

Ultrasonic System Improves Inventory Control

chemical



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Challenge

PSC Philip Services has one of the largest by-products recovery networks in North America. It diverts a wide range of organic and non-organic by-products from conventional disposal and creates new sources of raw materials and energy.

At its chemical and oil waste treatment plant in Rexdale (near Toronto), Canada, PSC Philip Services stores and treats solvents, waste oils and caustics in outdoor tanks, as well as hazardous process water in indoor tanks. Accurate, reliable level measurement is essential, and Ministry of the Environment regulations require high-level alarms to guard against spills.

To measure tank levels, the company used floats with external sight board indicators. These mechanisms often stuck or froze, and the malfunctions made measurement unreliable. Plant personnel had to conduct frequent visual checks to verify that the readings were accurate, and to detect and fix equipment problems. Unreliable readings made inventory management problematic. The lab scheduled inventory based on tank level readings gathered and recorded the previous day. The information was not always accurate or timely.

As a result, Timothy Mastin, Facility Manager, consulted Siemens Milltronics about upgrading the level measurement system.

Solution

The company installed a complete ultrasonic level measurement system that offers both continuous level monitoring as well as high-point level detection.

All 19 tanks are equipped with an Echomax® ultrasonic transducer, connected to one of three AiRanger® XPL* transceivers. The system uses patented Sonic Intelligence® software for enhanced reliability. Level data is fed to an HMI (Human-Machine Interface) located inside the testing lab. A SmartLinx® interface card converts the signals to Modbus® RTU protocol used by the HMI. Material level data is routed to three SAM-20 devices that control the high-level alarm indicators, identify the tanks, and connect to a PLC that triggers both light and sound alarms if high levels occur.

Benefits

With automated, reliable level measurement in place, personnel no longer need to waste time with frequent manual inspections. Non-contacting ultrasonic technology requires virtually no maintenance and, with no more float mechanical problems, the company has greatly reduced its maintenance costs.

"This new system has brought us immediate benefits and it is great to have something cutting edge," says Mastin. The lab can now constantly monitor tank levels directly in real time. With exact content and storage data always available at the click of a button, the lab can schedule deliveries knowing storage space is available. Reliable continuous monitoring allows for effective scheduling and accurate inventory control. The high-point level alarms eliminate the risk of spillage, and help enhance plant safety.



A new ultrasonic level monitoring system at the PSC Philip Services plant in Rexdale provides reliable data that allows for effective scheduling and accurate inventory control.

*Also available as SITRANS LU.