

From: Dean Hinton
Sent: Fri, 3 Aug 2012 13:53:52 -0500
To: 'Russell Schreiber'; 'Daniel Nix'; 'Crawford, Susan'
Subject: FW: TCEQ Response to 7/27/2012 conference call questions

Just got this. Printing copies to bring to the meeting.

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From: James Weddell [mailto:james.weddell@tceq.texas.gov]
Sent: Friday, August 03, 2012 1:40 PM
To: Dean Hinton
Cc: Joel Klumpp; Ada Lichaa; Vera Poe
Subject: TCEQ Response to 7/27/2012 conference call questions

Dean:

The following is in response to questions unanswered during the July 27, 2012 conference call with Ada Lichaa, my section manager, and myself. Your questions relate to the TCEQ's June 29, 2012 letter.

1. Re: Enclosure A and "Two separate and redundant sets of treatment barriers..."
You asked in lieu of two separate 4-log barriers for viruses in series if four times 2-log barriers for virus in series could be provided. The same relationship for Giardia may be proposed, three times 2.0-log barriers in series in lieu of two times 3.0-log barriers series.

TCEQ Response: These proposals are acceptable alternatives. For further clarification, The TCEQ will accept multiple treatment barriers (removal or inactivation) as long as the loss of the greatest single removal or inactivation barrier will still result in:

- a. At least 4.0-log removal and/or inactivation of viruses;
- b. At least 3.0-log removal and/or inactivation of Giardia; AND
- c. The required Cryptosporidium removal and/or inactivation is achieved.

2. Re: Enclosure B and the listed analytical method No. 537 being incorrect.

TCEQ Response: As noted in my email dated August 1, 2012, the analytical method should be No. 539. Thank you for bringing this error to our attention.

3. Re: If the City of Wichita Falls decides to discharge the River Road Wastewater Treatment Plant's (WWTP) effluent (without further treatment) to either the Lake Arrowhead or Lake Kemp, how far must the discharge point be from the City's raw water intake pumps.

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TCEQ Response: There is not a setback distance requirement within the drinking water rules (290 rules). However, within the wastewater rules the TCEQ has a minimum 500 feet setback distance requirement between a WWTP's discharge point into the water body and a public water system's raw water intake.

During the telephone conference discussion, you did not indicate which body of water the City is considering diverting the WWTP effluent to. For clarification, our above response is for the Lake Arrowhead and Lake Kickapoo bodies of water. Approval to discharge into the Secondary Reservoir was previously addressed in the TCEQ's letter dated July 31, 2002 for the potable reuse of reclaimed WWTP effluent and included:

- a. Treatment of the WWTP's effluent with UF membranes;
- b. Continuous removal of *Giardia* and *Cryptosporidium*;
- c. Treatment to achieve a continuous 4.0-log removal and/or inactivation of viruses; and
- d. After completion of construction of the potable reuse treatment plant, analytical testing was to be conducted for chemical drinking water standards before the TCEQ (TNRCC at that time) stated it would allow the effluent from the potable reuse treatment plant to be discharged into the Secondary Reservoir.

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If the City wishes to learn more about their options, please contact the TCEQ Water Rights Permitting and Availability Section manager, Ron Ellis, to discuss whether a water rights permit would be required for the City to divert water after the discharge.

4. Re: You asked if the City could get additional removal credit for treatment processes not listed in the treatment technique tool boxes of the federal and state rules. Two of these treatments included filter media coating and enhanced coagulation.

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TCEQ Response: Other pathogen removal requirements are discussed in Title 30 Texas Administrative Code (30 TAC) 290.111(g)(4) and Title 40 of the Code of Federal Regulations (40 CFR) 141.718(c). States are allowed to approve treatment credit for drinking water processes based on a demonstration from a performance study that meets the criteria in 40 CFR 141.718(c). The proposed alternate treatment stagey must achieve a quantifiable reduction in the risk of waterborne disease in all of the water treated. The alternate strategy must conform to any applicable requirements s in 40 CFR 141.715 – 141.720.

However, please note that both the state and federal rules indicate that additional removal credit cannot be approved under the provision of these paragraphs if a treatment process has been assigned removal or inactivation credit under any other provision of the treatment technique rules.

The coating of filter media or enhanced coagulation would not provide additional/redundant removal barriers. These modifications to the existing removal barriers in the Jasper or Cypress surface water treatment plants could, based on the results of the required study, demonstrate an improved removal efficiency. The TCEQ is looking for the additional removal/inactivation barriers to achieve the redundancy of treatment discussed under Item No. 1 above, not improvements to the removal/inactivation processes being achieved by the City's current surface water treatment plants.

5. Re: Enclosure H and the 30 TAC Chapter 210 rules for separation distances between WWTP, indirect/direct potable reuse, and potable water piping. You asked when the change from WW piping to indirect/direct potable reuse to potable water piping occurs.

