

City of Bayard Wastewater Treatment Plant

July 2022

07-01-2022: Called Central Dispatch to inform them of a schedule change for watering at the Bayard Cemetery.

07-06-2022: Plant staff worked on weeds around the plant and the North Hurley lift station.

07-07-2022: Plant staff called out to the North Hurley lift station at 6:45am. Turn Drying beds #1, #2, and #3.

07-10-2022: Plant staff came out to the plant to try and dewater the #1 digester.

07-11-2022: Plant staff took the sludge out of the #2 drying bed and added it to the stockpile. Started to dewater the #1 digester. Badger western came out to the plant and installed the lifts on the digesters. Garage door came in for the dewatering building and the electricians showed up to run electrical for dewatering building.

07-12-2022: Plant staff shut down the MCC2 for the electricians to install an electrical bucket for the dewatering building. The MCC2 controls eight items in the plant system, one of them being the #2 UV system. This event marked the 4th time the UV system had been powered on and off. This will greatly reduce the lifespan of the lamps. Placed a call to Jason Lockett to

inform him that the meter for the North Hurley lift station was not working. Plant staff shut down the #2 digester to dewater.

07-13-2022: Plant staff rebuilt the #2 drying bed. Meter at the North Hurley lift station not working.

07-14-2022: Dropped the #3 digester to the #2 drying bed. The #2 digester not dewatering. Plant staff turned the #1 and #3 drying beds. Sprayed weeds around the plant. North Hurley meter not working.

07-15-2022: North Hurley Lift station meter not working.

07-18-2022: Turned the #1, #2, and #3 drying beds. North Hurley lift station not working.

07-19-2022: Plant staff had been called out to the North Hurley lift station several times for the #1 pump failure. A call was placed to Jason Lockett and plant staff were told to shut the #1 pump off. Started to dewater the #1 digester.

07-20-2022: Plant staff unplugged the lab sink in the lab. TLC came down to the plant to work on the #1 and #2 influent pump standpipes in the influent wetwell. Plant suffered a power surge; this would be the 5th time for the UV lamps to be shut on and off.

07-21-2022: TLC came down to the plant to continue work on the standpipes for the #1 and #2 influent lift station pumps. The foremen told plant staff that the gas levels inside of the wetwell were so high they could only have there workers inside of the wetwell for two-to-three-minute stretches before they had to

pull them out and had to wait for the gas levels to lower. The influent level indicator for the influent wetwell had a glitch in it possibly caused by the power surge. Plant staff had to take the power supply off of the unit to see if it would reset itself. This is not good practice since there is a possibility of the unit getting damaged when the power wire is put back into the unit. Talking with the tech of the company that makes the unit they did acknowledge that with the current set up at the plant there was no other way to try and clear the glitch.

07-22-2022: Plant staff had an alarm at the Rec Plant for high cell temp on the Chlorine manufacturing cell. Plant staff turned on the water chiller unit but found the unit was not coming on. Water chiller unit maybe bad. Plant staff shut down the #3 digester to see if it would dewater. Plant staff called out after hours for pump #3 failure in the influent wetwell.

07-25-2022: Plant had a power surge at 7:30am this would be the 6th time the UV lamps had been turned on and off. Pipestone came down to the plant to see if they could get the surge anticipator valve in the effluent dry well to work. After several hours the Tech for Pipestone came into the lab and had his boss on speaker phone. They had come to the conclusion that the valve that was placed into the system was not the correct valve for the job being asked of it. They had a couple of suggestions from installing variable speed drives on the pumps to a different kind of check valve to be placed in front of the pumps to try and absorb some of the water hammer that was

hitting the system every time a pump shut off. A call was placed to the City Engineer to inform him of what Pipestone had just said and to ask him if he had any suggestions for the issue the plant was having. The City Engineer said he would call one of his contacts and get back with plant staff.

07-26-2022: Plant staff worked on the chlorine system in the Rec plant. Plant staff are trying to find out why the chlorine residuals have been staying low after increasing the pumping rate. Plant staff started to check into the problem on the A/C at the reclamation plant. Pipestone sent a letter to plant staff detailing why the valve in the effluent lift station was not working. A copy was forwarded to the City Engineer. Plant staff found the generator at the North Hurley lift station to be running. A call was placed to Jason Lockett who said he thought it was running on its schedule.

07-27-2022: Plant staff found the North Hurley generator to still be running. A call was Placed to Jason Lockett informing him that the generator was still running. Jason sent out one of his electricians and it was found that a power leg had been lost from the power company's line.

07-28-2022: The #2 digester didn't dewater. Plant staff turned the air back on to it. Plant staff cleaned the D.O. probes in the aeration basins and turned the #1 and #2 drying beds.

07-29-2022: Plant staff dropped the #2 digester to the #3 drying bed. Plant staff also tried running the #3 influent lift station pump but found it would run for a little while and then

kick out. A electrician will need to come out to the plant to determine if the problem is in the pump, the wiring or the overloads.

Bayard Surge Anticipator Valves

Tommy Christian <tchristian@pipestoneeq.com>

Tue 7/26/2022 3:07 PM

To: Jason Jaeger <wastewater@cityofbayardnm.com>

Cc: Sloan Pearsall <spearsall@pipestoneeq.com>; Dan Minich <dminich@pipestoneeq.com>

 1 attachments (3 MB)

Surgebuster® Check Valve Brochure.pdf;

Hi Jason,

To summarize, when we came to the plant the downstream ball valve on the surge anticipator valve was closed, so that would prevent the valve from opening. Originally, we thought the application required a lighter spring as the system pressure was about 20psi (we understood the engineer thought it should be 10-15psi, but we observed 20psi at the valve), and the low level pilot had a range of 30-300psi. We changed the springs out, and as you saw the valve was constantly blowing water by. This is due to the constant cycling of the pumps. The surge valve is not meant to open that frequently. It is generally used in situations where there is a constant header pressure and is used to act as a relief valve on over-pressure situations and to anticipate surges when pumps cut out due to power loss. The constant cycling in the station will never allow the surge anticipator valve to recover and close.

Given the extremely low pressure here, I would consider using a surge buster check valve to prevent the waterhammer you are seeing back in the station. It's a swing check valve with a rubber closure door, but it also has a piece of steel that increases the speed of closure like a spring. I have attached a brochure.

If you want to discuss this application further, let's set up a time to do with your engineer as well.

Thank you!

Tommy Christian
Field Service Manager

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