
Appendix B
SMUD & CAISO Control Areas &
SMUD's Capacity to Serve

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A. SMUD AND CAISO CONTROL AREAS

Existing Conditions

SMUD operates its own Control Area, meaning that it is responsible for balancing resources and energy loads with adequate operating reserves, and managing the Control Area transmission electrical grid on a real-time basis in accordance with Western Electricity Coordinating Council (WECC) and North American Electric Reliability Council (NERC) standards and prudent utility practices. Control areas have been established throughout the nation's electric utility industry and they work cooperatively with each other. The SMUD Control Area is one of five in California. The SMUD Control Area includes SMUD's service area, the Sierra Nevada Region of the Western Area Power Administration (WAPA) and certain directly connected generation sources and municipal loads served by WAPA, and the Modesto Irrigation District. The California Independent System Operator (CAISO) Control Area is adjacent to the SMUD Control Area. CAISO currently operates the existing transmission system within the Annexation Territory. The existing SMUD Control Area is interconnected electrically to the CAISO control area and exchanges real-time information with CAISO to coordinate and ensure reliable operation of the regional transmission grid.

SMUD's service area has eight (8) existing electrical interconnections with CAISO and WAPA. These interconnections are subject to specific agreements that define the operation of the interconnections, including the amount of power that may be transferred over the interconnection.

B. IMPACTS ON SMUD AND CAISO CONTROL AREAS

As described in the EIR, SMUD has proposed the construction of new electrical facilities to improve reliability in the Annexation Territory and to incorporate the Annexation Territory into the SMUD's service area. SMUD will incorporate these new facilities and the facilities acquired from PG&E into its Control Area planning, operation, and maintenance processes and procedures. After annexation, CAISO and PG&E will need to update their operational drawings and maps to reflect the proposed Control Area changes.

If the annexation is approved, SMUD will meet with PG&E and CAISO to develop a plan to effectively transition the acquired PG&E facilities into SMUD's system. Temporary interconnections to the CAISO grid may be installed at existing substations. Any such temporary interconnections would be removed after the transition. Given SMUD's track record in establishing, operating and expanding its Control Area, SMUD anticipates integration of the acquired PG&E facilities into SMUD's system will be transparent to existing SMUD and Annexation Territory customers.

Except for minor reconfigurations of existing PG&E 115-kV transmission lines, it is not expected that new PG&E 115-kV facilities will be required. Additionally, the proposed annexation will not require changes to SMUD's existing interconnection agreements with PG&E.

Appendix B

SMUD's service area will increase by approximately 212 square miles as a result of annexation. However, since no permanent modifications to the interconnections between SMUD and CAISO are required, the SMUD Control Area will not change as a result of the incorporation of the proposed Annexation Territory. In other words, there will be no change in the SMUD or CAISO Control Area boundaries after the approximately 250 MW of Annexation Territory load is integrated into SMUD's system.

C. SMUD'S CAPACITY TO SERVE THE ANNEXATION TERRITORY

In contrast to the amount of power supply required by a service area, the "capacity to serve" represents the transmission system's capabilities to deliver power assuming contingency conditions. Contingency conditions generally assume the possible failure of the largest single component of the system.

SMUD's existing total capacity to serve throughout its 230-kV and 115-kV service area is approximately 3,100 MW. It is expected SMUD's capacity to serve will increase to 3,400 MW by early 2006 with the completion of the Cosumnes Power Plant. With the completion of the Roseville Energy Park in approximately 2007, SMUD's capacity to serve will increase to approximately 3,650 MW. SMUD does not own or operate the Roseville Energy Park. However, its presence within the Sacramento region will improve the grid's capacity to serve, including SMUD's capacity to serve its customers. In 2008, it is expected SMUD's capacity to serve will increase to 3,900 MW with the planned completion of the proposed WAPA O'Banion Substation to Elverta Substation 230-kV transmission line.

With these planned "capacity to serve" additions, SMUD will be able to deliver power to the Annexation Territory as required by the Program.