
DEVIL CANYON PROJECT RELICENSING FERC PROJECT NUMBER 14797



Draft License Application Exhibit H – Plans and Ability of Applicant to Operate Efficiently

April 2019

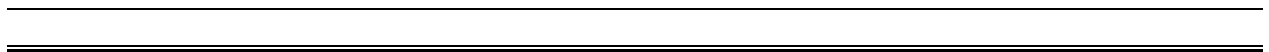


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COMMONLY USED TERMS, ACRONYMS & ABBREVIATIONS

| | |
|---------|--|
| § | Section |
| ACC | Area control center |
| CEC | California Energy Commission |
| CFR | Code of Federal Regulations |
| CT | combustion turbine |
| DWR | California Department of Water Resources |
| EAP | Emergency Action Plan |
| FERC | Federal Energy Regulatory Commission |
| kW/year | kilowatt hour per year |
| MW | megawatt |
| IOU | investor-owned utility |
| MWh | megawatt hour |
| O&M | operation and maintenance |
| POU | publicly owned utility |
| Project | Devil Canyon Project |
| SCADA | Supervisory Control and Data Acquisition |
| SCE | Southern California Edison |
| SFD | Southern Field Division |
| SWP | State Water Project |
| U.S. | United States |
| WUE | Water Use and Efficiency Branch |

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1.0 INTRODUCTION

The California Department of Water Resources (DWR) has prepared this Exhibit H, Plans and Ability of Applicant to Operate Efficiently, as part of its Application for a New License Major Project – Existing Dam (Application for New License) from the Federal Energy Regulatory Commission (FERC) for the Devil Canyon Project (Project), FERC Project Number 14797. This exhibit is prepared in conformance with the requirements of Code of Federal Regulations (CFR) 18, Chapter 1, Subchapter B, Section (§) 16.10:

- (a) *Information to be supplied by all applicants.* All applicants for a new license under this part must file the following information with the Commission:
 - (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, if considered as a resource), 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 deactivated units, the purchase of power off-system, the construction or purchase and operation of a new power plant, and load management measures such as conservation:
 - (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, its 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 represent system operating conditions may be appended if applicants believe such data would be useful to show that the operating impacts described would be beneficial.
 - (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.
- (b) *Information to be provided by an applicant who is an existing licensee.* An existing licensee that applies for a new license must provide:
- (1) The information specified in paragraph (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 noncompliance, their disposition, and any documentation relating to each incident.
- (7) A discussion of any actions taken by the 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.
- (c) *Information to be provided by an applicant who is not an existing licensee.* An applicant that is not an existing licensee must provide:
 - (1) The information specified in paragraph (a).
 - (2) A statement of the applicant's plans to manage, operate, and maintain the project safely, including:
 - (i) A description of the differences between the operation and maintenance procedures planned by the applicant and the operation and maintenance procedures of the existing licensee;
 - (ii) A discussion of any measures proposed by the applicant to implement the existing licensee's Emergency Action Plan, as described in subpart C of part 12 of this chapter, and any proposed changes;
 - (iii) A description of the applicant's plans to continue safety monitoring of existing project instrumentation and any proposed changes; and
 - (iv) A statement indicating whether or not the applicant is requesting the licensee to provide transmission services under section 15(d) of the Federal Power Act.
- (d) *Inclusion in application.* The information required to be provided by this section must be included in the application as a separate exhibit labeled "Exhibit H."

