

### Chuck Lenzie Generating Station

*Moapa Valley/Las Vegas, Nev  
Nevada Power Co*

The Chuck Lenzie Generating Station is an 1160-MW powerplant with two 7FA-powered  $2 \times 1$  combined cycles that began life as Houston-based Duke Energy North America's Moapa project. Nevada Power Co bought and completed the plant for about half of DENA's estimate of total project cost after that company imploded.

The plant lay idle for about two years, some equipment in place and other in storage, before Nevada Power was able to strike a deal for the nominally half-built facility. Fluor Energy & Chemicals Group, Houston, was selected to remobilize the site and complete construction, which it accomplished ahead of schedule in March 2006. The EPC contractor spent three months after contract signing locating and examining about 95% of the equipment required to finish the project. Among the many actions taken, these two stand out:

- Fluor considered prudent a performance guarantee for the site's air-cooled condensers—thought to be the largest in North America. The manufacturer and contractor eventually agreed on acceptance criteria for heat rejection at 98.5% of the original contract, this to accommodate fouling that had occurred during lay-up. Extensive steam blows were conducted during commissioning to clean the ACC. Warranties were maintained for the gas turbines, steam turbines, and GT inlet-air coolers.
- Lessons learned by the industry suggested modifications to the heat-recovery steam generators, which had been purchased from Aalborg. Not much room for negotiation here because the company had two changes in ownership since the boilers were ordered: Erie Power Technologies Inc bought Aalborg and then the Belgian firm CMI bought Erie and renamed the company CMI EPTI LLC. Modifications/replacements were made to critical control valves based on industry experience during the long lay-up period. Software upgrades also were made to some programma-

ble logic controllers. And the control system platform was upgraded to Windows XP.

### Luna Energy Facility

*Deming, NM*

*PNM Resources, Phelps Dodge Energy Services, and Tucson Electric Power Co*

Luna might be the deal of the new century in the US power business. The three owners (equal shares) paid a combined \$40-million to acquire the partially constructed facility from Duke Energy North America and together invested approximately \$100-million to complete the generating station in less than 17 months.

Fluor Energy & Chemicals Group, Houston, was selected to remobilize the site and complete construction (a project similar to the one the company did for Nevada Power Co at the Chuck Lenzie Generating Station, see above). Fluor brought the 570-MW Luna plant in for \$10-million less than the owners anticipated, at a cost basis of \$246/kW. A PNM Resources executive called it the most efficient and environmentally friendly gas-fired powerplant in the company's fleet.

The scope of the EPC contract was expanded on project restart to include a well-water collection network, upgrade of gas pipelines, and improvement of municipal wastewater treatment facilities. Regarding the last, note that tertiary-treated municipal wastewater comprises one-third of the water required to run the plant.

### Moselle Generating Station

*Hattiesburg, Miss*

*South Mississippi Electric Power Assn*

Unit 5, a GE Energy (Atlanta) 7EA peaker for Moselle Generating Station, is one of seven simple-cycle GTs (four 7EAs and three LM6000s) added by SMEPA over the last few years to meet increasing demand. Allegheny Energy Solutions, a subsidiary of Allegheny Energy Inc, Hagerstown, Md, engineered this project as well as several others and purchased major equipment; CH2M Hill/Lockwood Greene,

Spartanberg, SC, was the general contractor.

The 80-MW, gas-only GT is located between Unit 4 (another 7EA peaker) and three oil-fired steam units at Moselle. CH2M brought the job in ahead of schedule despite the challenges presented by Hurricane Katrina. The company's plan to secure the site, maintain contact with construction personnel, and remobilize the project after the storm obviously met expectations. There were no lost-time accidents and the project received the CH2M president's award for safety.

### Harry Allen Power Station

*Moapa Valley/Las Vegas, Nev  
Nevada Power Co*

Unit 4, an 80-MW GE Energy (Atlanta) 7EA peaker began commercial operation in summer 2006. The GT, equipped with ultra DLN (dry, low NO<sub>x</sub>) combustors, is located in the Moapa Valley, near Apex, in Nevada's Clark County. Express Integrated Technologies LLC's (Tulsa) simple-cycle catalyst system, which includes all ductwork, catalyst, and stack downstream of the GT, was an integral part of the project.

