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PWS ID_0200009_CO_20201109_LCR CCST

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 9, 2020

Mr. Mark W. Niemeyer
City of Sweeny
PO Box 248
Sweeny, Texas 77480-0248

Re: The City of Sweeny - PWS ID No. 0200009
Corrosion Control Study (CCST) for System Serving < 50,000 Population
Brazoria County, Texas
RN 101420313 | CN 600584015

Dear Mr. Niemeyer:

We are responding to your corrosion control study submittal received July 1, 2020 and dated March 7, 2020, for the City of Sweeny public water system (PWS) officially notifying the Texas Commission on Environmental Quality (TCEQ) of your corrosion control analysis in accordance with Title 30 of the Texas Administrative Code (30 TAC) §290.42(n) and 30 TAC §290.117(f). Your submittal was received by the TCEQ's Technical Review and Oversight Team on July 22, 2020. The TCEQ's Technical Review and Oversight Team (TROT) in the Water Supply Division is charged with the review of corrosion control studies. Also, 30 TAC §290.39(j) requires prior TCEQ approval of any long-term change in water treatment impacting water corrosivity. Based on review of the information provided, we are **granting interim approval** to use inhibitor passivation with orthophosphate for corrosion control treatment per the conditions detailed within this letter

You have requested the review of a corrosion control study (CCST) for the current City of Sweeny's operating water source. The PWS currently treats and distributes groundwater from Well No. 3 (G0200009C) and Well No. 5 (G0200009E), and the CCST was based on these water sources.

In accordance with 30 TAC §290.117(b), the action level (AL) for lead is 0.015 milligrams per liter (mg/L) and the AL for copper is 1.3 mg/L. The lead AL is exceeded if the 90th percentile lead level exceeds 0.015 mg/L in any monitoring period, and the copper AL is exceeded if the 90th percentile copper level exceeds 1.3 mg/L during any monitoring period. Based on sample results, City of Sweeny exceeded the AL for copper from 'annual 2017' (January 2017 through December 2017) through '6M2 2018' (July 2018 through December 2018).

X The City of Sweeny CCST indicated the proposed use of inhibitor passivation with an orthophosphate inhibitor (NAPCO 310) as optimal corrosion control treatment (OCCT). The submitted corrosion control study was based on 2017, 2018 and 2019 water quality parameter data. Entry point pH levels ranged from 7.0 to 7.5 and alkalinities ranged from 180 to 370 mg/L. Distribution pH levels ranged from 7.2 to 7.6 and alkalinities ranged from 182 to 392 mg/L, and the resulting average dissolved inorganic carbon (DIC) for distribution was approximately 95 mg/L (as C). The optimal inhibitor dose was reported as 3.8 mg/L of Napco 310, with a target residual range of 1.3 to 1.5 mg/L orthophosphate (as P). Your submittal also indicated potential plans to continue the use of polyphosphate for the purpose of sequestering

iron and manganese by switching from the use of a blended phosphate (Napco 300) to independent injection of polyphosphate. However, use of polyphosphate in conjunction with orthophosphate reduces the orthophosphate to polyphosphate ratio and thereby creates the equivalent of a blended phosphate treatment, which is advised against in the EPA OCCT guidance for copper corrosion control at high DIC levels, and which we disapproved in our December 2, 2019 letter. Both the iron and manganese entry point levels reported in the WQP data indicate that these constituents should not pose an issue with regard to colored water, as they have consistently remained well below their respective secondary constituent levels (SCLs). **X**

Based on your submitted water quality parameter (WQP) data within your corrosion control study and based on EPA's current guidance document 'Optimal Corrosion Control Treatment Evaluation Technical Recommendations for Primary Agencies and Public Water Systems' (EPA816-B-16-003, March 2016 (Updated)) and the EPA guidance document's flowchart '2b', the TCEQ is **granting interim approval to use Napco 310 orthophosphate inhibitor, with the exclusion of any polyphosphate addition**, for corrosion control for the current water source with the following conditions:

1. **Engineering report, plans and specifications for corrosion control infrastructure are required to be submitted to the TCEQ's Plan Review Team for review and approval prior to construction as specified in 30 TAC §290.39(j)(2) at the following address:**

