relayed on stator ground.	No cause found.
1	5/16/99 1:15	10.4	Accidental closure of penstock due to defective automation control logic.	Repaired logic.
2	5/16/99 1:15	10.1	Accidental closure of penstock due to defective automation control logic.	Repaired logic.
2	5/24/99 12:08	0.5	Unit relayed due to faulty automation logic.	Repaired logic.
2	9/9/99 8:39	5.0	Water in lower guide bearing.	Isolated C.W. and installed temp. heat exchanger.
1	12/31/99 16:13	3.2	TSO valve bypass valve failed.	Repaired valve operator.
2	1/21/00 20:00	244.0	Conservator tank air cell failed.	Replaced air cell
2	2/1/00 0:01	210.6	No. 2 main bank conservator air cell failed.	Repaired air cell.

Table H(b)-1 Unscheduled Outages, 1999 to 2004 (continued)

Unit	Date/Time	Hour Off	Reason	Corrective Action
2	2/11/00 9:25	7.4	Ovation control system problem.	Replaced brain board.
1	2/13/00 23:42	0.8	C.W. problem.	Place unit on emergency C.W. supply.
2	2/15/00 14:11	1.8	C.W. problems.	Cleaned cooling water strainers.
2	5/17/00 10:54	0.4	Plugged cooling water line.	Cleaned line.
1	6/23/00 8:52	4.0	Broken shear pin.	Replaced pin.
1	6/24/00 18:17	1.7	Wearing ring lube water supply line broken.	Repaired piping.
1	10/2/00 5:40	4.8	Cooling water problems.	Investigated and restarted system
2	10/2/00 5:40	2.6	Master controller problem.	Repaired M/C.
2	3/2/01 7:25	0.8	Thrust bearing cooling water pump tripped.	Reset pump.
1	3/21/01 13:43	1.7	Broken shear pin.	Replaced shear pin.
2	4/29/01 12:22	1.5	Plugged c.w. strainer.	Cleaned strainer.
1	6/16/01 14:24	6.2	Broken shear pin.	Replaced shear pin.
1	7/23/01 11:42	3.4	Broken shear pin.	Replaced pin.
2	7/28/01 13:27	0.8	Problem in Transfer trip scheme protection.	Repaired protection.
1	9/9/01 0:58	12.0	Broken shear pin.	Replaced shear pin.
1	10/26/01 13:49	0.6	Unit tripped on UPR due to swapping of station light and power.	Restart unit
1	11/1/01 17:14	2.0	Broken shear pin	Replaced pin
1	12/20/01 9:44	14.7	Governor restoring cable failed.	Replaced cable.
1	1/4/02 17:17	23.3	Broken shear pin.	Replaced pin
1	1/17/02 14:23	2.4	Unknown vibration	No cause found.

Table H(b)-1 Unscheduled Outages, 1999 to 2004 (continued)

Unit	Date/Time	Hour Off	Reason	Corrective Action
1	1/22/02 16:16	558.0	Vibration, failed turbine bolt nut cover.	Removed failed nut cover from turbine area.
2	1/24/02 13:55	80.5	Install penstock bulkhead for work on No.1 unit.	No action
2	2/24/02 6:01	1.4	Failed TSO valve bypass valve.	Repaired valve control.
1	3/22/02 16:02	1.5	Broken shear pin.	Replaced pin
1	5/5/02 6:44	6.5	Broken shear pin and wicket gate stop.	Replaced shear pin, make temp. repairs to stop.
1	6/21/02 8:58	3.5	Broken shear pin.	Replaced shear pin.
1	8/17/02 12:19	2.5	Broken shear pin.	Replaced shear pin
1	4/7/03 16:00	5.3	Gen. field ground.	Cleaned excitation equipment.
1	4/19/03 6:50	9.7	Gen. Field ground.	Cleaned excitation equipment.
2	5/2/03 18:03	3.9	Ovation control system problem.	Replaced brain board on Opto Module interface.
1	5/8/03 14:13	7.4	Line load indication in error	Re-taped splice in CT circuit.
2	5/8/03 14:39	7.2	220kV line load indication problem	Re-taped CT circuit splice.
2	11/15/03 21:26	42.8	TSO bypass valve gasket failed	Replaced gasket.
1	12/24/03 16:48	23.2	Unit tripped due to water on UPR relay	Dried and rain proofed relay.
1	12/25/03 19:27	20.5	High guide bearing temp due to plugged c.w. system.	Cleaned out cooling water system.
1	12/26/03 20:00	19.3	High Guide bearing temp due to plugged c.w. system.	Cleaned cooling water system.
1	1/30/04 6:11	2.8	Bearing temp. alarm incorrectly set after annual inspection.	Reset alarm
1	5/4/04 10:11	2.8	Broken shear pin K	Replaced shear pin.
1	5/10/04 9:08	2.0	Broken shear pin G	Replaced shear pin.
1	5/25/04 10:51	5.4	Broken shear pin L	Replaced shear pin.

Table H(b)-1 Unscheduled Outages, 1999 to 2004 (continued)

Unit	Date/Time	Hour Off	Reason	Corrective Action
1	5/27/04 15:00	2.2	Broken shear pin N	Replaced shear pin..
1	6/21/04 12:00	0.6	Problems with start-up sequence.	Re-set sequence.
2	6/21/04 12:00	0.8	Problems with start-up sequence.	Re-set sequence.
2	7/11/04 12:37	3.5	Broken shear pin I	Replaced pin
2	7/20/04 8:48	1.6	Broken shear pin H	Replaced pin.
2	7/26/04 16:30	17.7	Broken shear pin F	Replaced pin.
1	8/5/04 16:28	2.8	Broken shear pin H.	Replaced shear pin.
1	8/9/04 14:13	2.9	Broken shear pin L.	Replaced shear pin.
2	8/9/04 14:52	5.4	Broken shear pin A.	Replaced pin
1	8/19/04 7:44	5.2	Broken shear pin I.	Replaced shear pin.
2	8/24/04 8:01	2.5	Broken shear pin C.	Replaced pin
1	8/24/04 8:14	2.8	Broken shear pin G	Replaced shear pin.
1	8/31/04 16:31	4.7	No cause found, suspect weak CB.	No action
2	9/10/04 10:27	6.4	Broken shear pin "F"	Replaced shear pin.

(6) Record of Compliance

There have been no incidents of non-compliance in the past 20 years.

(7) Actions related to the Project which Affect the Public

In the event of an emergency, SCE personnel, through the U.S. Forest Service and the California Highway Patrol, notify the public and the Sheriff’s Office. Public safety devices (fences, locked gates, signs, grab lines, etc.) are installed where necessary to protect the public.

(8) Summary of Ownership and Operating Expenses

If the project license were transferred, ownership and operating costs that would be reduced include:

Operation and Maintenance Costs	
(5-year average 2000-2004)	$ 2,282,830
Depreciation (2004)	952,498
Property Taxes (2004)	291,310
Total	$ 3,526,638

(9) Annual Fees

The annual fees for FERC Bill Year 2005, paid under part I of the Federal Power Act, are as follows:

Water for Power	$ 326,045
Federal Land Rents	133,588
Total	$ 459,633

Water for Power – charges for the purpose of reimbursing the United States for the costs of the administration of Part I of the Federal Power Act.

Federal Land Rents – annual fees paid for the occupancy of federal lands for reservoirs, dams, flumes, forebays, penstocks, and powerhouses.