

Customer: Anonymous Dairy

Location: Upstate - New York State

Specialist: Michael Ademovic

System/Product: Effluent Monitoring Station



TELEDYNE ISCO
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ISSUE

A dairy in Upstate NY was doing their best to send their waste and sludge to a holding tank. However, accidents occur and there were cases of spills. The spills were unmetered and went directly to drain lines, so it was difficult to say how much milk was put into the villages collection system. The high BOD levels of the milk were causing severe issues at their wastewater treatment plant. The NYS DEC was also very concerned about the levels being discharged into the collection system. In November 2017 the DEC gave them notice to comply to the villages industrial discharge permit by January 1st, 2018 or they would be victim to fines, or face a possible shut down.

SOLUTION

CPE was brought into this project in late November 2017. CPE proposed a packaged metering manhole flow monitoring system. The system was composed of a FRP packaged metering manhole, FRP shelter, wastewater sampler, ultrasonic flowmeter, and a pH/temperature probe. CPE designed, compiled the submittals & drawings, manufactured, and installed all of the above equipment in less than one month. By December 21, 2017 the dairy was in full compliance with the villages industrial discharge permit, and the NYS DEC.



The picture above shows the FRP enclosure that houses the sampler and flow meter transmitter. This shelter is heated, has a light, ventilation, and a locking handle. The FRP enclosure provides a neutral location for the village and industrial user to utilize.

Why use a Effluent Monitoring Station?

Should the industrial discharger not have an effluent flow meter, some use the influent water meter as a measure of output. Others use pump run times to determine volume. Unfortunately, in both of these cases the actual discharge can be +/- 20% of actual flow. If the testing labs are determining your BOD and TSS loading based upon influent or pump station volumes your numbers could be drastically higher than anticipated. As we all know water gets consumed during processes whether through product creation, or evaporation. Not all the water going into the facility is what necessarily goes out of the facility.

The Teledyne ISCO flow meter and sampler combination allows for flow proportional sampling to take place. Every 500 gallons of wastewater 100mL of sample is collected into a composite sample.

The Signature Ultrasonic records the flows on a daily basis delivering the minimum, maximum, average, and total interval flows. By knowing the exact flow the proper loading concentration can be determined.

After collecting flow proportional samples, which are representative of what is an actual discharge, it has been determined that during normal operations the dairy is in compliance with the industrial discharge permit. In addition, should there be a spill the dairy has the ability to report an exact total in gallons to the wastewater plant, so they can take proper precautions prior to the high levels of pH, BOD, and TSS making its way to their primary clarifiers.



The picture above shows a Parshall flume with an ultrasonic sensor. The concrete is used for ballast weight, and to prevent stagnant water from developing in the sides of the flume. The flow meter automatically converts the level to a flow rate.



The picture to the left shows the Teledyne ISCO waste water sampler, and Signature Flow Meter working in conjunction to ensure representative samples of the discharge are being taken.