



Springdale Water Utilities

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On Saturday March 26, 2022, around 8 pm, the effluent flow meter at the WWTF apparently stopped working continuously. Strangely, it fluctuated around a reading of 12 MGD, very similar to the “normal” reading for a typical weekend without a rainfall event or anything else out of the ordinary. Since it remained fairly but not exactly constant, it was not until the next morning that it was noticed that the effluent flows did not track downward as much as the influent flows at the time. This led to identification that the flow meter was not working consistently for about the previous 12 hours.

Normally when a flow meter quits working, it flatlines at zero MGD. That was not the case, resulting in a delay in identifying that a problem had occurred. Upon identification, the operators on shift started using a staff gauge to obtain a “manual” flow reading. Once again, the flow meter appeared to be working and then stopped working again Sunday evening.

It is not believed that the totalizer readings recorded for March 26 or 27 are accurate, therefore “calculated” totalizer readings will be reported for those two days. Since there is an accurate, calibrated flow measuring device at the facilities’ influent that records consistently 2 MGD below the effluent flow meter (due to differences in flume sizes making the influent less accurate during normal flows), the totalizer readings for those two days will be based on the totalizer readings from the influent flow meter plus 2 MGD.

The effluent totalizer sends a signal to an effluent autosampler for collection of composite samples. Since manually collected samples on March 26 used the totalizer readout as well to flow proportion 12 manually collected samples, it was decided to use the autosampler. It had 20 hours of correctly flow proportioned samples followed by 4 hours of fairly close to accurate flow proportioned sample collection.

The flow meter problems were not identified until 8 hours into the 24-hour composite sampling event on March 27. Fortunately, the flows were fairly constant throughout the day except for a 4 hour period from 8 am until noon. For that 4 hour period, flows were recorded by sticking the flume and recording a manually calculated flow. For that day, the manually collected sample was used, with flows from the totalizer used for flow proportioning except for the two samples at 8 am and 10 am that showed a variance from the incorrect but close in-line flow meter.

Starting at midnight March 28, 2022, manually collected samples flow proportioned based on manually calculated flows are being used and will continue to be used until the flow meter is repaired or replaced.

It is our belief that all of the samples collected and analyzed are representative of the discharge from our facility on the dates in question. Although results have not yet been received, we are confident that they are nowhere near our permit limitations, and that no discharge violations occurred. We are also confident that the flows reported are accurate based on our calibrated in-line influent flow meter plus a well-established correction factor of 2 MGD.

Springdale Water Utilities AR0022063 flow meter issues

To prevent problems of this nature from occurring in the future, Springdale Water Utilities has installed a fixed staff gauge and instructed the operators to record readings from that gauge every two hours. They are further instructed to compare that reading to the in-line meter reading to ensure that they are close. If not, they will be instructed to contact a supervisor to determine if there is a problem with the in-line meter, and if so, how to proceed.

Since that time, a spare flow meter has been installed, calibrated, and certified. A new fixed staff gauge has been installed to supplement the portable gauge used for calibrations. Following analyses, it was confirmed that no violations were observed in any samples collected and analyzed for the month of March 2022.

This letter is a follow-up to a telephone conversation with Ms. Leslie Allen Daniels, ADEQ, on the morning of Monday March 28, 2022. She recommended during that conversation that we draft a letter explaining the events and attach it to our DMR for the month of March 2022. In addition, a copy of this letter will be emailed to Ms. Daniels, Mr. Richard Healey, and Ms. Christina McCutcheon of ADEQ.

If you have any questions concerning this event, our response, or our future plans, please do not hesitate to contact me at 479-756-3657.

Sincerely yours,



Jennifer E. Enos

Wastewater Facilities Director

Springdale Water Utilities

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