

Case Study

MELTRIC Solution Saves Money and Time for Glasgow Water/Wastewater Plant

Problem

The Glasgow, Virginia municipal wastewater treatment plant processes more than 200,000 gallons of water per day. As an important town resource, the plant can't afford to have maintenance issues derail their operation.

Plant maintenance workers upgraded the 30-year-old return sludge pumps and control panel with a new Flyght Concertor submersible pump with an integral variable speed drive. The traditional approach of installing a new stainless steel outdoor rated disconnect panel to power the pump was very expensive and did not address the plant's need to help improve maintenance efficiency. A more creative solution was required.

Solution:

The solution was to install MELTRIC DSN20 Switch-Rated plugs and receptacles. The DSN20 provides the 10 hp 3 phase 480 volt disconnect switch required for the pump. Additionally, it allows electrical connections to the pump to be made safely, with plug and play simplicity.

The DSN devices are UL/CSA listed and horsepower-rated for motor circuit disconnect switching, so they meet NEC requirements for the local disconnect switch. Their type 4X/IP69/IP69K watertightness ratings and UV- and impact-resistant polyester casings handle the tough outdoor conditions. Their silver-nickel butt-style contacts withstand the moist and corrosive environment without degrading, as the brass contacts in pin and sleeve devices do. The compact footprint of the DSN made it possible for the maintenance workers to re-use the plant's existing pump station disconnect boxes, providing additional budget-friendly savings.

Result:

The MELTRIC Switch-Rated plugs and receptacles are a huge success. The safety features of the Switch-Rated devices make it possible for qualified workers to safely connect and disconnect the plugs and receptacles, even while under load. Making and breaking electrical connections with MELTRIC Switch-Rated plugs and receptacles meet the NFPA 70E definition of "Normal Operation." Because of that, no special PPE is required. Additionally, removing the plug from the receptacle provides NFPA 70E-compliant visual verification of contact separation and deenergization. There is no need to perform additional voltage testing.

With MELTRIC devices, plant personnel don't need to wait on the arrival of an electrical contractor to unwire hardwired equipment. This saves the plant time and money, as there may not be an electrician on staff. In fact, according to Jeff



Rankin, Glasgow's Water and Wastewater Plant Manager, the price of both MELTRIC connectors combined, cost less than that of an electrical contractor making one site visit.

Safety features of the MELTRIC Switch-Rated devices include a built-in arc chamber and safety shutter which completely eliminates the possibility of pulling an arc at disconnection. This keeps workers safe from arc flash and other serious electrical injuries. This is especially important for Glasgow plant workers, as the RAS pump station walkway is a solid steel platform. The electrical connectors must be grounded, safe to touch, and eliminate the possibility of sparking, especially while standing on the platform.

MELTRIC Switch-Rated devices feature built-in lockout/tagout provisions. This is critical for plant workers performing pump repair or maintenance. In Virginia, much like other states around the country, municipalities are held accountable by the state Occupational Safety and Health Administration. If a worker or contractor gets injured, the municipality can have hefty fines levied against it.

Plant Manager, Jeff Rankin, values the reliability and high quality of MELTRIC Switch-Rated devices, especially when using a variable frequency drive (VFD). He said, "MELTRIC connectors in our application do not cause the dirty power signal to the pump's VFD. They save us money, because a line reactor to a clean power signal can be very expensive." In addition, Rankin appreciates the fact that MELTRIC devices are readily available and local reps can help with fast product delivery. He continued, "MELTRIC connectors are affordable; it's easy to have a complete spare on the shelf at your facility. If you do need something, local MELTRIC reps work fast to get you restocked. This saves money in your budget and for emergency repairs."

Learn more about MELTRIC Switch-Rated devices: <https://www.meltric.com/html/meltric-switch-rated-video.html>.

Want to try a MELTRIC Switch-Rated device for free? Visit [meltric.com/free](https://www.meltric.com/free) for details.