



Energy Management & Planning

Geothermal Project Experience

Salton Sea Unit #6, CalEnergy, Imperial Valley, California

CH2M HILL provided environmental consulting support during licensing and post-filing phases overseen by the California Energy Commission (CEC) of a proposed 185-MW geothermal power plant in Imperial County, California. The power plant design is based on the flash geothermal power generation process, which produces both solid and liquid byproducts (brine cake and spent brine) that require disposal. The facility will include a geothermal Resource Production Facility, Power Generation Facility with a high-efficiency condensing-steam turbine, production wells and pads, above-ground brine pipelines, and a brine waste solids handling system. More than 85 percent of the plant's output is contracted to the Imperial Irrigation District for 20 years following the project's completion.

The licensing process included a detailed review of all areas of potential environmental impact, and specifically focused on waste disposal, air quality, hazardous materials handling, and biological resources in the project area. The project site is located in an 80-acre portion of a 160-acre parcel owned by the applicant in an unincorporated area of Imperial County, approximately six miles north of Calipatria, California. It is adjacent to the Sonny Bono Salton Sea Wildlife Refuge. This refuge supports significant populations of sensitive avian species – so the design and construction of the plant was proposed in a manner that minimized impacts to these species. The project was successfully licensed, with approval by the California Energy Commission in December of 2003.

Geysers Pipeline Project, Lake County Sanitation

The Geysers Geothermal Steamfield in Lake County, California is the largest producing geothermal steamfield in the world, covering 25 square miles and supplying more than 20 power plants with total production capacity of about 1,000 megawatts (MW) in northern San Francisco. Declining geothermal steam reserves and dropping steamfield pressure from overuse had resulted in several power plants becoming inoperable.

CH2M HILL designed a 26-mile pipeline, which simultaneously increases generating capacity at the Geysers Steamfield by about 70 megawatts and allows for long-term, environmentally sustainable use of 7.8 million gallons per day of treated wastewater and surface water from three Lake County communities.

Geothermal District Heating System and Injection Well, City of Boise, ID

CH2M HILL carried out the technical and economic feasibility/conceptual design study for the Boise geothermal district heating system to determine its potential for further development using Boise's geothermal water resources. CH2M HILL's study included an assessment of district heating markets and preparation of thermal maps; economic analysis and preparation of construction plans and specifications. CH2M HILL was also technical manager for the final design and construction of this project - the largest geothermal district heating system in the U.S.