Excluding this introductory material, Exhibit H includes 20 sections. Section 2.0 describes the Project's efficient and reliable service, and Section 3.0 explains the need for the Project and availability of alternative power sources. Section 4.0 addresses the extent to which Project power is used for the Licensees' industrial facilities. Sections 5.0 and 6.0 address the Indian tribes' need for the Project's electricity and the impact on the Licensees' transmission systems from receiving or not receiving the Project license, respectively. Section 7.0 describes plans to modify existing Project facilities or operations, and Section 8.0 addresses the comprehensive plans that may pertain to the Project relicensing. Section 9.0 describes financial and personnel resources of the Project. Section 10.0 provides details regarding proposed Project boundary changes for the Project. Section 11.0 discusses DWR's electricity consumption efficiency improvement programs. Section 12.0 addresses Indian tribes. Section 13.0 addresses the safe management, operation and maintenance of the Project. Section 14.0 describes the Project's current operations and constraints, and Section 15.0 addresses the Project's history. Section 16.0 describes the generated power lost over the last five

years, Section 17.0 addresses the Project's compliance record, and Section 18.0 discusses the actions taken by DWR that affect the public. Section 19.0 details the effect on ownership and operating expenses should the license be transferred. Section 20.0 addresses annual fees paid to FERC by DWR relative to the Project. Section 21.0 lists the references cited in this exhibit.

See Exhibit A for a description of Project facilities and features, Exhibit B for a description of Project operations, Exhibit C for a construction history and a construction schedule, Exhibit D for costs and financing information, and Exhibit E for a discussion of potential environmental effects and DWR's proposed resource management measures. Project design drawings are included in Exhibit F, and Project maps are included in Exhibit G.

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2.0 EFFICIENT AND RELIABLE ELECTRIC SERVICE

DWR has consistently demonstrated its capability to manage, operate, and maintain the Project in a manner that delivers efficient and reliable electricity in an environmentally sensitive manner. Over the years, DWR has implemented several enhancements to increase energy recovery from the Project. These projects include upgrades of the Devil Canyon Powerplant and associated facilities. Additionally, DWR's preventative maintenance and inspection programs are designed to pinpoint potential trouble spots so that repairs can be made before the equipment fails. As new test equipment becomes available and monitoring technologies improve, DWR will look for applications that will continue to improve Project efficiency and reliability.

2.1 INCREASE IN CAPACITY OR GENERATION

DWR's proposed Project does not include new capacity or generation. DWR concluded, after a careful evaluation, that increases in capacity and generation were not warranted at this time.

2.2 PROJECT COORDINATION WITH OTHER WATER RESOURCE PROJECTS

DWR actively coordinates Project operations with the State Water Project (SWP), which is the largest state-owned and operated water supply project of its kind in the United States (U.S.).

2.3 PROJECT COORDINATION WITH OTHER ELECTRICAL SYSTEMS TO MINIMIZE COST OF PRODUCTION

Project power connects to the power grid at Southern California Edison (SCE) transmission lines that connects to the Devil Canyon Switchyard.

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3.0 NEED FOR THE PROJECT AND AVAILABILITY OF ALTERNATIVE POWER SOURCES

3.1 DWR'S NEED FOR PROJECT POWER

The power generated at the Project is critical for the continued operation of DWR's SWP. The energy required to transport SWP water to southern California makes up one of the largest cost components annually of the SWP. While Devil Canyon Powerplant output is delivered to the California Power Grid, its output effectively helps DWR partially offset the costs and energy needed for operating the SWP. More specifically, the revenue from power generation offsets the cost of delivering water to southern California, keeping water costs more affordable in the region and preserving economic vitality and quality of life for residents. Additionally, the Project is necessary in both the short- and long-term to maintain system reliability, operational flexibility, and low-cost electricity.

3.2 COSTS AND AVAILABILITY OF ALTERNATIVE SOURCES OF POWER

Refer to Section 8.0 in Exhibit D for a discussion regarding the costs and availability of alternative sources of power to replace the Project's power.

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4.0 EFFECT ON INDUSTRIAL FACILITY

DWR does not use the Project power for its own industrial facilities. Therefore, this item is not applicable.

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5.0 INDIAN TRIBE NEED FOR ELECTRICITY

DWR is not an Indian tribe. Therefore, this item is not applicable.

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6.0 EFFECT ON TRANSMISSION SYSTEM

DWR does not currently own or operate an independent electrical transmission system. Power from the Project is provided to SCE, which transmits the power to the California Power Grid, as described in Section 2.3. Therefore, this item is not applicable.