TCEQ Response: The pipe classification shall be based on the treatment of the wastewater achieved at that point. See definitions below:

30 TAC 210.103(5): Waste and wastewater from humans or household operations that are discharged to a wastewater collection system or otherwise enters a treatment works. Also, this includes waterborne human waste and waste from domestic activities such as washing, bathing, and food preparation, including greywater and blackwater, that is disposed in an on-site wastewater system as defined in Chapter 285 of this title (relating to On-Site Wastewater Treatment).

30 TAC 210.103(24) Reclaimed water--Domestic or municipal wastewater which has been treated to a quality suitable for a beneficial use [but not potable use] pursuant to the provisions of this chapter and other applicable rules and permits.

- a. 30 TAC 210.103 (31) Type I reclaimed water use--Use of reclaimed water where contact between humans and the reclaimed water is likely.
- b. 30 TAC 210.103(32) Type II reclaimed water use--Use of reclaimed water where contact between humans and the reclaimed water is unlikely.

For indirect and direct potable reuse, please refer to the second bullet in Enclosure A of our June 29, 2012 letter.

The following definitions are in the American Water Works Association (AWWA) The Water Dictionary.

Potable reuse water is reclaimed water [that will be treated] for potable [water] purposes.

Potable water is water that is safe for drinking and cooking [and other uses defined in 30 TAC 290.38(32) for human consumption.]

For further clarification:

- a. For the purpose of the City's proposed potable reuse project, potable water will be WWTP effluent that has undergone treatment through all of the TCEQ Water Supply Division's established indirect or direct potable reuse treatment processes and complies with the drinking water standards and treatment techniques in 30 TAC Chapter 290, Subchapter F.
- b. Therefore, the WWTP effluent must have passed through all the TCEQ Water Supply Division's established removal and inactivation treatment barriers with the required removals and inactivations for chemical and microbiological contaminants being achieved before delivery to the public for human consumption.

TCEQ Comment 1: After review of our notes from the meeting, we noted that you did not ask questions or make a statement regarding the chemical removal/inactivation barriers the City is considering. We understand that this may still be under consideration. Please note that any proposed blending as a treatment process will need to include supporting data demonstrating compliance with the selected chemical drinking water standards.

TCEQ Comment 2: Based on the raw water source monitoring results for Lake Arrowhead and Lake Kickapoo and the River Road WWTP and historical chemical monitoring, the WWTP effluent is a worse chemical and microbiological source water than the raw water from the reservoirs and may require additional treatment.

TCEQ Comment 3: You stated that based on recent WWTP effluent *Cryptosporidium* monitoring results, you thought that after a year the average results would indicate Bin 1 classification. As indicated below, with 12 months of data, the TCEQ will be willing to evaluate the WWTP effluent *Cryptosporidium* monitoring results and the Bin classification may be temporarily based on 30 TAC 290.111(c)(3)(B) after our review.

TCEQ Comment 4: Regarding the TCEQ's comment in Enclosure A, "*If a public water system has at least one year of Cryptosporidium monitoring results for a WWTP's effluent, the minimum required Cryptosporidium treatment may be based on 30 TAC 290.111(c)(3)(B).*" After review of the data, the TCEQ may allow the City to base the Bin classification on 30 TAC 290.111(c)(3)(B) with only one year of data. However, consideration will be given to seasonal spikes and the continuous protection of public health. Also, the two full years of data indicate that a higher Bin classification must be met, the City will need to install the necessary removal or inactivation barriers to meet the higher Bin classification.

TCEQ Comment 5: You indicated that it would be February of 2013 before at least one year's worth of WWTP effluent *Cryptosporidium* monitoring results will be available for evaluation. As noted in Enclosure A of our June 29, 2012 letter, without at least 12 months of *Cryptosporidium* monitoring results for the WWTP effluent, a minimum 5.5-log removal and/or inactivation of *Cryptosporidium* will be required.

TCEQ Comment 6: There could be future additions to the drinking water standards for regulated chemical or microbiological contaminants (such as contaminants of concern found in treated wastewater effluent) or changes in existing maximum contaminant levels. Also, substantiated data could become available establishing a public health risk for one or more unregulated contaminants at a specified concentration level in drinking water. **If this occurs, the TCEQ may need to revoke or revise the conditions under which an exception was granted to protect public health until the City is able to demonstrate compliance with any new drinking water standard(s) and/or treatment technique requirement(s).** The City may be required at that time to halt the discharge of the treated water from the DPR WTP to distribution for human consumption until the TCEQ has confirmed that the required additional equipment has been installed or required equipment modifications completed.

TCEQ Comment 7: During investigations of potable water quality issues or complaints, the TCEQ may require the City to discontinue the discharge of the potable reuse water to the City's distribution system during complaint investigations and evaluations of investigation findings and sample results.

If you have any further questions, please contact me by one of the methods below.

James (Red) Weddell, P.E.

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