

**From:** David Sloan  
**Sent:** Mon, 23 Sep 2013 15:30:38 -0500  
**To:** Russell Schreiber  
**Cc:** Daniel Nix (Wichita Falls); Ignacio Cadena  
**Subject:** RE: Wichita Falls Emergency DPR Project Final Letter and Enclosures

Russell:

As we discussed, we did not receive a specific accounting for log removal credits, nor did we receive specific requirements for log removal credits. The exception was for virus, where the advanced oxidation is monitored to document 4-log virus inactivation (2 reactors in series, 2-log credit for each). The remaining 4-log virus inactivation should be achieved by the conventional SWTPs. It makes sense to me that each of our processes should get significant removal credits for Giardia and Crypto, with additional documented by the SWTPs, but we did not see the calculation done by TCEQ.

Regarding the Pilot Studies, parallel studies were conducted for Pall (MF and RO) and Siemens (MF and RO). Although both were successfully completed, TCEQ only reviewed the Pall information, since we had selected them by the time of the review. Pall conducted six runs, two in Phase 1 (Optimization), two in Phase 2 (Performance Demonstration) and two in Phase 3 (Demonstration of Recovery). The dates were as follows:

- Cycle 1 – 5/19-6/25/09
- Cycle 2 – 6/25-7/4/09
- Cycle 3 – 7/15-8/23/09
- Cycle 4 – 9/1-9/15/09
- Cycle 5 – 9/16-10/27/09
- Cycle 6 – 11/6-11/24/09

The gaps were related to a power failure (end of Cycle 2) and a WWTP upset (end of Cycle 3). So while the total span was just over 6 months, the run time was somewhat less. While some parameters such as turbidity were measured continuously, the bulk of test parameters were performed once, during the Phase 2 period. I don't think it is correct to imply that the longer duration made up for the lower frequency of testing.

Let me know if you have any other questions.

**DAVID W. SLOAN, P.E., BCEE**  
**SENIOR PROCESS ENGINEER**  
**BOARD CERTIFIED ENVIRONMENTAL ENGINEER**



**WATER / WASTEWATER TREATMENT & REUSE**  
4055 INTERNATIONAL PLAZA, SUITE 200 | FORT WORTH, TX, 76109  
817 735 7277 VOICE | 817 528 4442 CELL  
EMAIL: [dws@freese.com](mailto:dws@freese.com)

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**From:** Russell Schreiber [<mailto:russell.schreiber@wichitafallstx.gov>]  
**Sent:** Thursday, September 19, 2013 1:38 PM  
**To:** David Sloan  
**Subject:** Fwd: Wichita Falls Emergency DPR Project Final Letter and Enclosures

Russell Schreiber P.E  
Director of Public Works  
City of Wichita Falls Texas  
940 761 7477

----- Forwarded message -----

From: **Linda Brookins** <[linda.brookins@tceq.texas.gov](mailto:linda.brookins@tceq.texas.gov)>  
Date: Tue, Sep 17, 2013 at 7:26 PM  
Subject: RE: Wichita Falls Emergency DPR Project Final Letter and Enclosures  
To: Russell Schreiber <[russell.schreiber@wichitafallstx.gov](mailto:russell.schreiber@wichitafallstx.gov)>  
Cc: Joel Klumpp <[joel.klumpp@tceq.texas.gov](mailto:joel.klumpp@tceq.texas.gov)>, "Kerry D. Maroney ([kdm@bmiwf.com](mailto:kdm@bmiwf.com))" <[kdm@bmiwf.com](mailto:kdm@bmiwf.com)>, Daniel Nix <[daniel.nix@wichitafallstx.gov](mailto:daniel.nix@wichitafallstx.gov)>, Ada Lichaa <[ada.lichaa@tceq.texas.gov](mailto:ada.lichaa@tceq.texas.gov)>, James Weddell <[james.weddell@tceq.texas.gov](mailto:james.weddell@tceq.texas.gov)>, Cari-Michel Lacaille <[cari-michel.lacaille@tceq.texas.gov](mailto:cari-michel.lacaille@tceq.texas.gov)>, Justin Taack <[justin.taack@tceq.texas.gov](mailto:justin.taack@tceq.texas.gov)>, Emily Young <[Emily.Young@tceq.texas.gov](mailto:Emily.Young@tceq.texas.gov)>

Russell,

We are looking forward to receiving your letter as a follow-up to our meeting last Friday.