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7.0 PLANS TO MODIFY EXISTING PROJECT FEATURES OR OPERATIONS

DWR has no plans to modify the existing Project facilities or their operations.

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8.0 COMPREHENSIVE DEVELOPMENT OF WATERWAYS

At the outset of the current relicensing process, DWR undertook a reconnaissance-level analysis to identify potential Project modifications that would enhance the Project's contribution to the comprehensive improvement and development of the waterway and for other beneficial public uses. The analysis did not identify any necessary modification to Project facilities that, in conjunction with other developments in the area, are needed to conform with comprehensive plans for improving or developing the waterway and other beneficial public uses, as described in Section 10(a)(1) of the Federal Power Act. Refer to Section 5.6 of Exhibit E for a detailed discussion regarding Project consistency with FERC's qualifying comprehensive plans.

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9.0 FINANCIAL AND PERSONNEL RESOURCES

9.1 FINANCIAL RESOURCES

DWR's sources of financing and revenue are sufficient to meet the continuing O&M needs of the Project. Historically, DWR has financed Project O&M by issuance of short term Commercial Paper, Long-Term Revenue Bonds, and power sales with ultimate repayment of all expenditures by the 29 State Water Project Contractors.

9.2 PERSONNEL RESOURCES

DWR has experienced personnel operating and maintaining the Project in a safe, efficient, and reliable manner. DWR's current workforce comprises of approximately 3,357 positions. Of that number, the Project employs approximately 31 positions at the Devil Canyon site, and is supported by approximately 36 positions in DWR's Division of Operations and Maintenance located at its headquarters building in Sacramento (pers. comm., Macias 2018). DWR's current personnel resources are sufficient to meet the obligations of a new license. In addition, DWR's Training Office provides a high quality and extensive training program to meet the needs of DWR managers, supervisors, and staff in all areas of professional, occupational, and personal training and development. The Training Office also meets the changing needs of DWR by developing and providing instruction on new organizational, technical, business, and leadership practices and current DWR programs, policies and procedures.

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10.0 PROJECT BOUNDARY EXPANSION NOTIFICATION

As described in Exhibit G, DWR proposes to modify the existing Project boundary. This modification would entail reducing the proposed Project boundary in certain locations and expanding it in other locations. Per 18 CFR § 4.32, via certified mail, DWR has notified the following of the filing of DWR's relicensing application: property owners on the lands to be encompassed by the proposed Project boundary (including those on additional lands proposed as part of the proposed Project boundary), and governmental agencies and subdivisions likely to be interested in or affected by the expansion.

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11.0 ELECTRICITY CONSUMPTION EFFICIENCY IMPROVEMENT PROGRAM

California has an energy conservation program known as Flex Alert, which calls on consumers to voluntarily conserve electricity when there is a predicted shortage of energy supply, especially if the grid operator needs to dip into reserves to cover demand. By encouraging a reduction of electricity use at critical times, possible power outages may be prevented. More information about the program can be found at the following website: <http://www.flexalert.org>.

Additionally, through partnerships, grant and loan programs, and research and data analysis, the Water Use and Efficiency Branch (WUE) of DWR works with agencies and individuals to provide assistance for improving water use efficiency and developing and meeting efficient water use requirements, including:

- Agriculture and urban water and energy planning and conservation.
- Drought contingency planning.
- Alternative water supplies development and use, such as water recycling, desalination, stormwater capture, and graywater collection.

WUE also has two programs that provide tools and data for managing water use:

- California Irrigation Management Information System provides reference evapotranspiration and weather data to the public for irrigation scheduling, water balance analyses, pest management, energy generation, firefighting, weather forecasting, and scientific research.
- Land and Water Use program collects land use data and develops water use estimates used in a variety of statewide water planning efforts.

More information regarding the WUE and its programs can be found at: <https://www.water.ca.gov/Programs/Water-Use-And-Efficiency>.

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12.0 INDIAN TRIBES NAMES AND MAILING ADDRESSES

The proposed Project is not located on Indian tribe lands.

