

RED AND VERA

Item	Location OKP (y/n)	TCEQ Frequency	WF Frequency	Frequency OKP (y/n)	Comments
TCEQ-3J: End WW DZ 1					
(end of RR WWTP effluent transmission line at Cypress 2008 MF/RO SWTP's Flow Control Vault & prior to existing 12-inch gate valve)					
1. Total chlorine residual (mg/L)	✓	15-min			
2. Monochloramine residual (mg/L)	✓	15-min			
3. Free chlorine residual (mg/L)	✓	15-min			
4. Free ammonia level (mg/L)	✓	15-min			
5. pH level at monochloramine monitoring tap	✓	15-min			
6. Water temperature at monochloramine monitoring tap (oC)	✓	15-min			
TCEQ-4J: 2008 MF/RO SWTP's Static Mixers and Coagulant Addition					
(at Cypress 2008 MF/RO SWTP's Flow Control Vault)					
1. Influent alkalinity level (mg/L)	✓	4-hrs			
2. Influent water temperature (oC) (from TCEQ-3J-6)	✓	4-hrs			
3. Coagulant dosage (mg/L)	✓	4-hrs			
4. Quantity of coagulant used (gpd)	✓	1/day			
5. Escherichia coli (E. coli) enumeration	✓	PCR: once per day & EPA 1623: start up, 30 day, end			HF Scientific CLX
6. Giardia (cysts/L)	✓	PCR: once per day & EPA 1623: start up, 30 day, end			ATI
7. Cryptosporidium (oocysts/L)	✓	PCR: once per day & EPA 1623: start up, 30 day, end			
TCEQ-5J: Begin WW DZ 2					
(at 2008 MF/RO SWTP's radial flow clarifier's flocculator with chlorine and ammonia injection)					
1. Influent flow rate (gpm) (from TCEQ-1J-1)	✓	15-min			2 locations inside clarifier meter pumps meter pumps
2. Free chlorine dosage (mg/L)	✓	4-hrs			
3. Ammonia dosage (mg/L)	✓	4-hrs			
4. Total chlorine residual, after ammonia injection (mg/L)		4-hrs			all grab
5. Monochloramine residual, after ammonia injection (mg/L)		4-hrs			
6. Free chlorine residual, after ammonia injection (mg/L)		4-hrs			
7. Free ammonia level, after ammonia injection (mg/L)		4-hrs			
8. pH level at monochloramine residual monitoring tap		4-hrs			

Item	Location of? (Y/N)	TCEQ Frequency	WF Frequency	Frequency of? (Y/N)	Comments
9. Water temperature at monochloramine residual monitoring tap (oC)		4-hrs			
10. Quantity of chlorine used (ppd)		1/day			
11. Quantity of ammonia used (ppd)		1/day			
TCEQ-6J: 2008 MF/RO SWTP Radial Flow Clarifier (flocculation & clarification)					
1. Effluent flow rate (gpm) (clarifier influent flow rate minus blowdown flow rate)	✓	15-min	Exceptional B.D. same as 2008 W.F. flow		only haven't filled PS. 2 so sludge not rising
2. Settled water turbidity level (NTU)		2-hrs			
3. Effluent pH level		4-hrs	grab		
4. Calculated flocculator hydraulic detention time (Based on influent flow rate, mins.)		1/day and any time flow changes	calc.		
5. Calculated clarifier surface overflow rate (gpm/sf)		1/day and any time flow changes	calc.		Blow-down
6. Effluent TOC (mg/L) (to be conducted on-site)		1/7 days	grab	?	did 1-2-7 on-site
7. Effluent DOC (mg/L)		1/7 days	grab	?	1-2-7
TCEQ-7J: End WW DZ 2 (at 2008 MF/RO SWTP's radial flow clarifier's effluent pipe)					
1. Total chlorine residual (mg/L)	✓	15-min	0.48		
2. Monochloramine residual (mg/L)	✓	15-min	2.97		
3. Free chlorine residual (mg/L)	✓	15-min	0.2		
4. Free ammonia level (mg/L)	✓	15-min	1.87		in Membrane Bldg recorded on SCADA
5. pH level at monochloramine monitoring tap	✓	15-min			
6. Water temperature (oC) at monochloramine monitoring tap	✓	15-min			
TCEQ-8J: Begin WW DZ 3 (at MF membrane units' feed trough)					
1. Free chlorine dosage rate (mg/L)	✓	4-hrs			
2. Ammonia dosage rate (mg/L)	✓	4-hrs			
3. Total chlorine residual, after ammonia injection (mg/L)	✓	4-hrs			
4. Monochloramine residual, after ammonia injection (mg/L)	✓	4-hrs			
5. Free chlorine residual, after ammonia injection (mg/L)	✓	4-hrs	grab		
6. Free ammonia level, after ammonia injection (mg/L)	✓	4-hrs			
7. Water temperature at monochloramine residual monitoring tap (oC)	✓	4-hrs			
8. pH level at monochloramine residual monitoring tap	✓	4-hrs			
9. Quantity of chlorine used (ppd)	52	1/day	time 2-500		
10. Quantity of ammonia used (ppd)	16	1/day	time 2		chemical meter pumps
TCEQ-9J: Selected MF Membrane Unit (at influent to selected MF units' feed trough/tank)					

