

RED AND YERA

EXCEPTION/CONDITIONS	Corrected?	How?
For the Secondary Reservoir raw surface water CT Workbook:		
1. On the Calculator Worksheet the log inactivations for the raw surface water source required for: >Giardia Lamblia Cysts* must be 0.5, not 1.0 as was entered; and >Viruses must be 2.0, not 5.0 as was entered.	✓	same
2. On the Calculator Worksheet the disinfectant for disinfection zones (DZ) Nos. 2 and 3 should be chlorine dioxide, not chloramines.	reset on SWMR form	changed
3. Please note that since chlorine and ammonia are injected in the Cypress splitter box side-by-side, a measurable chlorine dioxide residual must always be measured at the end of DZ 1. Therefore, the TCEQ's revised Calculator Worksheet residual for DZ 1 shows 0.05 as a residual.	will monitor all 3 DZ's during FSUT	monitor V.T. too
4. The Schematic Worksheet must match the description for disinfection zones. The Description Worksheet describes three (3) disinfection zones for the pipeline from the Secondary Reservoir to the Cypress splitter box, but the Schematic Worksheet only shows one disinfection zone.		

For the RR WWTP source water CT Workbook:

1. On the Schematic Worksheet please revise the zones shown as DZ 3A and DZ 3B into a single disinfection zone, DZ 3.		
2. On the T10 Details Worksheet under DZ 1, the pipe diameter was changed from 30 inches to 27 inches to reflect the actual inside diameter, water volume, and resulting T10 value. This change was based on the information provided to the TCEQ in your email dated August 29, 2013 after the TCEQ discovered a discrepancy between the City's CT Template, which had a 30-inch diameter, and the TCEQ Water Quality Division's April 8, 2013 letter, which approved a 32-inch diameter transmission line from the RR WWTP to the Cypress 2008 SWTP.		
3. On the T10 Details Worksheet under DZ 2, the unit description for the radial flow clarifier only had the volume listed. This unit has never been claimed for CT credit by the City in the past. No reference was listed in the adjacent "Comment" cell for how the submitted volume was calculated. After review of the engineering drawings for the proposed DPR WTP, this section was revised as noted in in Enclosure H. The TCEQ staff determined that: > A volume of 3,875,583 gallons is a valid CT volume for this unit, not 5,000,000 gallons.	To be submitted	

4. On the T10 Details Worksheet under DZ 3, the unit description for the MF membrane feed trough only had the volume listed. This unit also has never been claimed for CT credit by the City in the past. No reference was listed in the adjacent "Comment" cell for how the submitted volume was calculated. Since this is a rectangular basin, that "shape" from the available drop down box was selected, and we entered the width, length and side-water depth. After review of the old Cypress 2008 SWTP engineering drawings for the proposed DPR WTP, this section was revised as noted in Enclosure H. The TCEQ staff determined that:

- > A volume of 5,508 gallons is a valid CT volume for this unit, not 30,637 gallons; and
- > A "Baffling Factor" of 0.1 is representative of the flow characteristics, not 0.5

to be submitted

Before V.T. complete

5. On the T10 Details Worksheet under DZ 3, the unit description for the MF membrane tank only had a volume. This unit has also never been claimed for CT credit by the City in the past. No reference was listed in the adjacent "Comment" cell for how the submitted volume was calculated. After review of the engineering drawings for the proposed DPR WTP, this section was revised as noted in Enclosure H. The TCEQ staff determined that:

> A volume of 9,557 gallons is a valid CT volume for this unit replacing the submitted volume of 9,208 gallons;

> A maximum flow rate of 2,297 gpm per MF tank should be used, not 1,936 gpm; and

> The submitted reference for each MF membrane tanks' maximum flow rate is inaccurate. The TCEQ's approved MF membrane filtrate capacity in our August 19, 2004 letter was for a net filtrate available for RO feed water. This is the gross filtrate produced (504 membranes $\times$ 339.4 sf/membrane $\times$ 19.6 gfd/1440) minus the filtrate used for backwash and maintenance cleans each day. While this quantity of filtrate would not be available as RO feed water, as noted in the TCEQ's August 5, 2002 exception letter, it is the quantity of filtrate needed to supply the RO membranes and meet the cleaning needs of the MF membranes.

6. The flow rate through each MF tank must be monitored and the highest flow rate entered for DZ 3 on the Calculator Worksheet.

On the T10 Detail Worksheet for both CT Templates in Enclosure H, please note:

1. The flow rates were revised to accurately indicate and use 5.000 MGD, 7.5 MGD, 10.000 MGD, etc. in the CT calculations. This was done by entering flow rates on the T10 Details Worksheet using the following equation:

$$= (Q \times 10^6) / 1440, \text{ where } Q \text{ is the flow rate in MGD}$$

2. On the T10 Details Worksheets under DZ 4, the unit description for the gravity media filters, the "Number of Units" was changed to "4" to correctly reflect the City's operation of four filters on-line with a fifth filter either on standby or in backwash. Please note that for the Calculator Worksheet to correctly reflect the inactivation of the gravity media filters, four gravity media filters must always be operated together and at equal flow rates.

> When the two CT Study requests are submitted, please clarify the "Comment" in Cell-G1335 of both T10 Details Worksheets. It is unclear what was meant by:

✓

✓

Other Concerns

Please review the TCEQ's added details on the both CT Templates' Description Worksheet for correctness and clarification.

To facilitate the TCEQ's review and response, please ensure that the DPR WTP CT Study requests include all of the necessary engineering drawings with all dimensions, and side-water depths. At a minimum, those engineering drawings referenced on the Enclosure H CT Templates must be included. For odd shaped basins (such as the MF tank) used for CT credit that the CT Template does not have provisions for entering all the dimensions, include the volume calculations with the previously approved submitted engineering drawings.

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