



Engineer- Procure- Construct

Client

Pinnacle West Energy

Location

Apex, NV, USA

Located in the desert, the project uses one-tenth of the water required by a typical water-cooled plant and has a zero-liquid-discharge wastewater system.

Silverhawk Power Station

Project Description

Pinnacle West Energy (PWE) and Southern Nevada Water Authority partnered to build, own, and operate the 570-MW Silverhawk Power Station near Las Vegas.

Our responsibilities included engineering, procurement, and delivery of all balance-of-plant equipment; construction; startup; testing and training; and initial operation.

This was the second power plant that CH2M HILL delivered for PWE. The client selected us for our ability to provide an integrated EPC and startup team with combined-cycle plant design, construction, and commissioning experience. We possessed the proven ability to achieve the schedule, within budget, and to supply labor management expertise that would assure an adequate supply of workers at a predictable cost and productivity.

PWE worked with us to develop a commercial model that shared risks and responsibilities. Portions of the scope were fixed-price and portions were target-based, wherein both companies shared the savings or the increased cost.

We jointly selected the work scopes that offered best value, considering purchase cost and construction cost, maintainability, and replacement value. The schedule was based on effectively using engineering to minimize craft overtime and sequence the work efficiently.

Large combined-cycle projects are typically faced with extreme peaks in the craft workforce, which results in low productivity due to work area congestion. To avoid that situation, our integrated engineering/construction team developed a plan to install large quantities of piping and conduit underground.

Located in the desert, the project uses one-tenth of the water required by a typical water-cooled plant and has a zero-liquid-discharge wastewater system. Our approach allowed a significant amount of work to be completed early in the project — spreading out craft needs and thus increasing productivity.

Silverhawk demonstrates the value of Outcomes by Design[®], our proven, effective business process for working with, not just for, our clients. The proof of success lies in three major objectives: safety, cost, and schedule. Project safety performance was outstanding, achieving 1.2 million hours without a lost-time accident. The completed cost of the project was less than the cost agreed upon at contract signing. As a result, we shared the savings with the client. In addition, the commercial operation date was achieved 2 weeks earlier than planned. Silverhawk going on-line marked the successful completion of the second consecutive EPC power plant that CH2M HILL has built for PWE.



In recognition of our accomplishments, PWE named us Supplier of the Year, and Power Engineering magazine selected Silverhawk as its 2004 Project of the Year.