Plan Review Team (MC 159)
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087
2. After plan approval the corrosion control treatment is approved for interim use for the water source currently in use at the time of this letter. If the corrosion control treatment needs to be changed for any reason, City of Sweeney must notify the TCEQ.
3. Because approval to use an orthophosphate inhibitor is intended to ensure compliance of the facility, the City of Sweeney PWS must monitor their chemical feed and storage equipment to ensure successful corrosion control and to ensure compliance with the copper and lead ALs. If the measured water quality parameters are outside the approved ranges, a revised corrosion control study must be submitted.
4. The rules under 30 TAC §290.117(b) state the lead content in the drinking water shall be at or below the lead AL of 0.015 mg/L. In accordance with 30 TAC §290.117(b), the copper content in the drinking water shall be at or below the copper AL of 1.3 mg/L.
5. All chemicals used in the treatment of water supplied by public water systems must conform to NSF International (ANSI/NSF) Standard 60 for direct additives. Under no circumstance should the dosing of the orthophosphate inhibitor exceed the NSF-published maximum concentration level, which is 27 mg/L for Napco 310.
6. The chemical storage and feed facilities must comply with TCEQ requirements specified in 30 TAC §290.42(f)(1) and (2), regardless of the water source. These requirements include adequate chemical bulk storage, bulk storage spill containment, proper chemical storage labeling, chemical transfer/control systems spill containment, and chemical feed and metering design. The chemical feed system must be adequate to ensure that overfeeding of the corrosion control chemical does not occur.

7. The PWS must maintain accurate analytical equipment, and the calibration records of this equipment, for monitoring the corrosion control chemical as required in 30 TAC §290.46(s).
8. The PWS must maintain adequate safety equipment for the operators as required in 30 TAC §290.42(k)(1).
9. To evaluate the performance of the corrosion control system, the PWS is required by 30 TAC §290.42(b)(4) and §290.42(d)(15)(C)(vii) to monitor and record the quantity of chemicals used [30 TAC 46(f)(3)(A)(i)].
10. The PWS shall maintain records of the quantity of chemicals used for a period of five years and these records shall be made available upon request to the TCEQ as required in 30 TAC §290.46(f)(3)(G).
11. Prior to your water system adding a new drinking water source, or conducting any long-term water treatment change, even if the source or treatment was previously approved, you are required to notify the TCEQ 30 days prior to the change. The water system may not implement the addition of the new source or long-term treatment change prior to receiving approval [30 TAC §290.117(i)(9)(B)].

Additional Actions Required by Water System

1. After receiving approval from the TCEQ Plan Review Team and installing the approved interim optimal corrosion control treatment, the PWS must certify in writing that the PWS has completed installation and is operating the treatment within 24 months after the date of this approval letter, per 30 TAC §290.117(f)(4) and 30 TAC §290.117(i)(7). We recommend that the PWS complete installation and the associated certification as soon as is feasible. Please complete the enclosed TCEQ Corrosion Control Treatment (CCT) Installation Completion Certification Form 20799, and submit the certification form to the following address:

Drinking Water Assessment Team (MC 155)
Lead and Copper Program
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087
2. Also, after installation the PWS must conduct routine lead and copper tap sampling during two consecutive six-month periods within 36 months after treatment begins in accordance with 30 TAC §290.117(c)(2)(A)(ii)(V). The PWS is required to monitor immediately following treatment installation per 30 TAC §290.117(n).
3. During the same two consecutive six-month periods as the lead and copper tap sampling in Item 2, after installation of OCCT, water quality parameters (WQPs) must be monitored at the frequency and locations in the following table, per the authority noted in 30 TAC §290.117(n). Two of the entry point and distribution system WQP sampling events must be conducted during the same monitoring period as the lead and copper tap sampling events.

Required Parameters to be Monitored After Installing Corrosion Control	Location	Number of Sample Sites	Frequency
pH, alkalinity, and orthophosphate	Distribution System	3	Quarterly
pH, Napco 310 orthophosphate inhibitor dosage rate and orthophosphate inhibitor residual	Entry Points	1 site per Entry Point	At least every two weeks.

