Ultrasonic Level Measurement at Bedford Pumping Station, Leigh, Greater Manchester.

The refurbishment work, which started on site in March 2013, has included replacing all seven pumps, the associated electrical control system, grab screen rakes, upgraded gantry crane and replacement of the pen-stocks. The new pumps will be more efficient than the previous ones, providing a 30% saving on energy costs.

Bedford Pumping Station is owned and operated by the Environment Agency and located on Bedford Brook in Leigh, in Greater Manchester. The natural catchment of Bedford Brook was altered by the effects of mining subsidence in Leigh in the mid twentieth century. The subsidence of the ground levels resulted in lakes forming, known locally as 'flashes'. On the eastern side of Leigh the subsidence was so severe that a pumping station had to be built in 1943 at Holden Road to reduce the risk of permanent flooding to approximately 300 properties.

Floods occurred in 1952 and 1955, which prompted a scheme to upgrade and relocate the pumping station downstream of Holden Road to the current site. Further floods occurred in 1980 and 1986 which led to another upgrade of the pumping station in 1990 to improve the discharge capacity. The pumping station now protects 670 properties from the possibility of flooding.

Pressure transducers have been installed to provide the primary level measurement of the upstream river level, and the level signals are fed into the new PLC control system, which determines the starting and stopping of the pumps.

Three Pulsar Measurement ultrasonic level measurement systems have been installed to provide additional monitoring of the river level to protect the pumps against dry running.

The three Pulsar ultrasonic level systems have been installed to provide additional monitoring of the river level to protect the pumps against dry-running.

Additionally, relays on the Pulsar controllers have been hard-wired and programmed to enable independent control of the pumps in the unlikely event of a major failure of the PLC control system or failure of the primary level control system.

A big benefit of using ultrasonic level instruments is that the ultrasonic transducers are fitted well above the maximum possible water level, and they are therefore not subject to any fouling, and there is no need for any maintenance work on them.

The refurbishment project was completed at the end of 2013.

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dB Transducers: https://pulsarmeasurement.com/db-transducer.html

Delivering the Measure of Possibility

Pulsar Measurement offers worldwide professional support for all of our products, and our network of global partners all offer full support and training. Our facilities in Malvern, UK and Largo, USA are home to technical support teams who are always available to answer your call or attend your site when required. Our global presence, with direct offices in the UK, USA, Canada, and Malaysia allow us to create close relationships with our customers and provide service, support, training, and information throughout the lifetime of your product.

By taking a step forward in echo processing technology, Pulsar Measurement addresses applications previously thought to be beyond the scope of ultrasonic measurement. This technology improves signal processing at the transducer head which has made it possible to increase resistance to electrical noise, enabling the transducer to 'zone in' on the true echo.

For more information, please visit our website:

www.pulsarmeasurement.com

pulsar MEASUREMENT

INFO@PULSARMEASUREMENT.COM

United States
11451 Belcher Road South
Largo, FL 33773
+1 888-473-9546

Canada
16456 Sixsmith Drive
Long Sault, Ont. K0C 1P0
+1 855-300-9151

United Kingdom
Cardinal Building, Enigma Commercial Centre
Sandy's Road, Malvern WR14 1JJ
+44 (0) 1684 891371

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