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13.0 SAFE MANAGEMENT, OPERATION, AND MAINTENANCE OF THE PROJECT

DWR's first and foremost consideration when operating the Project is the safety of the public, DWR employees, and DWR contractors. DWR's next consideration is the safety of its facilities and downstream facilities.

13.1 OPERATIONS DURING FLOOD CONDITIONS

The Project is not operated for flood control protection: the Project storage and afterbay reservoirs do not include dedicated flood control space and Project spillways are not constrained for flood control periods (i.e., gates must remain closed for periods of time). However, Project facilities are designed to minimize the impacts during high flow periods. For example, the Cedar Springs Dam Spillway is designed to handle high flows.

13.2 WARNING DEVICES FOR PUBLIC SAFETY

As described in its Project Public Safety Plan (DWR 2014), DWR has implemented many practices to ensure the safety of its employees and the public. DWR uses many warning devices, such as signs, buoy lines, and alarms to warn the public of any dangers or hazards. Many signs tell the public that the said area is dangerous and that their access is prohibited; some will tell the public that they can enter but only on foot, with no bicycles or vehicles; and some inform the public of extreme dangers such as high voltage power lines.

In addition, DWR uses many miles of restraining devices such as fences, gates, and boat barriers to keep the public out of unsafe areas. Almost all the facilities are surrounded by six-foot-high chain link fence with three-strand barbed wire tops. Manually operated gates are locked with chains and special locks made solely for DWR staff. Electric gates require a specific key, or authorized security badge to get through, and each power plant has a security camera watching the front gate with an operator and security guard monitoring it 24 hours a day 7 days a week.

13.3 EMERGENCY ACTION PLAN

Annually, DWR performs reviews and updates to the Emergency Action Plan (EAP) for the Cedar Springs Dam. In addition to the EAP updates, DWR conducts annual orientations, tabletop exercises, annual drills, and emergency equipment testing for the facility. There are no proposed changes to the operation of the Project that would affect the existing EAP for the Project.

13.4 MONITORING DEVICES

DWR currently has many safety standards set forth in its dam-specific FERC EAP, internal regulations, and daily project operations. Daily patrols are conducted, and all safety procedures and implementations are checked. If anything is damaged or needs

replacement, a Trouble Report is generated immediately and action is taken to isolate the danger and to make the needed repair/replacement. All DWR buildings are locked at all times and all exterior doors to these facilities will alarm the plant operator and Area Control Center (ACC) if opened.

Cedar Springs Dam and its facilities are visibly inspected daily for anomalies of its hydraulic structures. Any observed damage or failures of these structures are immediately conveyed to the Southern Field Division (SFD) ACC. Detection of a dam safety emergency or incident at Cedar Springs Dam will generally fall under one of three categories: visual observations, a Supervisory Control and Data Acquisition (SCADA) instrumentation alarm, and dam safety instrumentation.

Examples of visual observations that can serve as detection of a potential dam safety incident include:

- Observed damage or failure of hydraulic structures, such as the spillway or outlet works and associated valves.
- Observed distress to the dam embankment or its abutments in the form of slumping, cracking, excessive settlement, bulging, or other forms of instability.
- Observation of a whirlpool or vortex within the reservoir.
- Occurrence of a significant seismic event near the dam or seiche within the reservoir.
- Observation of new seepage area, unexplained increase in seepage at historical seepage areas, or observation of turbid (cloudy) seepage.
- Observations of significant displacements or misalignments in structures or flatwork (e.g., pavement and concrete curbs) constructed on the dam or its abutments.
- Observation of an unintended, uncontrolled release of a significant volume of water from the reservoir due to human error, mechanical failure, or other cause.
- Any other damage to the dam embankment or appurtenances that could lead to dam failure or an uncontrolled release, whether it be caused naturally or man-made.

These observations and reports can come from DWR personnel, other State or local agency personnel that work at the dam, or the general public. If observations are reported by the general public, the SFD ACC will investigate and contact the most appropriate and local DWR personnel for verification.

