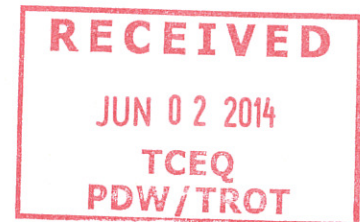




PUBLIC WORKS DEPARTMENT

May 28, 2014

Joel Klumpp, Team Leader
Technical Review & Oversight Team MC-159
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX, 78711-3087



Re: City of Wichita Falls – PWS ID No. 2430001
Temporary Direct Potable Reuse Project
Clarification / Response to TCEQ Review of the Full Scale Verification Testing Report

Dear Mr. Klumpp,

Upon receipt and review of your letter dated May 2, 2014 regarding the above-referenced matter, and in follow up to the lengthy discussions held on May 2, 2014 at your office, the following is offered as the City's understanding of the next steps in the progression of this project, as well as memorializing its comments to each of the points in the letter:

- The City must revise, rewrite, and resubmit standard operating procedures (SOPs) as identified in the May 1 letter. These revisions will be reviewed by TCEQ staff, on-site at the Cypress WTP on May 7th and 8th. Upon the acceptance of the SOPs, by the on-site TCEQ staff, the City will consider SOPs approved and will submit the revised SOPs to the TCEQ. The revised SOPs will replace the existing SOPs in Appendix H of the FSV1 report. The City shall submit the new SOPs via e-mail to you. As of the date of this letter, these actions have been completed.
- TCEQ staff will be on site May 13-15, 2014 to verify training of City operations staff on the revised SOPs. As of the date of this letter, these actions have been completed.
- A Second Full Scale Verification Test (FSV2) must be performed, beginning in May 16th, 2014 and will be performed for a period of 30 days. TCEQ staff will be on-site for the first 18 days of the test, observing the operations of the plant by City staff. The data to be collected and monitoring to be performed for the FSV2 is described in and e-mail attachment entitled "City of Wichita Falls Direct Potable Reuse TCEQ Monitoring Locations, Frequency, and Action Levels" received from TCEQ on

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May 20th, 2014. Discussions with TCEQ staff indicated that this monitoring plan is also to be used when the DPR plant moves into for Full Scale Operations (FSO).

- FSV2 must be run at least 3 consecutive calendar days on each of the 5 MF treatment units. As of the date of this letter, all 5 MF units have completed their 3-day consecutive run.)

In your letter and during the meeting, it was also clear that certain decisions have been made and those are memorialized as follows:

- If the operations of the DPR Plant will extend beyond a 6 month period, then Ultraviolet (UV) treatment, or some other treatment barrier must be added in order to achieve an additional 3.0 log inactivation for Cryptosporidium.
- TCEQ has elevated the removal requirement for Giardia from 7.0 log to 8.0 log. During FSV1, the DPR treatment process demonstrated a 10.1 log removal for Giardia; therefore the DPR process exceeds the requirement for Giardia inactivation.
- TCEQ reminded the City that the blend ratio of treated effluent to raw surface water cannot exceed 50/50 blend ratio.
- TCEQ has verified that all of the City's requests for extension of all temporary exceptions are granted for FSV2. The City will seek extensions for the temporary exceptions for the FSO at the appropriate time.
- TCEQ will not allow the use of the colorimetric method for Chlorine Dioxide measurement in the raw water line from the secondary reservoir. The City understands this to mean that an amperometric method is approved for use in this water line. The TCEQ is approving the use of colorimetric method for samples collected from the distribution system.
- TCEQ has not completed its review of the most recent submission of the CT study and will respond to the City's submission via a separate letter. No timeframe was given for the response.

Enclosure Summary

Item B.1

TCEQ has rejected the use of polymerase chain reaction (PCR) method for real-time monitoring of Cryptosporidium, Giardia, and Viruses. All analysis for these constituents must be performed using the EPA Method 1623 (Crypto/Giardia) and 1615 for viruses.

Item B.2.