Before addressing your question about the TCEQ requirements for piloting of the CRMWD project at Big Spring, I'd like to speak a little more about the difference between that project and the City of Wichita Falls' Emergency DPR project. CRMWD provides Microfiltration, Reverse Osmosis and Advanced Oxidation with Ultraviolet light treatment for the Big Spring Wastewater Treatment Plant effluent. After this treatment, the water is blended with lake water (80% lake water, 20% reuse water) and is further treated by conventional surface water treatment. The total process, including the downstream conventional surface water treatment provided by other PWSs, provides a minimum of 15 log removal/inactivation of Crypto, 15 log removal/inactivation of Giardia and 8 log virus removal and inactivation. Our calculations show that the City of Wichita Falls' Emergency DPR project will provide a minimum of 6.3 log removal/inactivation of Crypto, 9.3 log removal/inactivation of Giardia and 9.2 log virus removal and inactivation. There is a **significant** difference in the amount of chemical, Crypto and Giardia removal/inactivation that can be achieved when the two projects are compared. The CRMWD project was piloted as a proposed permanent treatment facility, whereas the City of Wichita Falls has proposed several different emergency DPR scenarios. The scenarios proposed by the City of Wichita Falls do not involve construction of new treatment facilities, but instead use existing treatment processes originally only evaluated for treatment of raw surface water. The TCEQ conducted our review of the most recent City of Wichita Falls' Emergency DPR project with the knowledge that this is a

temporary project. Per the City's submittal, the DPR project is an emergency project in response to the drought that will have an operational duration no longer than six months. The effort that the TCEQ put into revising the protocol for the Full-Scale Verification (FSV) Test for the City of Wichita Falls' Emergency DPR project was done with the intent to ensure that the test is successful and provides all the data necessary to prove that this project can be operated temporarily while maintaining protection of public health.

The CRMWD piloted their project for seven months. Staff made the following comments regarding the pilot process for the CRMWD project:

- Many of the parameters that must be monitored during the FSV Test for the City of Wichita Falls' Emergency DPR project were required at the same frequency for the CRMWD pilot test (e.g. turbidity and flow);
- For other parameters, since CRMWD was a 7-month test, you may see the same number of samples, but since the City of Wichita Falls' Emergency DPR project FSV Test is a compressed, minimum duration test, the sample frequency for Wichita Falls is greater;
- As noted above, CRMWD provides more treatment for the removal/inactivation of chemicals, Crypto and Giardia;
- Since CRMWD provided more treatment instead of real-time monitoring, they did not have to calibrate a real-time monitoring method with the EPA method, thus fewer Crypto/Giardia samples were required for CRMWD;
- CRMWD was designed to provide raw water, so TCEQ compared the CRMWD plant effluent with raw lake water in many cases, not the drinking water rules. The water is blended with 80% lake water and sent to conventional SWTPs. The water from the CRMWD plant is not provided directly for drinking but as part of a DPR scenario.
- For the CRMWD project, there was some testing that was done after start up, but before water was sent to other PWSs. You would not see this testing if you looked at the pilot study.

There is one more thing that I would like to repeat: while Red was the lead technical reviewer of the City of Wichita Falls' Emergency DPR project, contributions to the approved FSV Test Protocol were made from everyone on the project team, including staff from the Water Quality Division.

Sincerely,

Linda Brookins, Director  
Water Supply Division  
Texas Commission on Environmental Quality  
P.O. Box 13087  
Austin, Texas 78711-3087  
[\(512\) 239-4625](tel:5122394625)

**From:** Russell Schreiber [mailto:[russell.schreiber@wichitafallstx.gov](mailto:russell.schreiber@wichitafallstx.gov)]

**Sent:** Saturday, September 14, 2013 9:03 AM

**To:** Linda Brookins

**Cc:** Joel Klumpp; Kerry D. Maroney ([kdm@bmiwf.com](mailto:kdm@bmiwf.com)); Daniel Nix; Ada Lichaa; James Weddell

**Subject:** Re: Wichita Falls Emergency DPR Project Final Letter and Enclosures

Linda

Thanks for meeting with us yesterday. We will be preparing a letter of addendum this week and should have it to you by next Monday.

I have one last question, that I meant to ask yesterday, but got caught up in the discussion.

Since Red appeared to be the developer of the FSV protocol, could we get him to explain to the City of WF, how CRMWD was only required to sample and test on a monthly basis during their pilot testing for ALL constituents and why he is requiring the City of WF to sample numerous constituents on a such a dramatically increased frequency?