Item	Location (sketch (v/h))	TCEQ Frequency	WF Frequency	Frequency (sketch (v/h))	Comments
1. Inlet pressure, head on bottom of membranes' feed side (psi)		15-min			SCADA, →
2. Influent silt density index (SDI)		1/day	grab		
TCEQ-10: Selected MF Membrane Unit/Filtrate Quality (after vacuum pump & prior to blending with any other MF filtrate)					
1. Effluent turbidity (mNTU)		5-min			
3. Outlet pressure, vacuum (psi)		15-min			
4. Selected MF unit's effluent flow rate (gpm)		15-min			
5. Temperature (oC) (from TCEQ-11J-6)		15-min			
6. pH level (from TCEQ-11J-5)		15-min			
7. Calculated average transmembrane pressure (TMP, psi)		4-hrs			
8. Calculated average flux rate (gallons per square-foot per day, gfd)		4-hrs			SCADA
9. Calculated average specific flux rate (gfd/psi) at measured temperature		4-hrs			excel
10. Calculated average specific flux (gfd/psi) normalized to 20oC using old temperature		4-hrs			excel
11. SDI		1/day			grab
12. Alkalinity (mg/L) (to be conducted on-site)		1/7 days			on-site?
13. TOC (mg/L) (to be conducted on-site)		1/7 days			on-site? (2nd)
14. DOC (mg/L)		1/7 days			on-site?
15. Escherichia coli (E. coli) enumeration	✓	PCR: once per day & EPA 1623: start up, 30 day, end			PCR-
16. Giardia (cysts/L) enumeration	✓	PCR: once per day & EPA 1623: start up, 30 day, end			
17. Cryptosporidium (oocysts/L)	✓	PCR: once per day & EPA 1623: start up, 30 day, end			
18. Total culturable viruses (MPN/L)	✓	PCR: once per day & EPA 1623: start up, 30 day, end			
TCEQ-11: End WW DZ 3 (at combined MF filtrate pipe)					
1. Total chlorine residual (mg/L)		15-min			
2. Monochloramine residual (mg/L)		15-min			
3. Free chlorine residual (mg/L)		15-min			
4. Free ammonia level (mg/L)		15-min			
5. pH level at monochloramine residual monitoring tap		15-min			
6. Water temperature at monochloramine residual monitoring tap (oC)		15-min			

