

Pre-Engineered Lift Stations for Wastewater, Stormwater and Industrial Pumping

## Pump Stations for Peaker Power Plants



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THIS EDITION of TechNotes examines the use of pre-engineered pump stations in electrical generating plants operated by Southern California Edison (SCE). Construction of four natural gas-fired “peaker” plants—45-megawatt units that augment traditional power plants on heavy-use days—was done on an extremely tight schedule.

Pre-engineered lift stations from Romtec Utilities are integral to the project, solving the problem of what to do with water used in the power generation process.

After use, process water goes through an oil-water separator, is drained to the lift station wet well, then pumped into the city’s sewer system.

In addition to the SCE peaker plants, two similar 95-megawatt plants in Groton, S.D., include Romtec Utilities lift stations to pump process water and stormwater to onsite storage facilities.



ITT Flygt is a strategic partner of Romtec Utilities and the world’s leading manufacturer and supplier of submersible pumps & monitoring systems.

Due to California’s extreme energy use during summer 2006, the Public Utilities Commission mandated construction by summer ‘07 of five Southern California peaking power plants, commonly called “peakers.”

The tight timeline meant that Southern California Edison (SCE) and its contractors had to be very efficient and innovative in choosing and installing components of the 45-megawatt plants. During project design, it was decided that plant process water would be pumped into

online when power usage strains the ability of the electrical grid to meet power demand, typically “on days when it’s very, very hot or when there are outages of major power plants and we need to replace power in the grid,” explains WorleyParsons Project Manager Steven Blue.

SCE put in four peaker plants located next to existing SCE substations; construction of a fifth is planned. Each SCE peaker is expected to run about 600 hours a year, compared to a continuously operated baseload plants.



*Workers lower a wet well barrel section into place.*

local municipal sewers. Available space at each plant was critical. The solution was to find a self-contained, in-ground holding vessel, complete with pumps. It was determined that Romtec Utilities pump stations would work perfectly.

“Our project was very much schedule driven, and Romtec’s pre-assembly and pre-engineering were very attractive to us,” says Stephen Marr, one of the four construction managers for Worley-Parsons, project design engineer. “We thought it was a unique fit.”

### The Peakers

The gas-fired turbine plants are brought

### The Pump Stations

The peaker plants are on very small footprints with piping rather deep. Pump stations were needed to raise process water to the level of the local municipal sewer.

“These pumping requirements were a very small part of the project,” Marr says, “so we really couldn’t spend the time and effort to site-build something. The pre-engineering aspect just worked out really well for us.”

Each site has three Romtec pump stations. Process water goes through an oil-water separator then drains into the

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*Pump station (foreground) and generator.*

pump station wet well where it is pumped into the city's sanitary sewer.

"It was a convenient way to carry the effluent into a holding area locally without having pipe that was lengthy and terribly involved," Blue says. "It allowed us to reduce the piping system by quite a bit."

"Romtec gave us a piece of equipment that did exactly what we needed to have done, which is to hold the effluent wastewater and pump it out without having to buy a separate tank."

### **The Schedule**

The tight timeline made construction a challenge. "The permitting, engineering

and procurement processes all started at the same time," Blue says. "It was quite a daunting task."

The pre-engineered Romtec pump stations, with all components pre-tested and ready for installation, helped immensely with the time pressure. "All we had to do was drill a hole and drop it into the ground," Blue says. "It was really plug and play."

Marr agrees. "We anticipated digging a hole in the ground and putting the product in it, and that's what Romtec delivered. We achieved ground-breaking to power on the grid within four months," he says with satisfaction.

## For More Information

Romtec Utilities provides complete pre-engineered lift stations for the stormwater, wastewater and industrial markets. We help you meet your deadlines with pre-engineered systems that typically deliver to the job site six to eight weeks from submittal approval. For more information, call Romtec Utilities at **541-496-9678** or visit: [www.RomtecUtilities.com](http://www.RomtecUtilities.com)



*ITT Flygt submersible pump lowered into wet well.*



*Wet well, delivered to site, awaits installation.*