

Media Release

Wastewater evaporation systems require tough inverters

The need to mitigate the pollution and environmental damage caused by contaminated water has become a challenge for industries globally.

Wastewater evaporation systems have increasingly become an efficient, economical, and environmentally safe solution in the face of tough government regulations.

However, the demanding environments they operate in have caused technical and operational problems with the variable frequency drives (VFD) controlling the fan motor and pump elements of the systems.

Wastewater evaporator specialist [Resource West Inc](#) of Colorado, USA, faced just that with existing VFDs failing at a long-term customer site in California.

They turned to RM Elec Spec, a Sales Rep of Invertek Drives USA, to help solve the problem with the [Optidrive Eco IP66](#) rated / NEMA 4X range of inverters.

Resource West Inc's 2.0 enhanced evaporation systems mitigate environmental contamination by controlling dry aerosol drift from a polluted site. The process efficiently moves air through a well-formed flow through a fan case and delivered through a cone to push air flow.

The devices operate from floating platforms on the surface of a pond or impoundment, or as a trajectory evaporator, carrying the water on a ballistic path or arc above the ground or water surface. In this case all the systems were land-based systems.

"The existing VFDs produced by another company simply could not cope. Our customers were reporting breakdowns and it was down to the inverters we were using rather than anything of our own design," said William MacDonald, R&D Design Engineer of RWI.

"Additionally, the wiring and programming methods for the existing drives were an issue, particularly as our equipment became more automated. The existing inverter manufacturer said the drives could not handle the environment they were being used in. This was a serious issue for us and our customers."

Mr MacDonald added: "We were introduced to the Optidrive VFDs as they had a good reputation for reliability, particularly in their IP66 / NEMA 4X enclosures.

"We replaced the existing drives at the site in California with the Optidrive Eco 5HP and we've had no issues since. Our customer is extremely pleased."



Four Optidrive Eco's 5.5kW, 7.5HP, 14A, three-phase (IP66 /NEMA 4X outdoor rated) were installed and commissioned in South Dakota along with two Optidrive Eco's 11kW (15HP), 24A, three-phase (IP66 / NEMA 4X) were installed.

"They have run smoothly ever since. Programming the drives is easy and we can do that direct from the unit, on a laptop or remotely. With the customer plugging in, we have been able to remotely monitor the evaporators and help our customers more quickly," said William MacDonald.

Pete Roberts, National Sales Manager at Invertek Drives USA, said the durability and reliability of the Optidrive Eco IP66 / NEMA 4X was more than demonstrated.

He said: "These drives are operating in an extremely harsh environment. In addition to the operational elements, they are also working in a range of changing weather climates. We're pleased how the drives are ensuring Resource West's customers have a reliable wastewater system operating."

More details about Resource West Inc's industrial mechanical evaporators can be found at www.resourcewest.com.

Information about the Optidrive range of VFDs can be found at www.invertekdrives.com.

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Notes to the Editor

Invertek Drives

Invertek Drives Ltd is dedicated to the design and manufacturing of electronic variable frequency drives for controlling electric motors. Established in 1998 it has grown year-on-year and is now one of the world's leading innovators in VFD technology.

In November 2019 it was acquired by Sumitomo Heavy Industries Ltd (SHI), a leading global manufacturer and distributor of power transmission and control equipment. Invertek's UK headquarters, located at Welshpool, Powys, UK, houses specialist facilities for research and development, manufacturing and global marketing.



All operations, including research and development, are accredited to the exacting customer focused ISO 9001 quality standard whilst its Environmental Management System is accredited to the ISO 14001 quality standard.

In 2019 a new 5,500 sq metre global manufacturing and distribution facility was opened at the headquarters, allowing production of up to 400,000 VFDs a year. Inverttek's products are sold globally by a network of specialist distributors in over 80 different countries.

Inverttek Drives unique and innovative Optidrive range is designed for ease of use and meets with recognised international design standards for CE (Europe), UL (USA) and CTick (Australia). More details can be found by visiting www.invertekdrives.com.