

August 9, 2012

HAND DELIVERED

Mr. Bryan Carter
Tennessee Department of Environment and Conservation
2305 Silverdale Road
Johnson City, TN 37601-2162

RECEIVED

AUG 09 2012

JOHNSON CITY ENVIRONMENTAL
FIELD OFFICE

RE: Compliance Evaluation Inspection
Carter County Work Camp
NPDES Permit Number TN0061531
Carter County

Dear Mr. Carter,

The City of Johnson City is contracted to operate the Carter County Work Camp for the State of Tennessee Department of Corrections and has developed the responses to the comments on their behalf. Listed below are the responses to the comments noted during the Compliance Evaluation Inspection at the Carter County Work Camp on May 2, 2012.

1. Comment: Available laboratory records for December 2011 indicated only a 300 ml effluent sample is filtered for total suspended solids (TSS) analyses. This sample volume appears to yield less than 1 mg of dried residue on the filter pad, which is less than directed in Standard Method 2540 D-1997. In addition, available documentation does not contain sufficient information to ascertain if the samples achieved sufficient dryness in accordance with analytical method specifications. Use of appropriate procedures is required by NPDES permit Part I B.2. and Part II A.4.

Response: Due to the low content of suspended solids in the effluent sample, one liter of effluent sample will be filtered in accordance with Standard Methods 2540D-1997 3.b. to achieve at least 2.5 to 200 mg of dried residue or the maximum sample volume that can be filtered. Documentation was available above the final weight of the suspended solids analysis each time that a suspended solids was analyzed that showed the % difference in weight after repeating the cycle of drying, cooling, desiccating, and weighing until a constant weight was obtained. This cycle was repeated until the weight change was less than 4% of the previous weight or 0.5 mg, whichever was less

2. Comment: Laboratory records indicate use of three dilutions each for influent and effluent CBOD₅ analyses. However, generally only one influent dilution and one or two effluent dilutions yielded valid results. Thus, the dilution series used for the samples do not satisfy the testing procedure specifications of Standard Method 5210 B-2001. Use of appropriate test procedures and adequate laboratory controls and quality assurance procedures are required by NPDES permit Part I B.2. and Part II A. 4.

Response: Three dilutions each for influent and effluent CBOD5 are now being analyzed. Five dilutions are recommended if experience with a particular sample does not produce at least three bottles having acceptable minimum dissolved oxygen depletion and residual limits per Standard Methods 5210B-2001. We will now do five dilutions of all samples since, at times, there were not three dilutions that met the residual dissolved oxygen of at least 1.0 mg/l and a dissolved oxygen uptake of at least 2.0 mg/l after a five day incubation. Most times, only the 100% sample dilution of effluent CBOD5 met this criteria due to excellent water quality.

3. Comment: Laboratory records indicated use of Standard Method for 4500-O G for onsite effluent dissolved oxygen (DO) determinations. However, this method uses a membrane electrode for DO measurements and the onsite measurements are determined using a titration method. Appropriate test methods must be followed and accurate records maintained in order to ensure NPDES permit compliance.

Response: The bench sheet method code for effluent dissolved oxygen indicated the use of Standard Method 4500-OG which is the membrane electrode method. The bench sheet now reflects the use of Method 4500-OC-2001 which is the azide modification titration method.

4. Comment: The phenyl arsine oxide (PAO) titrant used for onsite effluent DO analyses by Winkler titration expired April 2012. However, this titrant was still used for effluent analysis on May 1, 2012. Use of appropriate test procedures and adequate laboratory controls and quality assurance procedures are required by NPDES permit Part I B.2. and Part II A.4.

Response: Operators will be more diligent in checking expiration dates on laboratory chemicals.

5. Comment: Discussion of sampling and analysis procedures revealed aeration basin dissolved oxygen samples are collected and transported to the Brush Creek WWTP laboratory for analysis. This delay in analysis exceeds the allowable holding time for DO analyses specified in Title 40 CFR §136.3. NPDES permit compliance analyses must be performed in accordance with methods prescribed in §136, including applicable sample preservation and holding times, as directed in permit Part I B.2.

Response: Aeration basin dissolved oxygen samples are collected and transported to the Regional WWTP laboratory for analysis using copper sulfate–sulfamic acid flocculation modification. A portable dissolved oxygen meter and field dissolved oxygen probe will be calibrated daily and used for dissolved oxygen readings directly on site.

6. Comment: Daily effluent flow is currently calculated from flow meter totalizer readings using a series of multipliers. However, the technical basis for the calculations is unclear, and thus the accuracy of the reported values cannot be assessed. Accurate flow reporting is necessary for NPDES permit compliance.

Response: Flow is measured through a 90° V-notch weir using a mechanical float system. Flow is recorded daily on-site and the previous day's reading is subtracted to get a daily reading. The 24 hour flow total is calculated using the certified multipliers that appear on the face plate of the flow meter. The City of Johnson City is operating and maintaining the flow as designed and installed by the State of Tennessee.

7. Comment: Available documentation of effluent flow meter calibration does not contain sufficient detail to determine what measurements were taken and procedures were followed in order to ascertain accurate calibration. Accurate flow measurement is necessary for NPDES permit compliance reporting.

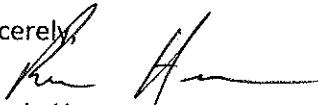
Response: The only calibration possible is a visual comparison between the depth in the weir at the location specified by the ISCO Flow Manual and the corresponding reading on the analog dial to verify accuracy. The meter was re-calibrated on July 13, 2012. The corresponding readings were within 10% of each other, as specified by the regulations.

8. Comment: Carter County Work Camp representatives currently record effluent flow meter totalizer and clarifier sludge depth readings. However, the documentation of these readings does not include all information required by permit Part I B.4.

Response: As of July 13, 2012, city personnel record effluent flow meter totalizer and clarifier sludge depth readings daily. This information is documented with initials and time of readings.

If you have any questions concerning this correspondence, please contact me at 423-291-9149.

Sincerely,



Ronnie Henson
Facility Manager

cc: DWPC Enforcement and Compliance Section, Nashville
Jeff Horton, DWPC, Johnson City EFO
Tom Witherspoon, City of Johnson City
Gordon Cox, City of Johnson City
Jeff Corder, City of Johnson City
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Regional Laboratory, City of Johnson City