During the FSV1, the City performed a Direct Integrity Test (DIT) on the microfiltration treatment units on a 24hr run-time basis. This frequency of testing was established in the SCADA system for the MF plant in 2008 and has been adequate for treatment of Lake Kemp water. The City was under the impression that this frequency was adequate, especially since TCEQ staff was on-site at the beginning of the FSV1 and did not indicate otherwise. The TCEQ's September 5th, 2013 letter does not specifically state daily, it states a "DIT must be performed every 24 hour period". Also the DIT data indicates that the filter integrity was not compromised for the duration of the FSV1, therefore the TCEQ statement of "Without daily DIT's the pathogen treatment is reduced" is false.

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Notwithstanding these miscommunications, the frequency of DIT did not meet the EPA Surface Water Treatment Rule for a Bin 4 classification. Additional DIT testing must be performed. During the FSV2 a DIT must be performed on each of the MF units in operation, on a daily basis, regardless of run-time on the units. Discussions indicated that TCEQ would prefer to have the DIT run at a specific time each day; the City will attempt to satisfy this requirement, however operational issues will dictate exactly when each DIT can be run. The City will ensure a DIT is performed at least daily, on every MF unit in operation. If a MF unit is off line for maintenance for a period longer than a day, that unit will not have a DIT performed; however a DIT will be performed prior to the unit being placed back in service.

Item C.1.a

The FSV1 data indicated that MF filter turbidity greater than 0.100 NTU for 2 consecutive 5 minute readings on 6 separate occasions, and the required DIT was not performed. During our discussions the City explained how the MF SCADA controls system monitors turbidity, and if a turbidity limit is exceeded, a timer starts on that cell. If the timer exceeds the maximum of 10 minutes, which would indicate that 2 consecutive 5 minute turbidity readings had exceeded the limit, then an alarm sounds. The City was under the impression that it had programed the SCADA system correctly and in no way was attempting to circumvent the TCEQ rules. The SCADA system has now been reprogramed to alarm on every 5 minute reading exceeding the 0.100 NTU. If the next consecutive 5 minute turbidity reading exceeds the limit, then the filter is taken out of service and a DIT performed. The original 10 minute timer, which was in place and operational during the initiation of FSV1, has been eliminated from the SCADA system.

Item C.1.b

This provision merely restates the TCEQ requirement for the City to contact the TCEQ Water Supply Division for assistance if a MF unit exceeds the turbidity requirement of 0.100 NTU for two consecutive five-minute readings in a one-hour period, or if the unit fails to pass the DIT.

Item C.1.c

This provision merely summarizes the effects of Cryptosporidium and Giardia in drinking water. The City is aware of these effects and also understands the requirements for the removal and inactivation of these pathogens from its drinking water supply. Please note that the City has held a "Superior" water designation for the past 30 + years.

The City/County Health Department is the responsible agency for determining and declaring a water-borne disease outbreak. Upon the declaration of a water borne disease outbreak a meeting of the Water Quality task force will be convened and the DPR treatment process will be shut down as described in Appendix C. and the TCEQ notified. An SOP has been developed and submitted to the TCEQ, to formalize the protocol to be followed if a water-borne disease outbreak occurs.

Item C.2.a.4

The data proves that the DPR treatment process is capable of 10.1 Log removal for Giardia. With that said, the TCEQ has elevated the log removal requirement for Giardia from 7 log to 8 log. Therefore the City will elevate the shutdown trigger for this pathogen, at sample site 2.J.b, from 70 cysts/L to 700 cysts/L. This increase will comply with the TCEQ's extrapolated acceptable risk level based on the USEPA Surface Water Treatment Rule.

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Item C.2.b, C.2.c

These items are related to modifications of SOPs, alarms, and shutdown triggers. All these items will be addresses and revised as required. The revisions will be reviewed onsite by TCEQ staff and the final versions transmitted to the TCEQ, at their direction, as Addendums to the appropriate Appendices in the FSV1 report. As of the date of this letter, all requirements have been met.

Item D.

TCEQ expressed its desire for the City to have a hierarchy of notification requirements detailing the process and the individuals to be notified for different notification events. Appropriate SOPs have been developed to establish when to contact the TCEQ and what actions need to be taken by City staff, based on the type of trigger or alarm. As of the date of this letter, all requirements have been met.