Item	Location OK? (Y/N)	TCEQ Frequency	WF Frequency	Frequency OK? (Y/N)	Comments
Combined MF units' effluent flow rate (gpm)	sum of IFE 3	15-min			
TCEQ-12: Sodium Bisulfite Feed System					
1. Sodium bisulfite dosage (mg/L)		4-hrs	grab 4:30 PM 2/1/14		see previous 10/10/13
2. Quantity of sodium bisulfite used (ppd)		1/day			
TCEQ-13: Break Tank (RO membrane feed water tank)					
1. Effluent flow rate (gpm)	✓	15-min	5/1/14		
2. Water level (feet)	✓	4-hrs	5/1/14		side of tank
3. Calculated hydraulic detention time (using effluent flow rate, mins.)	✓	1/day and any time flow changes			
4. Effluent free chlorine residual (mg/L)		4-hrs			
5. Effluent total chlorine residual (mg/L)		4-hrs			
6. SDI		1/day			
TCEQ-14: Sulfuric Acid Feed System					
1. Sulfuric acid dosage (mg/L)	NX	4-hrs			
3. Quantity of sulfuric acid used (gpd)	NA	1/day	Not using		
TCEQ-15: Antiscalant Feed System					
1. Antiscalant dosage (mg/L)	✓	4-hrs			
2. Quantity of antiscalant used (gpd)	✓	1/day			
TCEQ-16: Selected RO Membrane Unit Feed Water (after selected RO unit feed pump & prior to selected RO unit)					
1. Influent flow rate (gpm)		15-min			
2. Influent turbidity (mNTU)		15-min			
3. Inlet pressure (psi)		4-hrs			
4. Temperature (°C)		4-hrs			
5. Nitrate (mg/L)		4-hrs, split sample at start up, every 30 days and end	Lab		
6. TDS (mg/L)		4-hrs			
7. TSS (mg/L)		4-hrs			
8. SDI		1/day			
9. pH level		1/day			
10. Hardness as calcium carbonate (mg/L)		1/day			
11. Alkalinity (mg/L) (to be conducted on-site)		1/day			
12. TOC (mg/L) (to be conducted on-site)		1/7 days			
13. DOC (mg/L)		1/7 days			on-site
14. Nitrite (mg/L)		Start up, 30 days, end			"
15. Silica (mg/L)		Start up, 30 days, end			"
TCEQ-17: First Stage RO Membranes					
1. Temperature (°C)		1/day			
2. Flow rate (gpm) at measured temperature		1/day			
3. Calculated total flux rate (gfd) at measured temperature		1/day			

Item	Location ok?(y/n)	TCEQ Frequency	W/F Frequency	Frequency ok?(y/n)	Comments
Calculated maximum (or average) net driving pressure (psi)		1/day			
5. Calculated specific flux rate (gfd/psi) normalized to 20o C		1/day			
TCEQ-18: Second Stage RO Membranes					
1. Temperature (oC)		1/day			
2. Flow rate (gpm) at measured temperature		1/day			
3. Calculated total flux rate (gfd) at measured temperature		1/day			
4. Calculated maximum (or average) net driving pressure (psi)		1/day			
5. Calculated specific flux rate (gfd/psi) normalized to 20o C		1/day			
TCEQ-19: Selected RO Membrane Unit Reject Water Quality (at effluent of RO unit's concentrate piping)					
1. Flow rate (gpm)		15-min			
2. Pressure (psi)		15-min			
3. TDS (mg/L)		1/day			
4. Free ammonia (mg/L)		1/day			
5. Nitrate (mg/L)		1/day			
6. pH level		Twice/week			
7. Turbidity (NTU)		Twice/week			
8. Temperature (oC)		Twice/week			
9. CBOD5 (mg/L)		Twice/week			
10. Full metal scan (mg/L, arsenic, barium, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, silver, zinc)		Twice/week			
TCEQ-20: Selected RO Membrane Unit Permeate Quality (at selected RO unit permeate piping & prior to blending with other RO units' permeate)					
1. Flow rate per unit (gpm)		15-min			
2. TDS (mg/L)		15-min			
3. Effluent pressure (psi)		15-min			
4. Temperature (oC)		4-hrs			
5. pH level		4-hrs			
6. Maximum daily TDS (mg/L)		1/day			
7. Calculated average flux rate (gfd) at measured temperature		1/day			
8. Calculated average net driving pressure (psi)		1/day			
9. Calculated average specific flux rate (gfd/psi) normalized to 20o C		1/day			
10. Nitrate (mg/L)		1/day, also split sample to lab Startup, 30 day and end			