4. Based on your CCST submittal, you recommended the following optimal inhibitor dose and target residual range based on your optimal WQPs submitted prior to corrosion control treatment installation. You have **interim approval** until after two consecutive six-month follow-up tap sampling and WQP sampling is complete [30 TAC §290.117(f)(2) and 30 TAC §290.117(b)(4)(B)].

Proposed Parameters in Corrosion Control Study	Optimum Range before Corrosion Treatment Installation	Location
Napco 310 (Target Dose & Target Residual Range)	3.8 mg/L 1.3 to 1.5 mg/L orthophosphate (as P)	
pH	7.1 to 7.6 (before treatment)	Entry Point
Alkalinity	180 to 350 mg/L (before treatment)	Entry Point

5. After the two consecutive six-month tap and water quality parameter sampling events are complete, **the system must recommend to the TCEQ their final Optimal Water Quality Parameters (OWQPs) on TCEQ OWQP Recommendation Form 20853.** The OWQPs are required to be submitted within three months after the two consecutive six-month tap and water quality parameter sampling events are complete. This submittal must include all the WQP data from before and after installation and tap lead and copper sample results from before and after installation. **The TCEQ will review this submittal and designate the final OWQPs** [30 TAC §290.117(f)(2) and 30 TAC §290.117(b)(4)].
6. **If the system exceeds the lead or copper action level after installation of corrosion control treatment,** please contact the TCEQ Lead and Copper Rule Program at 512-239-4691.

PWSs serving populations fewer than 50,000 must submit CCSTs within the timeframe in 30 TAC §290.117(f)(1)(A)(ii), which states that a study must be conducted within 12 months after the end of the monitoring period in which the system first exceeded the AL. The City of Sweeney's original lead and copper AL exceedance associated with this required CCST occurred during 'annual 2017' for which the monitoring period ended September 30, 2017. The original CCST was received by TCEQ June 14, 2019 and the revised CCST was received July 1, 2020.

Mr. Mark Niemeyer
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This letter does not address compliance with the reporting, public education, action level compliance, scheduling, or sampling requirements for your system. Questions regarding compliance with any of those items should be forwarded to the TCEQ's Lead and Copper Program within the Drinking Water Assessment Team. You can contact the Lead and Copper Program by telephone at (512) 239-4691 or by correspondence at the following address:

Drinking Water Assessment Team (MC 155)
Lead and Copper Program
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

All approvals are subject to periodic review and may be revoked or amended if warranted. Please note that this approval is not intended to waive compliance with any other TCEQ requirement in 30 TAC Chapter 290. This approval cannot be used as a defense in any enforcement action resulting from noncompliance with any requirement of 30 TAC Chapter 290, including the lead or copper action level.

If you have questions concerning this letter, or if we can be of additional assistance, please contact Mr. Jonathan Davis by e-mail at jonathan.davis@tceq.texas.gov, or by telephone at (512) 239-5246, or by correspondence at the following address:

Technical Review & Oversight Team (MC 159)
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Sincerely,

Joel Klumpp, Manager
Plan and Technical Review Section
Water Supply Division
Texas Commission on Environmental Quality

JPK/jjd

*Enclosures: TCEQ Corrosion Control Treatment (CCT) Installation Completion Certification Form 20799
TCEQ Optimal Water Quality Parameter (OWQP) Recommendation Form 20853*

cc: The Honorable Jeff Farley, Mayor, City of Sweeny, PO Box 248, Sweeny, TX, 77480-0248
Mr. Gene West, Public Works Director, City of Sweeny, PO Box 248, Sweeny, TX, 77480-0248

BLIND COPIES:

Bcc: TCEQ Houston Regional Office - R12

Mr. Jason Williams (Lead and Copper Program), TCEQ Drinking Water Assessment Team, MC-155

Mr. Joel Klumpp, TCEQ Plan and Technical Review Section, MC-159

Ms. Vera Poe, TCEQ Plan Review Team, MC-159

Ms. Laura Higgins, TCEQ Drinking Water Assessment Team, MC-155

Ms. Jennifer Dorsey, TCEQ Technical Review and Oversight Team, MC-159