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## **2.0 PURPOSE OF ACTION AND NEED FOR POWER**

### **2.1 PURPOSE OF ACTION**

The federal Action to be considered by the Federal Energy Regulatory Commission (Commission or FERC) is the issuance of new licenses to Southern California Edison Company (SCE) for continued operation of the four Big Creek ALP Projects or some other disposition of the Projects (i.e., Federal government takeover, nonpower license, project retirement) under the Federal Power Act (FPA). If the Commission issues new licenses, a key component is the conditions placed in the four Big Creek ALP Project licenses to ensure compliance with the FPA and other applicable laws. Ultimately, the Commission must determine that operation of the Projects is the best adapted to a comprehensive plan for improving or developing the waterway. In addition to the power and development purposes for which licenses are issued, the Commission must give equal consideration to the purposes of energy conservation; protection, mitigation of damage to, and enhancement of fish and wildlife; protection of recreational opportunities; and preservation of other aspects of environmental quality.

This Amended Preliminary Draft Environmental Assessment (APDEA) provides the information necessary for the Commission to develop the necessary new license conditions to address Project impacts. The APDEA presents a description and analysis of the environmental and economic effects of the Proposed Action, a California Department of Fish and Game (CDFG) Alternative, and the No Action Alternative. Several other alternatives were considered in the APDEA but eliminated from detailed analysis because they were not considered reasonable, including Federal takeover, the issuance of nonpower licenses, and Project retirement.

Some of the major issues evaluated in the APDEA include: (1) minimum instream flow (MIF) requirements; (2) channel riparian maintenance flows (CRMF); (3) sensitive species protection and pest management; (4) recreation enhancement; (5) cultural resource protection; (6) transportation system management; and (7) Project boundary modifications.

### **2.2 NEED FOR POWER**

The four Big Creek ALP Projects evaluated in the APDEA are Mammoth Pool (FERC Project No. 2085); Big Creek Nos. 1 and 2 (FERC Project No. 2175); Big Creek Nos. 2A, 8 and Eastwood (FERC Project No. 67); and Big Creek No. 3 (FERC Project No. 120). These Projects have a dependable operating capacity of 888.9 megawatts (MW), a nameplate capacity of 904.1 MW, and generate an average of 3,107,980 megawatt-hours (MWh) of renewable energy annually<sup>1</sup>. Annual hydroelectric energy production has been higher in some years due to water year type and customer load conditions. The entire Big Creek Hydroelectric System (BCS) has about 1,000 MW of total dependable operating capacity, or approximately 87% of SCE's total hydroelectric dependable operating capacity

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<sup>1</sup>Based on reported energy production for the previous fifteen-year period 1990 to 2004. As the Commission points out in the Draft Environmental Assessment for the Portal Hydroelectric Project (FERC Project No. 2174) annual energy generation would be higher if the fifteen year recorded production were adjusted for the frequency of dry, below normal and above normal water years.

(1,156 MW). In 2006, SCE's system load was approximately 17,600 MW, of which about 5,249 MW is from SCE-owned generation. The four Big Creek ALP Projects represent approximately 17% of SCE-owned generating capacity.

SCE is a publicly regulated utility that supplies electricity to approximately 4.6 million commercial, industrial, agricultural, and residential customers (representing approximately 15 million people) in a 50,000 square mile service area covering portions of coastal, central, and southern California.

SCE serves all customers through a diverse transmission system and has a generation mix based on many different resources, such as gas, nuclear, and hydroelectric; and purchases from other utilities or non-utility power producers.

SCE is part of the California-Mexico Power (CMP) area of the Western Electricity Coordinating Council (WECC). The CMP area encompasses most of California and a part of Baja California in Mexico. The CMP is a summer peaking region that is heavily dependent on gas-fired generation. The WECC forecasts that peak demand and annual energy requirements will grow at 2.2% and 2.4 %, respectively, compounded annually for the 10-year period 2003 to 2013. SCE's forecasted peak load is expected to rise to nearly 24,000 MW by 2010 (CEC 2000). At the same time the WECC anticipates that 5,541 MW of new capacity would come on line within the next 10 years in the CMP region. Even with assumptions about future generation and transmission projects, statewide and local reliability problems exist in the short-term. The region has a need for power over the near term and power from the BCS could continue to help meet that need in the future.

In addition to underlying demand growth, uncertainty surrounds projections of future energy demand and planned capacity due to ongoing changes in the electric industry's governing regulatory structure, capacity shortages, and, in some years, severe weather or seismic conditions. California has experienced multiple electrical supply emergencies in the years 2000 and 2001. Thirty-nine Stage 3 emergencies were declared between 2000 and mid 2006 alone<sup>2</sup> (Cal-ISO 2006 (<http://www.caiso.com>)). Another element of the regional energy supply forecast is the retirement of older generation facilities and their replacement, primarily by gas-fired capacity.

In September 2006, California's Governor Schwarzenegger signed two bills into law regarding greenhouse gas emissions. The first, known as AB 32 or the California Global Warming Solutions Act of 2006, establishes a comprehensive program of regulatory and market mechanisms to achieve reductions of greenhouse gases. AB 32 requires the California Air Resources Board to develop regulations and market mechanisms targeted to reduce California's greenhouse gas emissions to 1990 levels by 2020. The California Air Resources Board's mandatory program will take effect commencing in 2012. The second bill, known as SB 1368, relates specifically to power generation and requires the California Public Utilities Commission and the California Energy Commission to adopt greenhouse gas performance standards for investor owned and publicly owned utilities, respectively, for long-term procurement of electricity. The standards must equal the performance of a

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<sup>2</sup> A Stage 3 emergency authorizes utilities to initiate "rolling blackouts" to ease pressure on the power grid.

combined-cycle gas turbine generator. The CPUC adopted such a standard on January 25, 2007 (1,100 pounds of carbon dioxide per MWh). The California Energy Commission must take similar action by June 30, 2007. In addition, the CPUC is addressing climate change related issues in various regulatory proceedings. Requirements to reduce emissions of CO<sub>2</sub> and other greenhouse gases could significantly increase SCE's cost of generating or purchasing electricity from fossil fuel sources.

Energy generated by the four Big Creek ALP Projects displaces energy that would otherwise be generated by gas-fired units. Currently, aside from the almost 30% of power generated by its own sources, SCE purchases the power needed to serve its customers from qualifying facilities, independent power producers, the California Independent System Operator, the California Department of Water Resources (under contracts with other third parties), and other utilities. If the four Big Creek ALP Projects were not licensed, SCE would need to obtain additional energy supplies, primarily available from gas-fired generation that would increase greenhouse gas emissions. This would increase air pollution emissions from those facilities and could make compliance with SB 32 more difficult. SCE is already attempting to purchase more energy from clean renewable resources to meet state of California renewable portfolio standards.

In summary, energy produced from the four Big Creek ALP Projects is needed by SCE to meet the growing demand for energy in its service area, and to minimize air pollution emissions by displacing the requirement for additional fossil-fueled electric power generation.