We see the FSV testing to be more or less a pilot study to prove the technology will perform, similar to the piloting done for Big Spring, so why such a dramatic difference in testing requirements?

Thanks

Russell Schreiber P.E  
Director of Public Works  
City of Wichita Falls Texas  
[940 761 7477](tel:9407617477)

On Wed, Sep 11, 2013 at 5:34 PM, Linda Brookins <[linda.brookins@tceq.texas.gov](mailto:linda.brookins@tceq.texas.gov)> wrote:  
Russell,

Yes, we need to stay focused on Friday since our time is compressed. Thank you for the agenda.

Linda Brookins, Director  
Water Supply Division  
Texas Commission on Environmental Quality  
P.O. Box 13087  
Austin, Texas 78711-3087  
[\(512\) 239-4625](tel:5122394625)

**From:** Russell Schreiber [mailto:[russell.schreiber@wichitafallstx.gov](mailto:russell.schreiber@wichitafallstx.gov)]

**Sent:** Wednesday, September 11, 2013 4:43 PM

**To:** Linda Brookins

**Cc:** Joel Klumpp; Kerry D. Maroney ([kdm@bmiwf.com](mailto:kdm@bmiwf.com)); Daniel Nix

**Subject:** Re: Wichita Falls Emergency DPR Project Final Letter and Enclosures

Linda

Attached is an agenda of items we would like to discuss with your team on Friday. We thought this may help us get through everything since we all have very tight schedules.

We will see you Friday morning at 9

Thanks

Russell Schreiber P.E  
Director of Public Works  
City of Wichita Falls Texas  
[940 761 7477](tel:9407617477)

On Fri, Sep 6, 2013 at 3:51 PM, Russell Schreiber <[russell.schreiber@wichitafallstx.gov](mailto:russell.schreiber@wichitafallstx.gov)> wrote:  
Linda

Myself, Kerry, and Daniel have reviewed the approval letter and the attachments. To be honest there are some things in here we did not expect. The 3 primary areas we have concern with are the CT calculations, the backwash of the 2010 filters, and the FSV protocol.

To Explain:

We want to make sure we understand exactly what the TCEQ is requiring for the CT.

As for the Backwash issue we thought we had reached an understanding of how we planned to accomplish that during our last conf call, but we are somewhat unclear as to what Red is asking for in the letter. Kerry has placed a call to Red to see if he can get some clarification.

As for the FSV protocol, there is quite a bit of redundancy and due to the proximity of sample points we don't see the value in some of the sampling locations. Also some of the frequency in the sampling will be impossible to attain, from a personnel perspective and from the fact that completion of the testing overlaps the start time for the next sample. The test simply can't be run as often as required, it is physically impossible.

Due to these issue we feel it is important that we meet and discuss these issues to come to some sort of resolution. I think if we can have a face to face discussion on these topics there is some common ground that we will find that we are all comfortable with.

Our schedules are open next week with the exception of Wed. We will also make ourselves available anytime the following week. It is important for us to resolve these issues, so the sooner we can meet the better. Please let me know when we can get on your schedule.

Thanks

Russell Schreiber P.E  
Director of Public Works  
City of Wichita Falls Texas  
[940 761 7477](tel:9407617477)

On Thu, Sep 5, 2013 at 2:42 PM, Joel Klumpp <[joel.klumpp@tceq.texas.gov](mailto:joel.klumpp@tceq.texas.gov)> wrote:

Russell and Kerry,

Please see the attached conditional approval letter and enclosures. This letter conditionally approves the City of Wichita Falls to make plumbing modifications at the Cypress Water Treatment Facility and to conduct a Full-Scale Verification Test of the Emergency DPR Project. With this email you should receive:

- PDF copy of the Conditional Approval Letter;
- PDF copies of Enclosures A, B, C, D, E, and G; and
- Excel spreadsheets of Enclosures F1, F2, H1, and H2.

Please let me know if any of the documents identified above did not send properly with this email. Additionally, a hard copy of the documents will be sent in today's mail.

As discussed in our telephone conversation earlier this afternoon, TCEQ staff would be happy to set up a conference call or a face-to-face meeting to discuss any questions you may have regarding the letter or the enclosures.

Sincerely,

Joel

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**Joel Klumpp | Team Leader | Technical Review and Oversight Team | TCEQ**  
12100 Park 35 Circle, Bldg. F | Austin, Texas 78753 |   (512) 239-4453 Fax: (512) 239-6050 | :  
[Joel.Klumpp@tceq.texas.gov](mailto:Joel.Klumpp@tceq.texas.gov)

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