From: Mark Southard
Sent: Wed, 6 May 2015 15:25:02 -0500
To: David Sloan
Cc: Daniel Nix (Wichita Falls)
Subject: Re: Wichita Falls DPR UV Alarm & Shutdown Triggers

David,

I calculate the time and volume from my spreadsheet for any off-spec water. That information is then input into the appropriate daily UV data cell in the SWMOR-alt. Instead of pulling pieces of information over from the TCEQ instructions for the SWMOR-Alt, I should have just referenced the instruction manual.

Since we have now received the approval stating that SOPs have been submitted to meet conditions of the March 10 letter, I do not intend to make any more changes for TCEQ approval at this time.

Let me know if we need to discuss further on he call tomorrow.

On Fri, May 1, 2015 at 4:53 PM, David Sloan <DWS@freese.com> wrote:

> Mark: I got a call from Marlo Berg this afternoon regarding the latest SOP revision. She is concerned that the information indicated to be entered in the FSO report (page 2 below the bullet lists) is an off-spec time value, while the total water production is as a volume. Does your spreadsheet also calculate daily off-spec flow along with duration? If both values are transferred to the SWMOR-Alt, it should be easy to calculate the % off-spec by volume per month.
>
> She also wanted to indicate their flexibility regarding performance monitoring for the membrane processes during the upcoming phase 1 and 2 testing periods. They want to see that the City is monitoring the health of the systems with the modified feed water and are open to the way this is presented. She felt the pinning records and normalized operating conditions would accomplish that, but she suggested they would be open to alternate approaches.
>
> Please let me know if you and/or Daniel would like to discuss.
>
> David Sloan / Freese and Nichols, Inc.
>
> From: David Sloan
> Sent: Friday, May 01, 2015 9:46 AM
> To: 'Craig Stowell'
> Cc: Joel Klumpp; Vera Poe; Marlo Berg; Russell Schreiber (Wichita Falls); Daniel Nix (Wichita Falls); Mark Southard (mark.southard@wichitafallstx.gov); Jack Schulze
> Subject: RE: Wichita Falls DPR UV Alarm & Shutdown Triggers
>
> Craig: Mark has clarified language in the SOP to eliminate any uncertainty on the off-spec

calculation. Please let me know if you need anything else.

David Sloan / Freese and Nichols, Inc.

From: Craig Stowell [mailto:Craig.Stowell@tceq.texas.gov]
Sent: Wednesday, April 29, 2015 3:40 PM
To: David Sloan
Cc: Joel Klumpp; Vera Poe; Marlo Berg; Russell Schreiber (Wichita Falls); Daniel Nix (Wichita Falls); Mark Southard (mark.southard@wichitafallstx.gov<mailto:mark.southard@wichitafallstx.gov>); Jack Schulze
Subject: RE: Wichita Falls DPR UV Alarm & Shutdown Triggers

David, We only have one comment on the new SOP:
On page 2 it states:

Each day, the number of hours the UV reactor produced off-spec water (due to any of the above
conditions) must be calculated by using FSO Locational Report to verify the number of minutes the
UV produced off-spec water and dividing that total by sixty (60). This value is reported on the SWMOR-Alt.

The SWMOR-Alt calculates the total amount of water produced by the UV reactor by totaling the
daily flows. The total amount of off-spec water is also calculated by the SWMOR-Alt by totaling
the number of hours in the off-spec water columns.

I believe that the underlined portion is calculated by the SWMOR-Alt but the daily amount of off-spec water needs to be calculated by hand and placed into the SWMOR-Alt for it to total. Please verify and revise the wording of SOP as necessary. I copied Jack Schulze on this email to confirm our phone conversation on this matter.

Thanks,

Craig A. Stowell, P.E.

Texas Commission on Environmental Quality
Water Supply Division
Utilities Technical Review Team, MC-159
P.O. Box 13087
Austin, Texas 78711-3087
Tel. 512-239-4633

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www.tceq.texas.gov/customersurvey<http://www.tceq.texas.gov/customersurvey>.

