



Standby power

> Case History

Sewage lift stations, USA



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Where:

Camas, Washington, USA

What:

Seven standby diesel generators from Cummins Power Generation, ranging from 20 kW to 200 kW, for new critical sewage lift stations

Purpose:

To prevent sewage from backing up and causing an ecological disaster in the event of an extended utility outage

Primary choice factors:

Cummins Power Generation understood the critical requirements, responded quickly with the right generator sets and transfer switches, and packaged the units for easy installation and maintenance

Standby power generators add reliability, easy maintenance to new lift stations

CAMAS, WASHINGTON, USA — Like many expanding suburbs, Camas, Washington, faced the problem of how to update its aging sewage collection system to meet the needs of the city's growing population. Located on the north bank of the Columbia River, adjacent to Portland, Oregon, and Vancouver, Washington, this ecologically sensitive town couldn't risk any kind of sewage backup if the local electric utility failed. To increase reliability and safety, the city specified that each new lift station include a standby power generator from Cummins Power Generation Inc.

For most of its history, Camas (population: 15,000) relied on gravity-fed lift stations to pipe sewage to the treatment plant. But by the 1970s, Camas had expanded beyond a ridge to the north and a pressurized system became necessary. "Since about 2003 we have been retrofitting existing lift stations and installing new ones in new subdivisions and developments," said Jim Dickinson, wastewater operations supervisor for Camas. "The new lift stations are pre-engineered and include a Cummins Power Generation standby power generator." Camas has a total of 20 lift stations; of those, 7 are brand new pre-engineered lift stations.



At sites with permanently installed standby generators, factory enclosures provide high security in addition to sound-attenuation.



Pre-engineered sewage lift stations include submersible pumps, an underground valve vault, a standby generator and controls.

Lift stations “pre-engineered” for reliability

Camas city engineers set several requirements when they began replacing the lift stations. Reliability, easy maintenance and consistency of design and performance were top of the list. Each lift station is pre-engineered by Romtec Utilities, Roseburg, Oregon, to meet those requirements. All components, including structural, mechanical, electrical, power generation and communications, are pre-engineered, delivered as one package and installed in about a week.

“We chose Cummins Power Generation for the same reason cities choose us,” said Mark Sheldon, vice president for marketing and sales, Romtec Utilities. “They receive our requirements and respond quickly with the right generator set and transfer switch, and they make installation and maintenance very easy.”

“We rely on Cummins Power Generation not only to design, specify and install the generator, but also to train the operator.”

Critical performance parameters

The diesel-powered standby generator sets at the Camas lift stations range from 20 to 200 kW and are either permanently installed or portable trailer-mounted units. The power output specification depends primarily on the size of the pump at each lift station, which ranges from 11 to 35 horsepower.

From these parameters, Jim Stalnaker, sales manager with Cummins Northwest LLC, Portland, determines the engine, alternator and excitation system for each new

lift station. “Some generator sets need to be oversized to handle a motor’s higher starting current,” he said.

Camas lift stations include Cummins Power Generation OTEC open transition transfer switches, which provide safe “break-before-make” power transfer from the grid to the generator and back again for both testing and power outages. Leaving a programmable gap of several seconds between power sources allows the residual voltage in the lift station’s pump motors to fully dissipate, which is important to protect the generator set’s alternator.

All of the generator sets are installed in sound-attenuated enclosures so that they don’t disturb the community. “In addition to a low-noise requirement, another ‘must’ for the new lift stations is to use the smallest amount of space possible, sometimes just 1,000 square feet,” said Sheldon

Putting it all together

Once a lift station is installed, it’s the job of the Camas wastewater operations staff to maintain them, and easy maintenance and high reliability help reduce the time they spend in the field. “We rely on Cummins Power Generation not only to design, specify and install the generator, but also to train the operator,” said Sheldon. “These combined factors give us the reliability to know that Camas will keep pumping, whether or not utility power is available.”

For more information about standby power solutions, contact your nearest Cummins Power Generation distributor or visit www.cumminspower.com.

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