

Case Study



Cairns Regional Council improves redundancy of its wastewater system by partnering with Hydro Innovations

One of the constant challenges of maintaining wastewater systems in cyclone prone areas is ensuring that your equipment is always operational in the face of adverse conditions so that public health and environmental disasters are averted.

As part of this requirement, Grahame Dunstan, Co-ordinator for Wastewater Services for Cairns Regional Council (CRC), explored the options for emergency pumping during power outages at the White Rock #1 pump station. The solution had to help ensure that CRC's wastewater services in the greater Cairns area remained operational and effective during tropical storms and in emergency situations.

'Experience has taught us that during extreme weather conditions and in emergencies not all your equipment may perform the way you would expect. So it's

important to try to implement mechanisms that will help safeguard against poor performance and make a system as failsafe as possible,' explained Grahame.

The council currently has numerous emergency generators to help maintain wastewater services in the event of loss of mains power.

'Our generators are not always one hundred percent reliable. We have had situations where an emergency generator has failed to kick in when it was most needed. So for us, generators can be a liability in an emergency,' he said.

Grahame undertook some research, comparing pumps, associated costs and their benefits before deciding that an emergency stand-by pump was a viable alternative to installing another generator and would help improve redundancy of the system.

Already familiar with the Gorman-Rupp name he looked closely at the company's emergency stand-by pumps and chose to partner with Hydro Innovations, Gorman Rupp's authorised distributor in Australia.

'We were already using other Gorman-Rupp equipment and their track record to date was excellent. Their products are very reliable and robust. We searched for a local supplier and found Hydro Innovations.



The Gorman-Rupp V6-SCP stand-by pump.



Installation of the V6-SCP stand-by pump at the White Rock #1 pump station in Cairns.

They were very professional and helpful in meeting our needs for an emergency stand-by pump,' explained Grahame.

To meet their requirements, Hydro Innovations installed a self-priming, centrifugal, diesel pump with auto-start. Called a Gorman-Rupp V6-SCP, the above-ground pump has a suction line that goes down into the wet well and a float switch that activates the auto-start. The unit only runs when required and remains silent at all other times.

The V6 provides superior solids-handling and increased pressure capabilities. It delivers higher pressures and flows than any other self-priming sewage pump on the market and is also the most efficient pump in its class.

As with other Gorman-Rupp sewage pumps, the V6 is fitted as standard with a unique and patented self-cleaning wear plate system that enables the pump to handle stringy materials and rags that would block other pumps.

Enclosed in a sound-attenuated metal canopy, the V6 emits low noise levels. Lockable doors prevent unauthorised

personnel from tampering with the pump, fuel, engine or controls. Fuel capacity allows for a minimum 24 hours of continuous operation.

According to Grahame the cost to purchase the V6 was comparable with the cost of buying another generator. In addition, it also eliminated the need to have to install variable speed drives in the switchboard to make the generator operational.

Since having the stand-by pump installed in early 2010, Grahame and his team have seen the V6 perform under emergency conditions.

'During Cyclone Yasi, we had to make use of the pump and it performed outstandingly. It kicked in straight away and did what it was meant to effectively,' said Grahame.

Apart from reliability Grahame also found that the Gormann-Rupp V6 required less fuel to keep it operational.

'Each of our generators is eight times more expensive to run when compared to the V6 and the maintenance costs associated with the generators are far higher than those of the V6. The generators are also people intensive to maintain. Whereas the V6 requires less maintenance and uses up less of our people's time.

'The V6 pump has helped reinforce the operational capability and efficiency of our wastewater system during an emergency situation. It's reassuring to know that we have the V6 in place,' explained Grahame.

'Choosing to partner with Hydro Innovations was also the right decision. They grasped what was required immediately, have a very good understanding of their products and their backup service has been excellent,' said Grahame.

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