



Providing Accurate Flow and Level Measurement on an Effluent UV Flume

Overview

The Ewing-Lawrence Sewage Authority (ELSA) operates a sixteen-million gallon per day advanced secondary wastewater treatment facility that is in Lawrenceville, New Jersey and serves the Ewing and Lawrence townships. Their facility recently experienced a flood that shorted out their existing level and flow probes, and needed a new level measurement solution.

Finding the right flow and level solutions

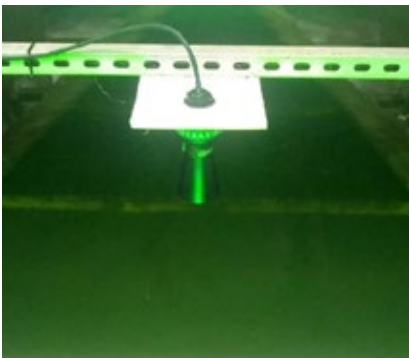
In the wastewater treatment process, the final step is water treatment. The treatment of the water ensures that all bacteria and microorganisms are broken down before being released into the receiving body of water. At ELSA, they use UV to treat the effluent water that is flowing. Accurately knowing the amount of water that is flowing is important in this phase of the process as it helps control the UV intensity

on the effluent flow over the exit flumes. The flumes that exist at their facility are not of standard size, meaning that the installed solution needed to have the ability to manually adjust measurements for each part of the flume. So, the ELSA team reached out to local Pulsar Measurement representatives Miller Energy Inc. to find the right solution for their application.

Why the Ultra 5 and dBMACH3

The Ultra 5 controller provides non-contacting, maintenance-free, flow measurement and control by calculating flow from the measured head preceding the primary element, in this case, it was the custom exit flumes installed at the site. This controller allows the end-user to manually input the primary measuring device parameters for the effluent UV flume. Since the exit flumes are not standard at ELSA, the Ultra 5 was ideal.

The dBMACH3 is an ultrasonic transducer that is specifically designed for open channel flow applications and has a zero effective blanking distance – the first ultrasonic sensor to achieve this. This transducer operates at a frequency of 125kHz to provide the highest resolution and accuracy possible for open channel flow.



"We had no issues installing and programming the Pulsar meters."

ELSA Team

Success with ultrasonic measurement solutions

Miller Energy was able to assist with inputting the different breakpoints present in the exit flume to ensure that they were getting the most accurate exit flow measurements using the dBMACH3 ultrasonic transducers. The ELSA team said, "We had no issues installing and programming the Pulsar meters."

After the success of using the Ultra 5 controller and dBMACH3 transducers, ELSA is looking to use other Pulsar Measurement solutions as well as SignalFire Wireless Telemetry solutions for remote level monitoring of their pumping stations.

To find a local Pulsar Measurement partner in your region, visit our [partner locator](#).

More Information

Ultra 5: www.pulsarmeasurement.com/ultra-5

dBMACH3: www.pulsarmeasurement.com/dbmach3-db3-with-sun-shield

SignalFire Wireless Telemetry: www.signal-fire.com

Miller Energy Inc: millerenergy.com/index.cfm



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