



## State of New Jersey

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Letter sent via e-mail ([adeemk@ci.newark.nj.us](mailto:adeemk@ci.newark.nj.us))

August 23, 2021

Kareem Adeem  
Newark Water Department  
920 Broad St, Rm B31-F  
Newark, NJ 07102

**Re: Newark Water Department - PWSID: NJ0714001  
Final CCT Effectiveness Report – Additional Information Required  
Letter No. WTA190001**

Dear Kareem Adeem:

On April 25, 2019, the Bureau approved Newark's Corrosion Control Treatment (CCT) Recommendation (CCTR) and issued a Temporary Treatment Approval (TTA) for the Pequannock gradient.

The approved CCTR was, in the short term, for the addition of zinc orthophosphate to the existing treatment of pH adjustment and sodium silicate and, in the longer term, to eventually terminate the use of sodium silicate while continuing zinc orthophosphate and pH adjustment.

Permit condition seven (7) of the Bureau's April 25, 2019 TTA required the submission of a report detailing "whether the zinc orthophosphate effectively optimizes corrosion control." The required report was granted extensions of time in Bureau letters dated May 4, 2020 and April 28, 2021 and was thus due on May 17, 2021. The Bureau of Water System Engineering (Bureau) is in timely receipt of Newark Water Department's (Newark) Final CCT Effectiveness Evaluation and Pipe Loop Study Results dated May 17, 2021 (Report).

The Report contained information on the pipe loop study and other analysis completed in the Pequannock Distribution System, including but not limited to, sequential sampling, pipe scale analysis, and lead and copper sampling as required by the testing plan approved by the Bureau on August 27, 2019, pursuant to paragraph (10) of the TTA. The Report analyzed CCT effectiveness and specifically evaluated both (1) zinc orthophosphate, pH adjustment, and sodium silicate and (2) just zinc orthophosphate and pH adjustment with no sodium silicate. The Bureau's Pipe Loop Study Overview letter dated August 27, 2019 set forth the goal of an effective and stable phosphate-based scale in the pipe loop study on all lead-bearing materials.

After review of all data and analysis submitted in the Report, the Bureau provides the following comments:

1. Newark's current corrosion control treatment, zinc-orthophosphate, pH adjustment, and sodium silicate, appears to be effective against lead release in lead service lines.

2. The removal of sodium silicate in the pipe loop study did not appear to impact lead release in lead service lines.
3. Newark's current corrosion control treatment, zinc-orthophosphate, pH adjustment, and sodium silicate, produced inconclusive total lead results from the pipe loop study against lead release from copper pipe with lead solder. Total lead results from copper pipe with lead solder remained inconclusive after the removal of sodium silicate.
4. It should be noted that both Newark and the Bureau are awaiting pipe scale analysis results from pipes in the pipe loop study and in the Pequannock Distribution System. Therefore, based on the results of the analysis, the Bureau reserves the right under 40 C.F.R. §141.82(h) to modify its evaluation of the optimal corrosion control treatment.

**In light of (3) above, Newark shall submit, for Bureau review and approval, a supplemental report including additional data and/or analysis which provides conclusive evidence that the corrosion control treatment, both before and after the removal of sodium silicate, is effective for controlling lead release from copper pipe with lead solder and associated domestic plumbing in Newark's Pequannock Distribution System. This supplemental report shall be submitted by August 31, 2021 or Newark shall provide a schedule of completion.**

**At this time, Newark does not have Bureau approval for discontinuing the sodium silicate feed at the Pequannock Treatment Plant.**

Based on the results of corrosion control treatment effectiveness against lead release in lead service lines, the Bureau hereby approves the discontinuance of the lead service line pipe loops in the pipe loop study. These include pipe loops 1-3 in pipe rack 1, pipe loops 5-7 in pipe rack 2, and pipe loops 9-11 in pipe rack 3.

If you have any questions, contact Matthew Peters at [Matthew.Peters@dep.nj.gov](mailto:Matthew.Peters@dep.nj.gov). When contacting the Bureau please reference the PWSID No. NJ0714001 and Letter No. WTA190001.

Sincerely,



Steven Pudney, C.Eng., MICE  
Section Chief - Engineering  
Bureau of Water System Engineering

C (via e-mail):

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