Examples of SCADA alarms that can serve as detection of a potential dam safety incident by DWR Operators within the SFD ACC include:

- Reservoir Level:
 - Unexplained changes in surface water elevation;
 - Exceedance of normal maximum and minimum operating surface elevations;
 - Unexplained changes in tailwater levels.
- Outlet Works:
 - Various SCADA alarms that indicate loss of control or communication with mechanical equipment;
 - Unexplained changes in flow rates, including exceedance of normal maximum and minimum flow rates;
 - Unexplained changes in valve or gate positions.
- Rain and Stream Gauges:
 - Greater than anticipated precipitation and inflow to the reservoir;
 - Unexplained changes in tailwater levels (Mojave River).
- Seepage Alarm:
 - Greater than expected seepage at the dam's toe drain.

Examples of dam safety instrumentation (and their data) that can provide detection of a potential dam safety incident include:

- Unexplained rise or drop in piezometric (groundwater) readings from dam instrumentation (piezometers, observation wells, etc.);
- Unexplained sudden rise or drop in seepage rates from drains and collection systems;
- Settlement monuments that experience sudden settlement or displacements between annual surveys;
- Seismic instruments, that capture ground motions experienced at the dam.

DWR operates and maintains stream gaging stations upstream of Silverwood Lake. These stations are closely monitored during heavy rainstorms for increases in flow from the watershed. This information is used to maintain water elevation in the lake.

13.5 EMPLOYEE SAFETY AND PUBLIC RECORDS

Based on California Division of Occupational Safety and Health Form 300 annual reports, in the past five years, there have been six lost-time accidents for a total of two days away for work involving on-site DWR Project operations employees. (Pers. Comm., Nelson 2018)

In the past five years, there were no fatalities related to Project activities, and three non-Project related public safety incidents that occurred within the Project boundary. These incidents have been reported to FERC.

14.0 CURRENT OPERATIONS AND CONSTRAINTS

Current Project operations and constraints are described in Section 4.0 of Exhibit B.

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15.0 HISTORY OF THE PROJECT

A description of the Project history is included in Section 5.8, Cultural Resources, in Exhibit E.

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16.0 GENERATION LOST OVER THE LAST FIVE YEARS

DWR typically takes scheduled outages for two to three weeks in the fall for annual maintenance. Work includes equipment maintenance, testing and inspecting, and cleaning and repair of water conduits.

Unscheduled outages that impact the Project’s power production may be caused by a variety of factors, many of which are beyond DWR’s control. “Momentary” outages may be caused by transmission trouble; DWR is usually able to quickly restore the Project to service shortly after these occur. Unscheduled outages also may occur so that DWR can respond to emergency conditions (e.g., response to equipment failure).

Table 16.0-1 lists unscheduled outages that extended for more than 24 hours and that have impacted power production in the past five years.

Table 16.0-1. Dates When Devil Canyon Powerplant Was Shut Down for Unscheduled (Forced) Outages for More Than 24 Hours from Calendar Year 2012 Through 2017 and the Reason for Each Outage

| Period | Duration of Shut Down | Estimated Lost Power (MWh) | Reason for Shut Down |
|---------------------|-----------------------|----------------------------|---|
| 9/27/13 - 11/7/13 | 979 Hours | 78,320 MWh | Unit 4 - Cooling Water leak in Upper Guide Bearing |
| 12/17/13 - 12/19/13 | 47.4 Hours | 3,792 MWh | Unit 3 - Loose wires on Potential Transformer |
| 3/29/14 - 3/31/14 | 47 Hours | 3,760 MWh | Unit 3 - Communication error between Ground Detection device 64F and the Protection/ Control System |
| 6/5/14 - 6/30/14 | 590 Hours | 35,400 MWh | Unit 1 - Loss of Plant Battery System caused damage to the Unit Excitation System |
| 9/9/14 - 9/22/14 | 307 Hours | 18,420 MWh | Unit 2 - Brake System failure |
| 4/17/15 - 4/29/15 | 317 Hours | 19,020 MWh | Unit 1 - Penstock leak & Drain Valve repair |
| 4/17/15 - 4/23/15 | 148 Hours | 8,880 MWh | Unit 2 - Penstock leak |
| 8/13/17 - 8/14/17 | 26 Hours | 2,080 MWh | Unit 4 - SCE Line trip caused an Exciter System Fan failure |

Key:
 MWh = megawatt hour
 SCE = Southern California Edison

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17.0 DWR'S COMPLIANCE RECORD

Under the existing license, two non-compliance license violation events related to the Project have occurred since the year 2000.

