

From: David Sloan
Sent: Tue, 9 Sep 2014 19:02:30 +0000
To: Kerry Maroney; P. E. Russell Schreiber; Daniel Nix
Subject: Fwd: Wichita Falls DPR - UV Disinfection

Latest on UV approval status.

Sent from my Verizon Wireless 4G LTE smartphone

----- Original message -----

From: Joel Klumpp
Date: 09/09/2014 1:48 PM (GMT-06:00)
To: David Sloan
Cc: Vera Poe ,Cari-Michel Lacaille ,Bill Melville ,Tamira Konkin-Garcia ,Jack Schulze
Subject: RE: Wichita Falls DPR - UV Disinfection

David,

Here is an update on the TCEQ review of the validation studies for the two UV reactors that you have indicated the City of Wichita Falls is interested in:

ETS SX-850-20

TCEQ review has been completed and the reactor is approved with the validated conditions shown in the table below. This letter will be finalized and mailed on 9/11/14.

Per Title 40 of the Code of Federal Regulations (40 CFR) §141.720(d), the reactor must be operated within the validated conditions shown in the table below.

Minimum Validated UV Transmittance (UVT)	69%
Maximum Validated Flow Rate	17.98 MGD (12,483 gpm)
Minimum Cryptosporidium Inactivation Credit Allowed and its corresponding Required Dose (D _{req})	2.0-log @ 5.8 mJ/cm ²
Maximum Cryptosporidium Inactivation Credit Allowed and its corresponding Required Dose (D _{req})	4.0-log @ 22.0 mJ/cm ²

Note: mJ/cm² = millijoules per square centimeter

UV Swift 2L24

TCEQ review of the validation study continues. A conference call between TCEQ and Trojan will take place on 9/11/14. As soon as the required information can be provided by Trojan, review of the validation study will be concluded and a response letter will be prepared.

Please call me at 512-239-4453 with any questions.

Regards,

Joel

Joel Klumpp | Team Leader | Technical Review and Oversight Team | TCEQ

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Joel.Klumpp@tceq.texas.gov

From: David Sloan [mailto:DWS@freese.com]

Sent: Tuesday, August 19, 2014 11:08 AM

To: Joel Klumpp

Cc: Vera Poe; Linda Brookins; Ada Lichaa; Russell Schreiber (Wichita Falls); Kerry D. Maroney

Subject: RE: Wichita Falls DPR - UV Disinfection

Joel: Thank you for the information on the UV reactors and approval status. I just met with Patrick Bollman from ETS, and he explained that the SX-850-20 is within a common series of reactors with the SX-425-10, is configured the same (but with more lamps), was validated in the same way by the same third party, and incorporates the same control and monitoring strategy. They are prepared to submit their validation information for the larger unit at once if that will facilitate its consideration for the Wichita Falls project. They will also make staff available to assist in the review process. Please advise how we can best facilitate this submittal and review.

Obviously we are also eager for updates on the Trojan review as soon as information is available.

Best regards,

DAVID SLOAN / FREESE AND NICHOLS, INC.

From: Joel Klumpp [<mailto:joel.klumpp@tceq.texas.gov>]
Sent: Monday, August 18, 2014 4:34 PM
To: David Sloan
Cc: Vera Poe; Linda Brookins; Ada Lichaa
Subject: RE: Wichita Falls DPR - UV Disinfection

David,

Per a conversation between Linda Brookins, Director, TCEQ Water Supply Division, and Russell Schreiber, the City of Wichita Falls hopes to select a UV disinfection unit which has already been reviewed and approved by TCEQ. At this time, it does not appear that a TCEQ-approved model will work for the City. Regarding the status of the two reactor models noted in your email:

1. **UV Swift 2L24 at Bistone MWD:**

Our database has an entry for a UV-disinfection reactor exception request for Bistone MWD which is assigned to staff for review. This staff person is out of the office at this time and the documents we can access today do not contain any specifics on the validation report or even provide the model number. We will check to confirm that the reactor is a Swift-2L24 and let you know the status of our review.

2. **ETS SX-850-20:**

We will need to review the validation report on the larger unit. The entire review process of the SX-850-20 report can be expedited to a thirty day turn-around, provided:

- a. The report is organized in the same format as the one for the SX-425-10 which we have reviewed; and
- b. The control and monitoring algorithms for the two reactors are not really dissimilar.

Both of these reactors use medium-pressure lamps so you will need to be sure they include an Absorbance Spectrum Correction Factor (ASCF) in the Validation Factor (VF) used to calculate the Validated Dose (D_{val}). We have been awaiting the imminent release of the AWWARF/IUVA report on ASCF for almost 2 years now.

The TCEQ is very aware of the need to proceed rapidly in order to ensure adequate time for review, approval, and construction of UV disinfection equipment in the event the City needs to operate their Emergency Temporary DPR Project for longer than six months. We will expedite the review of all submittals related to UV disinfection equipment for this project.

I'll get back to you soon with additional information about the UV Swift 2L24 at Bistone MWD.

Best Regards,

Joel

Joel Klumpp | Team Leader | Technical Review and Oversight Team | TCEQ
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Joel.Klumpp@tceq.texas.gov

From: David Sloan [<mailto:DWS@freese.com>]
Sent: Thursday, August 14, 2014 12:42 PM
To: Joel Klumpp; Vera Poe
Subject: Wichita Falls DPR - UV Disinfection
Importance: High

Joel & Vera:

We are assisting the City of Wichita Falls with the design of UV disinfection equipment for their interim potable reuse facility.

We have contacted several UV manufacturers, and have received several recommendations for equipment. We understand two manufacturers currently have equipment approved by TCEQ for disinfection credit:

Trojan UV: Oxidation-style units approved for CRMWD and Midlothian. They have recommended the UV Swift 2L24, and noted it is anticipated to be approved very soon for a Bistone WD project. Can you please confirm this?

ETS UV Technology: SX425-10 reactor is approved for the Brownwood DPR project. They have recommended the SX-850-20 model, which is similarly configured and tested, but larger and better suited to the Wichita Falls application. Can you estimate how long it might take to provide a confirmation that this reactor could be used?

The City is trying to proceed as expeditiously as possible to allow the facility to continue operating given their continued extreme drought conditions. Other manufacturers are also interested in competing for this, but we are concerned about the available time to implement. The two noted above appear best positioned to receive quick approval.

I appreciate your response at your earliest convenience.

Best regards,

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



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