



**TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION**  
**Division of Water Resources**  
**JACKSON ENVIRONMENTAL FIELD OFFICE**

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September 21, 2023

Certified Mail # 7019 2280 0000 9737 8377

The Honorable Ryan Griffin  
e-copy: ryan.griffin@cityofmckenzie.com  
Mayor, City of McKenzie  
P. O. Box 160  
McKenzie, TN 38201

**RE: Notice of Violation/Compliance Evaluation Inspection**  
McKenzie STP  
NPDES Permit # TN0020613  
McKenzie, Carroll County

Dear Mayor Griffin:

On September 14, 2023, as representatives of the Tennessee Department of Environment and Conservation, Jackson Environmental Field Office, Noah Reid and Tammy Miller conducted a Compliance Evaluation Inspection (CEI) of the McKenzie STP facility. During the inspection, the wastewater treatment plant, the collection system and the wastewater laboratory were evaluated to determine the status of compliance with your National Pollutant Discharge Elimination System (NPDES) permit. The Division thanks Operators Gabbi Kline and Joey Fitzgerald for their time and assistance.

### **I. Permit**

The permit covers the discharge of treated municipal wastewater from Outfall 001 to an unnamed tributary at mile 2.8 to Clear Creek at mile 2.4 to the South Fork Obion River at mile 27. The discharge consists of treated municipal wastewater from the City of McKenzie's wastewater collection and treatment systems. The treatment plant has a design capacity of 2.0 MGD. A copy of the permit was on file and available for review.

### **II. Records/Reports**

Generally, records were available upon request, efficiently filed, accurately transcribed, complete and current. Laboratory data from May 2023 were traced through the entire process from generation to final reporting in the EPA's Integrated Compliance Information System (ICIS) and found to be complete and without error.

### **III. Facility Site Review, Self-Compliance Program, Operation & Maintenance, and Sanitary Sewer Overflows**

Five pump stations were inspected with the Keco pump station being newly refurbished and functioning according to its purpose and in proper condition. Other pump stations are listed below in the list of issues for McKenzie STP.

Influent wastewater enters the lagoon through the influent pump station. Water flows through the bar screens, the grit chamber and a Parshall flume and is divided equally into 2 aerator basins. Two final clarifiers allow for sludge settling. The clarifier decant flows to the contact chamber where it is disinfected with sodium hypochlorite at the beginning of the chamber and de-chlorinated with sodium thiosulfate as it exits the chamber. A step aerator follows the contact chamber and the final discharge to Outfall 001.

The following is a list of the issues that are present at McKenzie STP:

1. An emergency generator has been on site for at least 6 years and has still not been put into service.
2. The mechanical bar screens are malfunctioning and require manual cleaning.
3. In both aeration basins, the aerators are static, not turning, and do not allow complete treatment.
4. One aeration basin has some erosion at the base of the basin.
5. The aeration basins have only one blower each working with the other 2 pumps of each of the basins out of service.
6. The equalization basin is cracked and has not been taken out of the process.
7. The clarifier cannot function properly due to a clogged center pipe as a result of the bar screen being out of service.
8. One clarifier was out of service due to a return line issue.
9. The digester sludge cannot be sent to the press due to the electrical line to the press building being down from a storm in March 2023. A new pole needs to be set for the electrical to be repaired. Sludge is being sent to the drying beds.
10. The Saco and David pump stations were running on one pump. The pump stations are equipped with dual pumps to be alternately exercised. In the event of the failure of the one functioning pump, an overflow will occur.
11. The Polar Bar pump station has one pump running and an electrical issue with the other pump.
12. The Manley Street pump station was damaged by a fallen tree during a storm around March 2023. The damage has not been repaired and the electrical hook-ups are hanging from the side of the building making it an unsafe area to enter for any time of maintenance to the pump station.

Please be advised that these issues collectively demonstrate a violation of Section 2.1.4.(a) of your permit which states: "The permittee shall at all times properly operate and maintain all facilities and systems (and related appurtenances) for collection and treatment which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

In addition to the violations noted above for improper operation and maintenance, the STP has incurred the following effluent limit exceedances since the last Compliance Evaluation Inspection on September 21, 2021:

1. Nitrogen as Ammonia – 12 exceedances
2. Cyanide – 1 exceedance
3. IC25 Static renewal – 1 exceedance

The certified operator in direct charge holds a WT4 license. Joey Fitzgerald is the certified collections operator with a CS2 certification.

### **Effluent/Receiving Waters**

The final effluent travels to an unnamed tributary at mile 2.8 to Clear Creek at mile 2.4 to South Fork Obion River at mile 27. The outfall location at the receiving stream was not observed during this inspection.

### **V. Flow Measurement**

Influent flow is measured by a Parshall flume equipped with an ultrasonic meter as a secondary device. Effluent flow is measured by an unrestricted rectangular weir as a primary device and an ultrasonic meter as the secondary device. Thomas Controls calibrates the flow measurement devices annually.

### **VI. Laboratory**

Laboratory standard operating procedures are followed consistently by laboratory staff. All analytical methods employed in the laboratory are approved in Title 40 CFR Part 136. In-house testing includes the following parameters: pH, dissolved oxygen, total residual chlorine (TRC), settleable solids, carbonaceous biochemical oxygen demand (CBOD), total suspended solids (TSS), Ammonia as N and E. coli. Phosphorus total as P, total nitrogen as N, total cyanide as CN and biomonitoring testing are being subcontracted to Waypoint Analytical. The subcontract laboratory was not evaluated as part of this inspection.

### **VII. Sludge Handling/Disposal (or Biosolids Handling/Disposal)**

Return sludge is sent from the clarifiers to a sludge basin where it is removed, dried in beds, and sent to Republic landfill in Troy, TN for disposal after appropriate testing.

### **VIII. Additional Comments and Recommendations**

The Blackburn and Airport pump stations have been engineered for refurbishment and work should commence in the near future. A new belt press is supposed to be included in the future work as well.

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Davis and Cole pump stations are slated to be refurbished following the Blackburn and Airport pump stations.

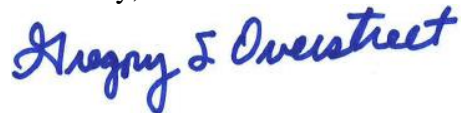
### **IX. Required Actions**

Due to the documented violations regarding improper operation and maintenance of the collection system and wastewater treatment system, please submit a corrective action plan (CAP) **by October 21, 2023** to address the issues identified above in Section III. The CAP should include a plan of action along with a timeline for completion for each item.

### **X. Conclusion**

Compliance with your NPDES requirements ensure discharges that are protective of downstream fish and aquatic life and water quality. On behalf of the Division, I want to thank you and your staff for your efforts to ensure permit compliance and to protect state water quality. If you have questions regarding this report or the required actions, please contact Ms. Tammy Miller at (731) 458-7080 or via email at [Tammy.Miller@tn.gov](mailto:Tammy.Miller@tn.gov).

Sincerely,



Gregory S Overstreet, Unit Manager  
TDEC Division of Water Resources  
Water Based Systems Unit  
Jackson Environmental Field Office

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Ms. Gabbi Kline, [gabbi.kline@cityofmckenzie.com](mailto:gabbi.kline@cityofmckenzie.com)