City of Santa Fe, New Mexico

200 Lincoln Avenue, P.O. Box 909, Santa Fe, N.M. 87504-0909
www.santafenm.gov

Alan Webber, Mayor

Councilors:
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Renee Villarreal, District 1
Michael J. Garcia, District 2
Carol Romero-Wirth, District 2
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Chris Rivera, District 3
Jamie Cassutt, District 4
JoAnne Vigil Coppler, District 4

June 11, 2021

Ms. Nancy Williams
EPA, Region 6
1201 Elm Street, Suite 500
Dallas, Texas 75270-2102

Re: Administrative Order Docket Number: CWA-06-2021-1725

NPDES Permit: NM0022292

Dear Ms. Williams:

This letter provides the City of Santa Fe's ("City") response to Administrative Order Docket Number: CWA-06-2021-1725 (AO) issued by the U.S. Environmental Protection Agency ("EPA") regarding the City's NPDES Permit Number NM0022292 ("Permit") dated June 1, 2021, which we received from your office, via email on June 2, 2021. The City would like to thank you for the opportunity to respond to the Administrative Order.

It is the City's goal to provide continuous compliance with our permit. This letter outlines the causes and history of the violations cited by EPA in the AO, the steps that the City has taken to correct the action, and the steps the City will continue to undertake. I have included a discussion to address all permit compliance issues associated with Carbonaceous Biological Oxygen Demand (CBOD), Total Suspended Solids (TSS), E. coli bacteria, Total Nitrogen (N), and Total Phosphorus (P) as described in the AO. As described below, when the City became aware of permit noncompliance, the City immediately initiated and identified the issues affecting treatment. This letter provides a description of the causes of non-compliance cited in the AO and our actions to ensure continued compliance with all applicable permit limits. It includes the specific corrective actions' expected results to correct and prevent recurrence of the observed E.coli bacteria, CBOD, and TSS, N, and P violations.

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Discharge Permit Status and Historical Summary of Factors Leading to Non-Compliance

The current NPDES permit became effective in September of 2016 and also provided the City with a thirty-six month Schedule of Compliance, from the date of permit issuance, to achieve final effluent limitations for these parameters. At the beginning of the permit cycle, the EPA and NMED allowed the City to report only on Total Nitrogen and Total Phosphorous. The City committed to complete a nutrient study to develop a treatment strategy for nutrient removal.

The City began the nutrient study in May 2017 to investigate both nutrient loading and process and removal optimization. During this study, process changes included Mixed Liquor Suspended Solids ("MLSS") concentrations, aeration regimes, wasting schemes, and tertiary treatment modifications. All of these changes were tested for nutrient treatment and removal efficiency. The City was mindful of the possible issues a treatment process evaluation, including alternate operation scenarios, would create. That was the basis of the City's formal request to the EPA during the permit reissuance process in early 2016 to grant the schedule of compliance that was subsequently included in our Permit. However, the City could not have foreseen all operational issues at that time, and the City did not anticipate that E. coli and other permitted pollutants would be adversely affected to the degree that they were during the course of this study. The inability of the City's tertiary treatment capabilities to remove solids and adequately disinfect was unexpected and resultant higher turbidity affected the ability of the UV system to adequately eliminate bacteriological contamination, while maintaining permit compliance for parameters such as CBOD during the study.

After the City completed the study in 2018, the City completed design and started construction of the new anaerobic digesters to remove solids more efficiently from the process. In late 2019 and early 2020 the project startup affected the facility's ability to treat water as expected. This created issues with all compliance parameters and imposed additional burdens on all tertiary equipment.

In the last half of 2020, the City started our next portion of design and construction to treat nutrients efficiently within the recommendations of the Nutrient Study. This created new hurdles for treatment, and required staff to work with one aeration basin offline as the City was having it rehabilitated

Currently, the facility has submitted all documentation to EPA and NMED for renewal of NPDES Permit Number NM0022292. The permit is under review.

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Operational Difficulties

July, August, November, and December of 2019 non-compliance events were directly related to unforeseen electrical and equipment failures. With each incident, the City made repairs and brought the facility back online within 24 hours. These issues were remediated and subsequent tests brought the facility back into compliance.

