

Pulsar's Sludge Finder 2 gives a blanket improvement at Talybont

Pulsar Process Measurement have supplied a Sludge Finder 2 sludge level measurement system as part of Welsh Water's Talybont-on-Usk treatment works developments, providing accurate measurement that allows optimisation of sludge thickness and the production of a consistent solids content within the final sludge perfect for onward pumping and processing.

As often happens with instrumentation installations, the Sludge Finder is a small but vital component in a much larger project. In this case the 70 MLD treatment works was supplied with a new DAF (dissolved air flotation) treatment process that leads on to a new sludge treatment facility where the Pulsar unit was sited. The sludge treatment plant features two picket fence thickeners treating the sludge from the DAF process plus dirty water from two other areas of the works. Polyelectrolyte is dosed into the feed to aid settlement and the final sludge is removed from the thickeners using positive displacement pumps.

Sludge Finder 2 was selected and installed by Black and Veatch, who chose it on the basis of previous installations that had proven exceptionally reliable, giving them the confidence that Sludge Finder 2 would successfully handle the mixture of sludges from different processes that gave a variable composition going into the thickeners.

Pulsar are experts in acoustic technologies, supplying ultrasonic level and flow measurement globally. Sludge Finder 2 operates on a similar principle, featuring Pulsar's Viper self-cleaning transducer, which emits a sonar pulse that 'bounces' off the top of the sludge blanket. The key to the success of the Pulsar unit is its exceptionally sophisticated echo processing software that makes sense of the signal, possibly including numbers of competing and conflicting signals, to zero in on the accurate level. The Sludge Finder unit then gives a number of options of digital or analogue outputs for alarm or control. At Talybont, the on-site SCADA system is used to remotely control pump operation to maintain the pumped sludge dry solids content at an extremely consistent 4%.

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