Item	Location ok? (y/n)	TCEQ Frequency	WF Frequency	Frequency OK? (y/n)	Comments
11. Nitrite (mg/L) if nitrite is detected in RO membrane feed water		1/day, also split sample to lab Startup, 30 day and end			
12. Escherichia coli (E. coli) enumeration		PCR: once per day & EPA 1623: start up, 30 day, end			
13. Giardia (cysts/L)		PCR: once per day & EPA 1623: start up, 30 day, end			
14. Cryptosporidium (oocysts/L)		PCR: once per day & EPA 1623: start up, 30 day, end			
15. Alkalinity (mg/L) (to be conducted on-site)		1/7 days			
16. TOC (mg/L) (to be conducted on-site)		1/7 days			
17. DOC (mg/L)		1/7 days			
18. THM (ug/L)		1/7 days			
19. HAA5 (ug/L)		1/7 days			
20. Bromide (mg/L)		1/7 days			
21. Chemicals listed in §290.106(b) Inorganic Chemicals 3		Start up, 30 days ,end			
22. Chemicals listed in §290.107(b) Organic Chemicals 3		Start up, 30 days ,end			
23. Chemicals listed in §290.108(b)(1) and §290.108(b)(2) & 40 CFR §141.66(d)		Start up, 30 days ,end			
24. Chemicals listed in §290.118(b) Secondary Chemicals		Start up, 30 days ,end			
25. Total culturable viruses		Start up, 30 days ,end			
35. Perchlorate (ug/L)		Start up, 30 days ,end			
36. Chlorite (mg/L)		1/day			
TCEQ-211: Calculated % Removal (based on RR WWTP effluent quality & the RO membrane unit's permeate quality prior to discharge to waste lagoon No. 3)					
1. Nitrite removal (% if detected in RO feed water)	NA	1/day			
2. Nitrate removal (%)	NA	1/day			
3. TDS removal (%)		1/day			
4. TOC removal (%)		1/7 days			
5. DOC (%)		1/7 days			
6. Removal of Inorganics (%)		Start up, 30 days ,end			
7. Removal of organics (%)		Start up, 30 days ,end			

Item	Location ok? (y/n)	TCEQ Frequency	WPF Frequency	Frequency ok? (y/n)	Comments
Removal of radionuclides (%)		Start up, 30 days, end			
9. Removal of secondary chemicals (%)		Start up, 30 days, end			
10. TTHM removal (%)		1/7 days			
11. HAA5s removal (%)		1/7 days			
12. Bromide removal (%)		1/7 days			
TCEQ-22: Temporary RO Permeate Lagoon Effluent (at waste Lagoon No. 3 recycle pump station & before blending with Secondary Reservoir source water)					
1. Flow rate (gpm)	✓	15-min		✓	on line panel
2. Turbidity (NTU)	✓	4-hrs			8.5-10.4
3. pH level	✓	4-hrs			
4. Temperature (oC)	✓	4-hrs			
5. Nitrate (mg/L)		1/day, also split sample to lab Startup, 30 day and end			grab
6. Free ammonia level (mg/L)	✓	1/day			
8. TOC (mg/L)		1/7 days			
9. DOC (mg/L)		1/7 days			