From January through May of 2020, non-compliance was caused by the over containment of solids to startup the new digesters and sludge distribution back into the aeration basin during the transfer from old to new digesters. The facility's engineers and contractors set goals for solid waste disposal for the facility to bring the new digesters online with adequate volumes of water. These volumes were higher than the facility had previously used, creating a narrow margin for error. Containing these volumes while also wasting volumes to belt presses or sludge injection sites proved difficult. At any time if the belt press or injection site was not available, the digested sludge could return to the process through overflow devices on the system. This digester overflow to the aeriation basin first happened in late January of 2020 causing the facility's MLSS to go out of normal running status.

A second occurrence happened in February 2020 while transferring from east to west of the old digesters. The transfer was to drain to the east after transferring it to the new digesters. Both overflow situations affected treatment but were addressed by staff. Higher than normal wasting schemes and aeriation basin air zone manipulation removed sour sludge volumes from the process. It took months to achieve a more consistent run with these changes. The City monitors the facility hourly to maintain compliance. In late March of 2020, the City also worked with Robert George, a consultant from the New Mexico Environment Department (NMED), to monitor and assist the City with correcting compliance issues. Mr. George visited the facility, assessing issues in the process, and he provided feedback to fix the issues. Mr. George's technical submittals are attached to this correspondence for your review.

Intermittently from January 2020 to December 2020, process issues within the secondary treatment have caused exceedances to the City's permit limits. High turbidity caused by other process issues including digester sludge, filamentous bacteria, and high MLSS during digester startup created poor settling. These issues caused unanticipated equipment failures. Failures such as filter pad replacements or UV lamp and sleeve replacements were repaired quickly, but other failures were more catastrophic and required greater efforts to correct. Tertiary Disc filters created other unforeseen issues. Currently

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the facility is utilizing two of the three filter units. The third filter is waiting for replacement parts to rebuild the equipment entirely. These repairs are scheduled to be completed in September of 2021.

In June of 2020, the facility began prepping for the commencement of the Aeration Project. This project is currently underway. Issues with treatment during the project to this date are directly related to the use of only one of the two aeration basins. The ability to use one basin divides our treatment capabilities in half. The facility staff has found innovative ways to supplement treatment capabilities, but, at times, cannot always meet compliance standards. As of May 2021, the first rehabilitated basin is now online and has shown an improvement in the process. The second basin is now offline and will be rehabilitated and is scheduled to be completed in mid-August. The entire project including aeration basin rehabilitating, new blower units, and SCADA additions should be complete in December of 2021.

Summary of Corrective Measures Implemented to Date

1. Maintain optimal sludge volumes in useable aeration basin and new digester units;
2. Working on maintaining fat, oil, and grease levels to eliminate filamentous bacteria;
3. Completion of rehabilitation/construction improvements in aeriation basins;
4. Careful monitoring of solids in all clarification units;
5. Careful monitoring of ultraviolet system;
6. Careful monitoring of disc filter system; and
7. Currently constructing a belt press liquid waste discharge equalization basin to assist with nutrient removal.

Future Related and Continued Improvements (Under Planning and Development)

1. Begin planning for the design of upgrades to the headworks, secondary clarification, filtration, and UV disinfection processes to assure long-term compliance performance and optimization of process;
2. Develop and maintain an improved capital asset management program to better respond to equipment failures, emergency repairs, and process downtime events;
3. Expand the plant operating procedure program to all processes, to include training and continuing education

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4. Expand and upgrade the facility's Supervisory Control and Data Acquisition (SCADA) system to incorporate additional controls and monitoring capability for each process, upon each scheduled process improvement (aeration Basin blowers, filtration, UV disinfection, sludge return, sludge wasting, etc.).

The City is working diligently to maintain compliance on a normal basis. If you have any questions or comments, please feel free to contact Michael Dozier, Wastewater Management Division Director, at (505) 955-4642 or mldozier@santafenm.gov

Thank You,

Jarel LaPan Hill

Jarel LaPan Hill

City Manager