

October 24, 2017

SYSTEM ID# 40-32-018 DURHAM COUNTY  
DURHAM COUNTY ROUGEMONT WATER SYSTEM  
5926 NC HWY 55 EAST  
DURHAM NC 27713

Re: **Optimal Corrosion Control Treatment (OCCT)  
Recommendation - Approval**

We have reviewed your recommendations for installation of optimal corrosion control treatment outlined in your plan dated June 29, 2017, and received in our office on July 19, 2017. After a thorough review of your recommendation, distribution system lead and copper sampling results, water quality parameters, source water lead and copper concentrations, and EPA guidance, **we approve the following treatment:**

- **Increase pH using soda ash in the range of 7.2 to 7.8 s.u. at the entry points and the distribution system.**
- **Continue orthophosphate-based corrosion inhibitor feed to maintain a residual of 1.0 mg/L in the distribution system.**

After receiving approval of plans and specifications for any new equipment by the Plan Review Branch of the Public Water Supply Section, you may proceed with installation of the approved optimal corrosion control treatment. The allowable time period for installation of the treatment is **24 months**. After installation of the approved treatment, the system owner shall sign and submit the enclosed certification to this office certifying that optimal corrosion control treatment has been installed and is being properly applied by the system operator(s) as required in Section 141.90 of the Lead and Copper Rule.

EPA guidance regarding optimizing corrosion control treatment recommends that a comprehensive flushing program be started prior to initiation of treatment changes to remove sediment and loose scale material that could be re-suspended or destabilized by the new treatment. Be aware that the initial dosage of orthophosphate may need to be as much as three times the desired residual in order to satisfy initial orthophosphate demand and establish the desired residual amounts of orthophosphate throughout the distribution system.

When installation of the approved corrosion control treatment is completed, drinking water samples must be collected and analyzed for lead and copper for two consecutive six-month periods. Each six-month monitoring period must include the following:

1. **Tap Water Monitoring:** During each six-month monitoring period, one sample is to be collected from each of the number of sampling sites listed below:

System Size (Number of People Served)	Number of Sites
≤ 100	5
101 to 500	10
501 to 3,300	20
3,301 to 10,000	40
10,001 to 100,000	60
>100,000	100

October 24, 2017

2. Optimal Water Quality Parameters: After installation of the approved corrosion control treatment, the system is required to monitor for Water Quality Parameters (WQPs) for 2 consecutive 6-month periods in accordance with Section 141.87 of the Lead and Copper Rule. **Monitoring and analysis must be performed for the specific treatments and analytes approved in the first paragraph of this letter.** After completion of this monitoring, complete the enclosed form, "Optimal Corrosion Control Treatment/Water Quality Parameters" and return it to the Lead and Copper Rule Manager at the address shown at the bottom of the first page of this letter. The information on this form will be used to establish optimal water quality parameters for your system. **The water system is then required to continue operating the approved corrosion control treatment to maintain water quality parameters within the optimal ranges for compliance monitoring.**
3. WQP Compliance Monitoring: After optimal WQPs have been established, systems serving populations less than or equal to 50,000 people shall monitor water quality parameters during each six-month monitoring period in which the system exceeds an action level:
  - (a) At the required number of locations in the distribution system, two samples during the monitoring period for each of the approved treatment parameters designated by the State as representing optimal corrosion control treatment. See Section 141.87(a) of the Lead and Copper Rule to determine the required number of distribution system sampling locations based on your system's population.
  - (b) At each entry point to the distribution system, one sample at least every two weeks for each of the approved treatment parameters designated by the State as representing optimal corrosion control treatment.

If you need assistance or have questions concerning this matter, please feel free to contact me at (919) 707-9072 or by email address: jimmy.coor@ncdenr.gov. Your regional office contact is Allen Hardy, Regional Engineer, at (919)-791-4200.

Sincerely,



Jimmy L. Coor  
Environmental Engineer

Compliance Services Branch  
Public Water Supply Section

Enclosure: Optimal Corrosion Control Treatment/Water Quality Parameters Form/ Certification of Treatment Installation

cc: Allen Hardy, Regional Engineer