

Solar Receiver Installation

Project Case History

Confidential Customer
Western U.S.

In 2008, Babcock & Wilcox Power Generation Group, Inc. (B&W PGG) was awarded a contract to design and manufacture a solar receiver to harness the sun's energy to produce superheated steam to generate "green" electricity.

In August 2009, Babcock & Wilcox Construction Co., Inc. (BWCC) installed the 50 ton (45,000 kg) receiver atop a 150 foot (46 m) high stand-alone tower. Because BWCC is a wholly owned subsidiary of B&W PGG, the material design and manufacturing supply were fully integrated into BWCC's final installation plan. This close working relationship enabled the team to safely raise the solar receiver to its final position in less than six hours.

Plant Owner

Confidential customer

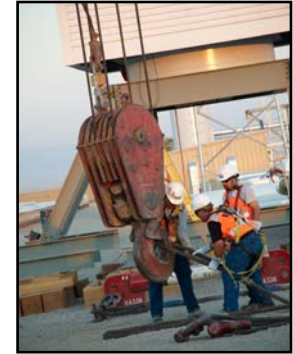
Plant Location

Western U.S.

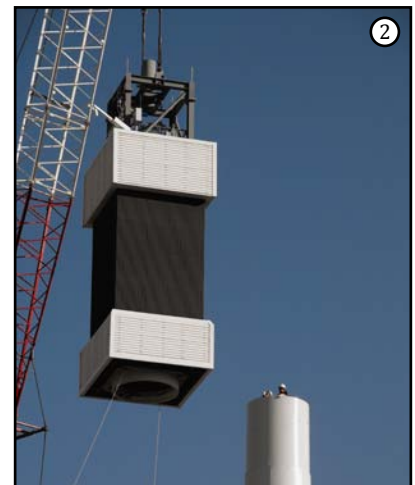
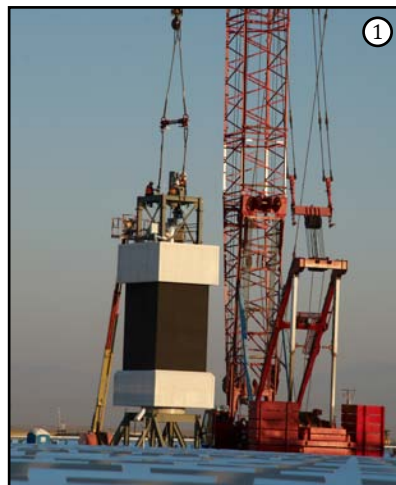
B&W PGG Solar Receiver Contract Summary

- Steam flow: approximately 30,000 lb/h (3.8 kg/s)
- Superheater outlet pressure: 900 psig (6.2 MPa)
- Superheater outlet temperature: 825F (441C)
- Dry weight: <100,000 lb (45,360 kg)
- Shop assembled to minimize field installation costs
- Shipped via rail or truck

* Patents pending



Regularly scheduled safety meetings are a critical component of all BWCC projects. A safety meeting was held on the day of the solar receiver lift to ensure that all safety procedures were understood and would be followed during every phase of the work.



1. B&W PGG's patented* solar receiver is lifted off of its temporary support frame. A special spreader bar was designed to lift the 50 ton solar receiver.

2. The solar receiver is shown nearing the top of the 150 ft (45.7 m) high tower. Receiver installation requires less than one day from the time it leaves the ground until it is secured at elevation on top of the tower.

3. Once the solar receiver is placed on top of the tower, it is quickly attached to the tower structure. Final water and steam line, control, instrumentation and electrical connections follow the attachment of the receiver.

(Continued on reverse side)

A Bright Future

B&W PGG's patented solar receiver is one key part in providing power generators with a flexible, efficient and cost-effective solution to producing electricity from renewable energy sources, such as the sun. By integrating the design, manufacturing and installation process, project efficiency and schedule are efficiently managed to achieve the desired project outcome and minimize overall costs.



More than 10,000 mirrors are placed around the receiver and provide enough solar reflective energy to generate electricity for more than 2,000 homes. The tower and solar receiver stand nearly 200 ft (61 m) above ground elevation.

delivering
proven results

www.babcock.com

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