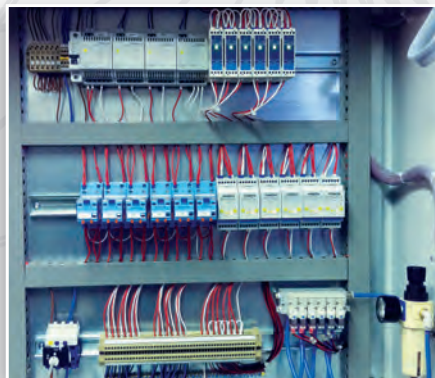


Multiplex Engineering Ltd. is based in Drogheda, on the east coast of Ireland, 55 km (35 mi) north of Dublin. We specialize in the supply of instrumentation, process automation equipment and steam valves, plus we have been representing NIVELCO and its products since 2007 throughout the island of Ireland. We stock hundreds of "off the shelf" items in order to respond to customer needs as fast as possible and minimize their plant down time. Amongst our many services we provide replacements that can usually be delivered immediately from our extensive replacement stocks. We have an excellent reputation in Irish industry including the Power, Water / Wastewater, Dairy, Brewing, Chemical and Pharmaceutical sectors.

This application case study describes an instrumentation project for 6 newly installed chemical storage tanks that needed to be continuously measured with a high level alarm indication and completed with a complex controlling system.

Our customer, Soltec (Ireland) Ltd. is a hazardous waste recycling company that specialises in the recovery of environmentally hazardous waste materials. Their plant is located in Mullingar, 80 km (50 mi) west of Dublin. The solvent storage tanks are located outside the main building. They are horizontal cylindrical tanks and are regarded as ATEX, hazardous environment, therefore all the elements of the measurement system must be intrinsically safe versions. Amongst the wide product portfolio of NIVELCO we could choose all the devices needed for creating the complex measuring and the related controlling system that meets all requirements.



The installed devices are the following:

- MicroTREK HTA-430-8 Ex (6 units)
- UNICONT PGK-301-A Ex (6 units)
- UNICONT PMG-411-1 (6 units)
- NIVOSWITCH RCM-401-8 Ex (6 units)
- UNICONT PKK-312-8 Ex (6 units)
- NIPOWER PPK-331-1 (4 units)

The MicroTREK HTA-430-8 Ex guided wave radar level transmitters have 3 m (10 ft) coaxial rod probes and are manufactured with special FFKM sealing. These transmitters are connected to UNICONT PMG-411-1 universal controllers via UNICONT PGK-301-A Ex type intrinsically safe isolator / power supply modules.

The UNICONT PGK modules galvanically isolate the analogue 4-20 mA current signals and transmit to the UNICONT PMG units. These controllers display the measurement data in the central control room. They also monitor the measured level and control a solenoid valve through the relay outputs allowing the tanks to be filled and close the valve when set point is achieved. Besides the continuous measurement, mini compact NIVOSWITCH RCM-401-8 Ex vibrating fork level switches perform additional overflow protection. The level switches are powered through UNICONT PKK 312 8 Ex type current controlled switch modules which isolate the output signals of the vibrating forks. The switching signal of the top mounted units will energise a high level strobe and indicator which must be acknowledged by the personnel in the event of a high level event in the tank. The PGK-301 and the PKK-312 isolator modules are powered with 24V DC voltage by NIPOWER PPK-331-1 power supply modules. Space on bottom right of face of panel today is blank providing available space for two more panel instruments. Our customer intends expanding to 8 tanks in the future with the similar NIVELCO instrumentation and this space will allow for two more tank controls to be installed and commissioned by Multiplex Engineering Ltd.

Declan Coughlan
CEO
Multiplex Engineering Ltd.