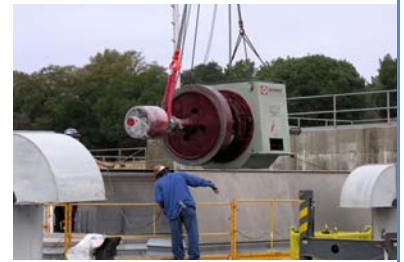


Hydroelectric Power Plant Refurbishment and Upgrade Project

City of Ukiah, Lake Mendocino Power House – Coyote Dam



LOCATION:

Ukiah, California

PROJECTS & SERVICES:

- Project Management
- Engineering Design
- Material Procurement
- Construction
- Startup

PROJECT OVERVIEW:

Source California Energy Services, Inc. (SCES) was the successful primary contractor for an Engineer, Procure, and Construct (EPC) contract with the City of Ukiah to resurrect an abandoned 3.5 megawatt capacity hydroelectric power plant facility. The facility ceased operation in 1998 due to numerous design, maintenance, and operational issues. In addition, the power house sustained a major flooding event in December of 2005 inundating all of the plant equipment up to an elevation of approximately four feet.

SCES engineers and construction craft completely refurbished all damaged, obsolete, and nonfunctional pieces of equipment from as large as the turbine/generators to as small as individual flow transmitters, switches, and relays. There was not a single system in the power house that remained untouched at the completion of this project.

A major challenge that SCES has overcome was the replacement of obsolete and non-functional mid-1980's electronic and computer controlled equipment. These included the following:

- SCADA and plant controls upgrade to Allen-Bradley PLC
- Generator excitation equipment upgrade to a Basler voltage regulator
- Westinghouse generator protection relays upgrade to Schweitzer relays
- Auto synchronization device upgrade to a Basler auto sync device
- Upgrade of the transfer trip communication devices including recloser

In general terms, SCES conducted a complete plant rebuild from an engineering design, construction and operation that had been historically problematic to a proven standard demonstrated by the extensive years of experience in the power generation utility industry.