From: David Sloan [mailto:DWS@freese.com]
Sent: Thursday, April 23, 2015 4:38 PM
To: Craig Stowell
Cc: Joel Klumpp; Vera Poe; Marlo Berg; Russell Schreiber (Wichita Falls); Daniel Nix (Wichita Falls); Mark Southard (mark.southard@wichitafallstx.gov<mailto:mark.southard@wichitafallstx.gov>)
Subject: RE: Wichita Falls DPR UV Alarm & Shutdown Triggers

Craig: The City has prepared an additional SOP document to address monitoring provisions, consistent with the SWMOR-Alt documentation they are providing. I am attaching a copy of this document. They have also updated the Alarm & Shutdown Triggers document as attached to reference the monitoring SOP. If there are still any missing points, please give me a call so I can be sure I understand what is needed. Thanks.

Best regards,

David Sloan / Freese and Nichols, Inc.

From: Craig Stowell [mailto:Craig.Stowell@tceq.texas.gov]
Sent: Thursday, April 23, 2015 9:56 AM
To: David Sloan
Cc: Joel Klumpp; Vera Poe; Marlo Berg; Russell Schreiber (Wichita Falls); Daniel Nix (Wichita Falls); Mark Southard (mark.southard@wichitafallstx.gov<mailto:mark.southard@wichitafallstx.gov>)
Subject: RE: Wichita Falls DPR UV Alarm & Shutdown Triggers

David, I am not seeing the following in any of the SOPs and the alarm and shutdown conditions. Please incorporate as appropriate:

a. The City must provide at least a 3.0-log inactivation of Cryptosporidium through the use of UV. If the City produces off-spec water for more than four (4) consecutive hours during a day or for more than 5% of the water produced during a month, the reactor must be taken off line and the reactors must be inspected and, if necessary, repaired. The UV unit is considered to be operating off-spec when:
(1) The validated dose falls below the dose needed to achieve 3.0-log inactivation of Cryptosporidium,
(2) the reactor operates at a flow rate that exceeds 25.6 MGD
(3) the UV transmittance of the water falls below 70%, or
(4) one or more of the lamps is inoperable.

Reporting conditions for WF

a. The UV intensity as measured by a UV sensor, lamp status, flow rate through the unit, UV transmittance, and lamp power continuously and record the results every 15 minutes in accordance with 30 TAC §290.111(d)(2)(A).
1. If the reactor is operated at flow below 1.0 MGD, the calculated validated dose (Dval) value must be based on 1.0 MGD
2. If the UVT of the water being treated by the UV reactor exceeds 98%, the Dval value must be based on 98%.
b. The total amount of water treated by each UV unit each month
c. The total amount of water produced each month when the UV unit is not operating within validated conditions (off-spec) in accordance with 30 TAC §290.111(d)(3)(B).
d. The continuous time each day that the UV unit is not operating with validated conditions (off-spec).
Thanks,

Craig A. Stowell, P.E.

Texas Commission on Environmental Quality
Water Supply Division
Utilities Technical Review Team, MC-159
P.O. Box 13087
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Tel. 512-239-4633

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From: David Sloan [mailto:DWS@freese.com]
Sent: Wednesday, April 22, 2015 1:37 PM
To: Craig Stowell
Cc: Joel Klumpp; Vera Poe; Marlo Berg; Russell Schreiber (Wichita Falls); Daniel Nix (Wichita Falls); Mark Southard (mark.southard@wichitafallstx.gov<mailto:mark.southard@wichitafallstx.gov>)
Subject: Wichita Falls DPR UV Alarm & Shutdown Triggers

Craig: I am attaching Draft Version 5.4 of the Wichita Falls DPR Alarm and Shutdown Triggers document.

Please note the additions for the UV system on pages 35-38. The following items have been added:

1. Low permeate (UV) flow (<1 MGD)

2. Low UVT value (<70%)

3. Low UV Lamp Ballast Power (<30%)

4. Low Validated Dose (<12) [in lieu of RED value]

Please let me know if you have any questions or need additional information.

Best regards,

David W. Sloan, P.E., BCEE
Senior Process Engineer
Board Certified Environmental Engineer

[cid:image003.jpg@01CB1912.AEAE37F0]

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Mark Southard
City of Wichita Falls
Water Source/Purification Superintendent
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