The first event was related to a Biennial Trout Stocking Report Filing in 2007 and 2014. The non-compliance event has been addressed and no penalties or corrective actions were required by FERC.

The second event occurred on November 1, 2017 when DWR commenced with concrete spall repairs of the Cedar Springs Dam Spillway. FERC hadn't authorized this work and considered this action to be a matter of non-compliance. On November 6, 2017, FERC authorized the spillway maintenance repairs contingent upon DWR addressing their list of comments, providing an explanation of how work was allowed to proceed without FERC authorization, and providing a description of the changes DWR will make to prevent similar instances from occurring again. FERC's comments were addressed. Root cause investigation revealed that a misinterpretation had occurred regarding the nature of the work. DWR subsequently updated the Project Management Plan to minimize future misunderstandings and miscommunications.

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18.0 ACTIONS TAKEN BY DWR AFFECTING THE PUBLIC

As discussed in Exhibit E, the Project provides recreational resources for the public at Silverwood Lake, and delivers water to local water rights users and SWP contractors for public use.

The continued operation of the Project for electric power generation alleviates the need for new power resources that would otherwise be required to replace the power capacity and generation that is vital to the State of California, such that it provides a sizable portion of the electricity needed to pump water throughout the SWP service area at a lower cost than potential replacement power sources.

By generating hydroelectric power, the Project helps reduce the amount of generation that is needed from fossil fuel power plants, thereby avoiding the emission of such pollutants as hydrocarbons, nitrogen oxides, carbon monoxide, and particulate matter. Hydroelectric generation at the Project possibly avoids the construction of new power plant facilities, thus avoiding other adverse environmental effects. Power from the Project contributes to a diversified generation mix and helps meet power needs within and beyond the immediate region. Regional power benefits from the Project include those often referred to as ancillary system benefits, including spinning reserves, nonspinning reserves, peaking capacity, regulation, and grid stability.

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19.0 OWNERSHIP AND OPERATING EXPENSES IF THE LICENSE IS TRANSFERRED

Estimates of the Project O&M, administration, capital improvements, and proposed mitigation costs are described in Exhibit D. If the license were transferred, the costs for future operations estimated would not be necessary, although some costs of operating the facilities for irrigation and consumptive water supply would remain. Other costs that would not be incurred include future capital improvements and the costs of proposed mitigation measures described in this Application for New License.

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20.0 ANNUAL FEES FOR FEDERAL OR INDIAN LANDS

18 CFR § 11.6(a)(3) allows a State or municipal licensee to claim total or partial exemption from the assessment of annual charges to the extent that power generated, transmitted, or distributed by the Project was used by the licensee for State or municipal purposes.

Since February 22, 2008, DWR has filed an application for full exemption from payment of annual land use and administrative charges. During those years, DWR wasn't a net consumer of energy and didn't profit from the energy generated by the Project. Any revenue resulting from the generation of energy from the Project was used to offset the power purchases required to meet the pumping load demand of the SWP. The power purchases required to meet the pumping load demand of the SWP exceeded the energy generated and sold by all facilities operated by the DWR, including the facilities under the Project.

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21.0 REFERENCES CITED

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- California Energy Commission (CEC). 2015. Estimated Cost of New Renewable and Fossil Generation in California (Final Staff Report). March. Accessed June 19, 2018. <http://www.energy.ca.gov/2014publications/CEC-200-2014-003/CEC-200-2014-003-SF.pdf>
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