TCEQ also requires the City to notify all retail customers in writing before the DPR project is brought on line. The City will use the back of its water bill to display the following message "On or after "date", the City of Wichita Falls will begin utilization of the Direct Potable Reuse water as a potable water supply. This water meets or exceeds all regulatory standards for potable water. If you have any questions please visit the City of Wichita Falls web site at www.wichitafallstx.gov or contact the Public Works Dept. at 940 761 7477."

Item E.

Based on subsequent TCEQ conversations and e-mails, a revised monitoring plan is being developed to meet the requirements for the FSV2 and the FSO of the DPR project. This plan will be based on the Flow Chart submitted to the City by the TCEQ entitled "City of Wichita Falls Direct Potable Reuse TCEQ Monitoring Locations, Frequency, and Action Levels", received on May 20, 2014. As of the date of this letter, all requirements have been met.

Item E.1.

The City submitted an evaluation of the on-line monitoring completed during the FSV1 on April 24, 2014. This submittal explains the problems encountered with some of the on-line monitoring and also details which on-line monitoring the City intends to utilize for FSO and which it intends to eliminate from the system.

Item E.2.

The City agrees that Sample site 23J should be moved to a point which captures the blended raw lake water and the RO permeate. The sample site has been moved.

Item E.3.

The City resubmitted the Disinfection Monitoring Plan on May 5, 2014, which will address all items in this section.

Item E.4.

Calibration of equipment listed in the section will be calibrated in accordance with the appropriate TAC 290 rules.

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Item E.5.

There was a typo in the FSV1 report regarding the type of turbidimeter in the Monitoring Plan and it has been corrected.

Item E.6.

All items in this section have been addressed in the revised Monitoring Plan

Item F.1.a

The City is using different brands of equipment, which leads to inconsistency in the data when compared side by side. TCEQ agreed and understood the inconsistency and agreed no further action was required.

Item F.1.b

TCEQ currently does not recognize the RO treatment units as a pathogen reduction treatment process. The City submitted data, in an attempt provide a valid integrity test for microbiological log removal for the RO membranes, with the intent of securing removal credits for Cryptosporidium and Giardia. The surrogate used was sulfate, which has been previously utilized by others to demonstrate the direct integrity of the RO units. Since this information was not considered persuasive by the TCEQ, the City will no longer pursue treatment credit for the RO units at this time, however the city may revisit this issue at a later date. The city will continue to utilize conductivity/TDS as a chemical integrity test for the RO units.

Item F.1.c

The City appreciates the TCEQ's concern of the life cycle costs for the RO units.

Item F.1.d

The City appreciates the TCEQ's concern of the life cycle costs for the MF units.

Item F.2.

The City has submitted the chemical dose results for the 32J sample site.

Item F.3.

The City is developing the O&M manual and will take the TCEQ's suggestions into consideration. As of the date of this letter this item has been completed.

Item G.1.a

All SOPs have been resubmitted and approved by the TCEQ.

Item G.1.b – G.1.h

All SOPs have been resubmitted and approved by the TCEQ.

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Item G.2 and G.3

City has complied with the suggested standards for SOP development.

Item H.

The TCEQ Letter of September 5, 2013, did not require the City to submit the suggested control measures for the City's pretreatment program. The City has however implemented all the suggested control measures, which were included in the City's Final Engineering Report submitted on December 9 2013.

Item I.1.

This item was previously addressed by the City.

Item I.3.a

The City will use the amperometric titration method for Chlorine Dioxide measurement in the secondary reservoir raw water line.

Item I.3.b.

The City will use the acceptable TCEQ method of colorimetric method for Chlorine Dioxide measurement in the distribution system.

If you have any questions regarding this letter, please contact me at 940-761-7477, or by e-mail at Russell.schreiber@wichitafallstx.gov

Sincerely,



Russell Schreiber P.E.
Director of Public Works
City of Wichita Falls Tex

Cc: Darron Leiker, City Manager
Daniel Nix, Utility Operations Manager
Brad Castleberry, Attorney Lloyd Gosselink

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