



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES

Johnson City Environmental Field Office
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Johnson City, TN 37601

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October 31, 2022

Mr. Chuck Wilkins
WTP Lead Operator
e-copy: cwilkins@cityofelizabethton.org
Valley Forge Water Treatment Plant
122 Journey's End
Elizabethton, TN 37643

RE: **Compliance Evaluation Inspection (CEI)**
Valley Forge Water Treatment Plant (WTP)
NPDES permit TN0080331
Carter County

Dear Mr. Wilkins:

On October 21, 2022, Ms. Brianne Begley of the Tennessee Department of Environment and Conservation, Division of Water Resources, performed a routine compliance inspection at the above referenced facility in order to evaluate compliance with General Permit for Filter Backwash and Sedimentation Basin Washout from Water Treatment Plant (WTP) TN0080331. The division thanks you and Ms. Lisa Childers for your time and assistance. Please see the sections below for details regarding the inspection.

I. Permit

General NPDES Permit for Discharges of Filter Backwash and Sedimentation Basin Washout from Water Treatment Plants became effective on September 1, 2020 and will expire on August 31, 2025. Coverage under this permit for the Valley Forge WTP became effective November 1, 2020 and shall expire on August 31, 2025. The Valley Forge WTP permit authorizes the discharge of filter backwash and sedimentation basin washwater from one outfall at the facility located at 122 Journey's End in Elizabethton, TN to receiving waters named Doe River at mile 5. A plant walk-through and inspection of the facility grounds was conducted, as well as a review of the permit and supporting documentation. Based on the information discussed and site observations during the inspection, the facility generally appeared to be consistent with the description associated with the permit referenced above. No deficiencies were noted in this program area.

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II. Records/Reports

Parts 7.1 – 8.3 of NPDES TN0080331 contain monitoring, reporting, and documentation requirements. Also, records documenting laboratory analyses, including proper quality assurance and quality control (QA/QC), must be maintained to satisfy permit part 7.2. Discharge monitoring reports (DMRs) from January 2021 – September 2022; pH calibration, sample results, and QA/QC records from January 2021 – September 2022; pH and total residual chlorine (TRC) standard operating procedures (SOPs); TRC calibration, sample results, and QA/QC records from January 2021 – September 2022; annual pH and TRC demonstrations of capability (DOCs) from 2020 – 2022; TRC method detection limit (MDL) records from 2020 – September 2022; Waypoint analytical reports from January 2021 – September 2022; and LabtronX laboratory equipment calibration records from April 2021 – October 2022 were reviewed during the inspection. No deficiencies were noted in this program area.

III. Facility Site Review, Self-Compliance Program, and Operations & Maintenance

The most recent Notice of Intent (NOI) states the Valley Forge WTP is a membrane filtration plant with a design capacity of 1.3 million gallons per day (MGD) which utilizes 2 membrane filtration units for turbidity removal with 30 modules each. There is one sedimentation basin (tank) with a capacity to hold 4,250 gallons. The facility uses an Enhanced Flux Maintenance (EFM) treatment to clean the filtration units; the wastewater from this process is sent to the sedimentation basin prior to discharge from Outfall 001. Approximately 3,200 gallons are released from the settling basin on a quarterly basis. The filtration units also undergo air scrubbing multiple times per week. The water from the air scrubbing process, which is comprised of raw spring water with added turbidity, is also discharged to Outfall 001. See section VI. below for detailed description of sludge removal. TN0080331 part 5.2 requires the permittee to maintain a clean and orderly facility and manage the handling, storage and use of chemicals to prevent release of materials. Additionally, it requires that sludge or any other material removed by the treatment works must be disposed of in a manner which prevents its entrance into or pollution of any surface or subsurface waters. A plant walk-through was performed, and the facility was found to be in a clean and orderly condition. No deficiencies were noted in this program area.

IV. Effluent/Receiving Waters

The facility was not discharging at the time of inspection, but the area of the discharge point of entry to Doe River (Outfall 001) was observed. No floating scum, oil, or color contrast was visible in the discharge or in the river around the outfall location. The outfall signage as required by NPDES permit TN0080331 was present and visible to the public from the receiving stream. No deficiencies were noted in this program area.

V. Laboratory

Analyses for pH and TRC are performed at the Big Springs WTP, while settleable solids (SS) and total suspended solids (TSS) are contracted out to Waypoint Analytical. Part 7.2 item 2. of NPDES permit TN0080331 requires pollutant analyses be performed in accordance with methods specified in Title 40 CFR Part 136, effective June 18, 2012, explicitly detail required laboratory quality assurance and quality control components. Additional updates to the Part 136 became effective July 19, 2021. See section II. for

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a complete list of laboratory records reviewed as part of this inspection. No deficiencies were noted in this program area; see section VII. for additional comments and recommendations

VI. Sludge Handling/Disposal

Sludge from the settling process would be removed from the sedimentation basin via vacuum truck and deposited at the Elizabethton Wastewater Treatment Plant, where it would be dewatered and eventually disposed of at the Eco Safe Landfill in Blountville, TN. No sludge was visible in the sedimentation basin at the time of inspection, and Valley Forge WTP staff stated that sludge has never accumulated in the sedimentation basin and, thus, has never been removed.

VII. Additional Comments and Recommendations

Additional comments and recommendations noted during the inspection are detailed below.

1. Waypoint Analytical reports from August 2021 – September 2021 showed outdated/unapproved method numbers were used for Total Suspended Solids (TSS) and Settleable Solids (SS) analyses. Waypoint Analytical reports from October 2021 – March 2022 showed outdated/unapproved method numbers were used for SS analyses. The April 2022 – September 2022 reports had been updated to reflect approved method numbers; however, it is up to the facility to ensure that their contract laboratory is using approved analysis method numbers as prescribed in Title 40 CFR Part 136 and as required by part 7.2 of TN0080331.

VIII. Conclusion

Compliance with TN0080331 requirements helps ensure discharges that are protective of downstream fish and aquatic life and water quality. Thank you for your efforts to ensure permit compliance and to protect state water quality. If I may be of assistance in matters concerning this report, please contact me via telephone at 423-268-4770 or via email at Brianne.Begley@tn.gov.

Sincerely,



J. Brienne Begley
Environmental Scientist
Division of Water Resources
Johnson City Environmental Field Office (EFO)

cc: Ms. Lisa Childers, Laboratory Technician, Big Springs WTP (via email)
Mr. Joshua Boggan, DWR Program Coordinator, Johnson City EFO (via email)

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Ms. Sarah Terpestra, DWR Water-Based Systems Unit, Nashville (via email)

Ms. Sarah Elias, DWR Compliance and Enforcement Unit, Nashville (via email)

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WaterLog database