

Project:

Quincy Soybean
Co-Generation Project

Location:

Helena, AR 72342

Owner:

Quincy Soybean Company of
Arkansas
Highway 20 South
Helena, AR 72342

General Contractor:

IHP Industrial
3201 East Kiehl Ave
P.O. Box 938
North Little Rock, AR 72115
Shelby Smith, Power Systems
Ph. 501-835-5794

Completion Date:

September 1997

Subcontract Amount:

\$456,318



Description of the project:

Economic factors determined the choice of a solar “Caterpillar” 4.8 mega-watt gas turbine driven generator exhausting its waste heat into a 90,000 lbs/hour “Deltac” boiler.

Seven months after the award of the contract, the co-generation unit was “on-line”, producing electricity and steam. This was made possible by the owner’s agreement to participate in a “design/build” partnership, which minimizes the total project time required.

The plant physical arrangement demanded several medium voltage (15kv) circuits to serve the existing loads and interconnect the co-generation and utility to a common bus. These circuits were integrated into a new lineup of 15kv switchgear, with draw-out vacuum circuit breakers. Distributed by aerial cable, exposed, and underground raceways, these circuits were designed and built by Koontz Electric.

An integral feature of the switchgear is synchronizing breakers for both the new co-generator and the utility with appropriate interlocks. The new co-generator operates in parallel with the utility. This requires carefully designed and applied protective relaying to isolate electrical faults, interlock energy sources, and to separate the utility and co-generator when the utility bus is de-energized. A system of potential and current transformer inputs into solid state programmable relays recognize undesirable and trip the appropriate breaker.



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