Item	Location dR(y/h)	TCEQ Frequency	WPF Frequency	Frequency dR(y/h)	Comments
Simulated CT for 10.0-MG GST					
TCEQ-410: Begin Temporary Blended DZ6 (no disinfectant injection, includes Cypress 10.0-MG GST)					
1. Collect water sample at effluent of 2010 clearwell	J402 grab	8-hrs			
2. 2010 clearwell transfer pumps' flow rate (gpm)		8-hrs	2/5 min		
3. Calculate hydraulic detention time of 10.0 MG GST at 50% capacity		8-hrs			
4. Calculate T10 using a baffling factor of 0.3 (mins)		8-hrs			
TCEQ-421: End Temporary Blended DZ6 (at Cypress high service pumps' discharge header)					
1. Water temperature of sample after holding sample for calculated T10 (°C)		8-hrs			
2. pH level of sample after holding sample for calculated T10		8-hrs			
3. Monochloramine residual of sample after holding sample for calculated T10 (mg/L)		8-hrs			
4. Record 2010 clearwell transfer pumps' 8-hr. flow rate result that corresponds to the lowest virus and Giardia inactivation on Full-Scale Verification Test SWMOR (gpm)		end of three 8-hour shifts			
5. Record water sample temperature for the 8-hr. result that corresponds to the lowest virus and Giardia inactivation on Full-Scale Verification Test SWMOR (°C)		end of three 8-hour shifts			
6. Record water sample pH level for the 8-hr. result that corresponds to the lowest virus and Giardia inactivation on Full-Scale Verification Test SWMOR		end of three 8-hour shifts			
7. Record monochloramine residual for the 8-hr. result that corresponds to the lowest virus and Giardia inactivation on Full-Scale Verification Test SWMOR (mg/L)		end of three 8-hour shifts			

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ALICIA AND JENNELLE

Item	Location of 2 (v/t)	TCEQ Frequency	MF Frequency	Frequency of 2 (v/t)	Comments
TCEQ-11: River Road Wastewater Treatment Plant (RR WWTP) Effluent					
1. DPR transmission pipeline flow rate (gpm) (to be monitored at the RR WWTP Chlorine Contact Basin's effluent)		15-min			
2. Turbidity (NTU)		15-min			
3. Temperature (oC)		15-min			
4. Escherichia coli (E. coli) enumeration		PCR: once per day & EPA 1623: start up, 30 day, end			
5. Giardia (cysts/L) enumeration		PCR: once per day & EPA 1623: start up, 30 day, end			
6. Cryptosporidium (oocysts/L) enumeration		PCR: once per day & EPA 1623: start up, 30 day, end			
7. 5-day Carbonaceous biochemical oxygen demand (CBOD5, mg/L)		once per day			
8. Total suspended solids (TSS, mg/L)		once per day			
9. Daily flow rate (gpd)		once per day			
10. Nitrate (mg/L)		once per day & start up, 30 day, end			
11. Total dissolved solids (TDS, mg/L)		once per 7 day			

Item	Location of 2 (Y/N)	TCEQ Frequency	WF Frequency	Frequency OK? (Y/N)	Comments
25. Bromide (mg/L)		once per 7 day			
26. Total culturable viruses (MPN/L)		start up, 30 day, end			
36. Perchlorate (ug/L)		start up, 30 day, end			
37. Free ammonia (mg/L)		4-hours			
TCEQ-21: Begin Wastewater (WW) Disinfection Zone (DZ) 1 (before RR WWTP Chlorine Contact Basin)					
1. Free ammonia level before chlorine injection (mg/L) (from TCEQ-1J-37.)		4-hours			
2. Free chlorine dosage (mg/L)		4-hours			
3. Total chlorine residual after chlorine injection (mg/L)		4-hours			
4. Monochloramine residual after chlorine injection (mg/L)		4-hours			
5. Free chlorine residual after chlorine injection (mg/L)		4-hours			
6. Free ammonia level after chlorine injection (mg/L)		4-hours			
7. pH level at monochloramine residual monitoring tap		4-hours			
8. Water temperature at monochloramine residual monitoring tap (oC)		4-hours			
9. Quantity of chlorine used (pounds per day, ppd)		once per day			

