



PROCESS INSTRUMENTATION

Measuring level in wastewater treatment effluent flume

usa.siemens.com/level

Situation

A local Siemens representative was visiting a construction site for a new water/wastewater treatment plant in the Southeast United States. Recent growth in the local housing market near an EPA wetlands area required the installation of a new package treatment plant. Discharge permits for this new plant would require continuous flow monitoring and strict discharge levels for chlorine residual. The accuracy and reliability of the level/flow measurement and chemical feed control system was critical. The discharge flume from the wastewater treatment plant would be approximately 50 ft. from the wetlands buffer zone.

Challenge

The plant would typically feed sodium hypochlorite manually into the wastewater, using a dosing metering pump that is monitored and adjusted daily.

The general feed arrangement that the operator would use for a typical wastewater treatment process assumes an overdosing operation scheme, however, the wetlands permit for chlorine residual in the wastewater discharge required strict limits that could not be attained from manual control of the sodium hypochlorite metering pumps.

Solution

The representative recommended using the SITRANS Probe LU transmitter as the primary level device for a Parshall flume at the plant effluent. This level measurement would be sent to a chart recorder which would re-transmit the calculated flow measurement to the metering pump's flow-proportional controller. The flowproportional controller would receive the flow signal and transmit a dosing signal to the hypochlorite metering pump.

The Siemens Probe LU was a logical choice for this critical application. The client was familiar with the accuracy and reliability of the instrument because of their experience with the product at many of their other sites. The Probe LU became the key component of the hypochlorite dosing system. The client's confidence in Siemens products provided the opportunity for the representative to provide a turnkey solution for the entire hypochlorite system. Siemens track record of success and the support provided through the local representative was critical to the customer's decision.

Benefits

Sales and support when and where you need it Sales and support are available in your area. Our extensive global network means you get sales and support when and where you need it. By using a single supplier with local support, the customer was able to have the equipment installed and calibrated, as well as have their operators trained on a complete flow measurement and automatically controlled chemical feed system.

- **More dependable measurement**
The non-contacting ultrasonic transducer is immune to problems caused by suspended solids, harsh corrosives, grease, or silt in the effluent, making the measurement more dependable.
- **Ease of use**
Simple setup and programming with handheld infrared programmer or via PC software.
- **Reliable performance from Sonic Intelligence**
Field proven echo-processing algorithms guarantee the most reliable performance available.

About the SITRANS Probe LU

The SITRANS Probe LU instrument is a 2-wire, loop-powered, ultrasonic transmitter for the measurement of level, volume and flow monitoring of liquids in open channels, storage vessels and simple process vessels. It is ideal for level monitoring in the water and wastewater industry. With an accuracy of 0.15%, the SITRANS Probe LU instrument sets the standard for precision in

ultrasonic level measurement transmitters. Its high signal-to-noise ratio results in a longer measurement range, and the patented Sonic Intelligence® echoprocessing ensures reliability and accuracy. The Probe LU transmitter incorporates an internal temperature sensor to compensate for temperature changes.



Legal Manufacturer

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