### Linden Generating Station

*Linden, NJ*

*PSEG Power*

What probably was an overly ambitious expansion program by PSEG Power involving the near-simultaneous construction of about 6000 MW of combined-cycle capacity from New Jersey to Texas, and a dramatic run-up in the price of natural gas, conspired to stretch out the Linden project for years beyond its planned operating date.

The two nominal 600-MW power blocks, each consisting of two dual-fuel-capable 7FA GTs and one D11 steamer, were declared "commercial" last April, more than five years after foundations were poured. The original schedule called for commercial operation in late 2002.

Plant design is relatively standard for the location, except perhaps for the source of water for

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cooling and other station needs. "Reclaimed Water for Beneficial Reuse," a state program conceived during the drought of 1999, was one of the drivers for using treated effluent from local municipal wastewater treatment facilities as plant makeup. Another was the escalating cost of potable water.

The nearby Linden-Roselle Sewerage Authority plant supplies the PSEG plant 4200 gpm of reclaimed water. To insure water quality consistent with powerplant needs, PSEG installed a special pulsed-bed sand filtration system at Linden-Roselle. After filtration, the water is pumped one mile to the plant where it is treated to prevent scaling and foaming before use as cooling-tower makeup.

### Poletti Expansion

*Astoria, NY  
New York Power Authority*

Nobody wants to talk to the editors about the New York Power Authority's 500-MW 2 × 1 combined cycle, located on the grounds of the Charles Poletti Generating Station in Astoria, NY—not plant

officials and not even the public relations people at NYPA headquarters despite promising a telephone interview. That's understandable, particularly if there's any ongoing litigation related to construction and commissioning. But no one would even say that.

The most that can be gleaned from the public record is that this facility is similar in design to the Astoria Energy project profiled earlier and located about a mile from the NYPA Astoria project. It has the same gas turbines and air-cooled condensers, but different heat-recovery steam generators.

### Hargis-Hebert Generating Station

*Lafayette, La  
Lafayette Utilities System*

This two-unit LM6000 simple-cycle facility, named for two LUS founders, Roy Herbert and Charles C Hargis, is black-start capable and Sprint-equipped. Project, which began operating just before the summer peak, enables the utility to

reduce the cost of peak power and provides synchronous condensing capability for grid support.

### Disney World Plant

*Lake Buena Vista, Fla  
Reedy Creek Improvement District*

The Disney cogen plant, equipped with a 1989-vintage LM5000 gas turbine, was repowered with an LM6000, allowing Reedy Creek to satisfy nearly 30% of the district's electrical demand in-house. Plant provides power, compressed air, water, and steam in support of Disney World's HVAC operations

### Air Products Cogen Plant

*Port Arthur, Tex  
Air Products & Chemicals Inc*

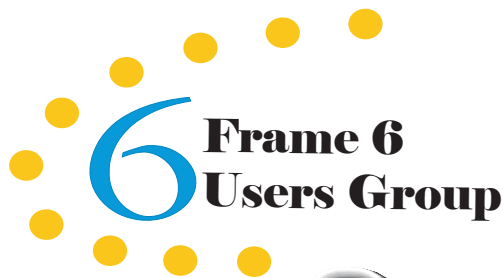
Air Products reported in June that it had completed construction and startup of a new hydrogen plant in Port Arthur and was supplying hydrogen, steam, and power to an adjacent refinery owned by Premcor Refining Group Inc under a long-term contract. Hydrogen in excess of Premcor's needs is distributed to other customers through the company's dedicated pipeline which extends from the Houston Ship Channel to the Louisiana border.

Project included the installation of a 110-MW combined-cycle plant but no details were forthcoming from the company on that part of the project.

### Dow/Freepport Energy Project

*Freeport, Tex  
Dow Chemical Co*

Dow Chemical Co was scheduled to start up a new 250-MW 1 × 1 combined-cycle plant at its Freeport works in December—one capable of operating in an island mode. The editors could not obtain confirmation of this from the owner. Others said the project entailed installation of a 501FD2 gas turbine from Siemens Power Generation Inc, Orlando, heat-recovery steam generator, and non-reheat steam turbine/generator.



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for more information as it becomes available