ALICIA AND JENNELLE

Item	Location ok?(y/n)	TCEQ Frequency	WF Frequency	Frequency ok?(y/n)	Comments
TCEQ-1J: River Road Wastewater Treatment Plant (RR WWTP) Effluent					
1. DPR transmission pipeline flow rate (gpm) (to be monitored at the RR WWTP Chlorine Contact Basin's effluent)		15-min			
2. Turbidity (NTU)		15-min			
3. Temperature (oC)		15-min			
4. Escherichia coli (E. coli) enumeration		PCR: once per day & EPA 1623: start up, 30 day, end			
5. Giardia (cysts/L) enumeration		PCR: once per day & EPA 1623: start up, 30 day, end			
6. Cryptosporidium (oocysts/L) enumeration		PCR: once per day & EPA 1623: start up, 30 day, end			
7. 5-day Carbonaceous biochemical oxygen demand (CBOD5, mg/L)		once per day			
8. Total suspended solids (TSS, mg/L)		once per day			
9. Daily flow rate (gpd)		once per day			
10. Nitrate (mg/L)		once per day & start up, 30 day, end			
11. Total dissolved solids (TDS, mg/L)		once per 7 day			
12. Alkalinity (mg/L) (to be conducted on-site)		once per 7 day			
13. Total organic carbon (TOC, mg/L) (to be conducted on-site)		once per 7 day			
14. Dissolved organic carbon (DOC, mg/L)		once per 7 day			
15. Full metal scan		once per 7 day			
16. Algae counts (CFU/L)		start up, 30 day, end			
17. Chemicals listed in §290.106(b) Inorganic Chemicals 3		start up, 30 day, end			
18. Chemicals listed in §290.107(b) Organic Chemicals 3		start up, 30 day, end			
19. Chemicals listed in §290.108(b)(1) (radium 226, radium 228, uranium, gross alpha activity)		start up, 30 day, end			
20. Chemicals listed in §290.108(b)(2) & 40 CFR §141.66(d) Rads		start up, 30 day, end			
21. Chemicals listed in §290.118(b) Secondary Chemicals		start up, 30 day, end			
Total trihalomethanes (TTHM, report the values: chloroform, dichlorobromomethane, dibromochloromethane, bromoform) (ug/L)		once per 7 day			

RED AND VERA		What has been done?		Does the corrective Action fix the issue?	
12-17-2013 letter, item Membrane Plant					
1. CFE span should include above 1.0 NTU					
2.a. IFE formulas should include all high turbidities at all times.					
2.b. IFE work to fix possible interference from air bubbles in the sample line.					
2.c. Automatic shut- downs should be instituted for IFE turbidities.					
2.a. Automate or improve collection of data for maximum confirmed membrane IFE					
4.b. Automate or improve collection of data for Membrane CFE;					
4.c. Automate or improve collection of data for Temperature corrected flux;					
4.d. Automate or improve collection of data for Duration of each direct integrity test					
4.f. Automate or improve collection of data for The addition of comments to each SWMOR when a DIT is triggered or fails.					
Cypress 2010 Plant TP 410671 (conventional plant)					
5. The sample location for CFE turbidity levels needs to be relocated to the transfer pumps for the 2010 clearwell.					
6. All of the 15-minute turbidity readings are considered when the maximum IFE reading for the day					
7. The plant staff needs to include the results of chlorine dioxide tests conducted at the end of zone D1, D2 and D3 when determining the inactivation ratio.					

RED AND VERA

TCEQ 9/5/2013 letter item 6: Prior to the beginning of the FSVT alarms and shutdowns be in place and tested:

Alarm					Auto Shutdown			
Item	In Place Correctly?	When Tested?	Test Passed?	What Type of Documentation of Testing was provided?	In Place Correctly?	When Tested?	Test Passed?	What Type of Documentation of Testing was provided
6.a. RR WWTP effluent transfer pumps (to the Cypress facility) off line when the effluent exceeds the 210 reclaimed water discharge requirements. 24 NTU (Turbidity 30-day average 3 NTU (measured 2 time per week - 4 weeks in a month)								
6.b MF membrane unit taken off line when an IFE level is greater than 0.100 NTU for 2 consecutive five-minute readings								
6.c. Waste Lagoon No. 3's reuse pumps out of service when the partially treated RR WWTP flow rate is greater than the Secondary Reservoir's raw surface water flow rate to the Cypress Splitter Box. (No. 10, 50.00% to total flow)								
6.d. A gravity media filter out of service when the individual filter effluent turbidity level exceeds 0.3 NTU (or 0.15 NTU if additional removal credit is being sought) for two consecutive 15-minute readings								



Be sure to start the by confirming once again that
they must have specific approval from TCEQ to
send water to distribution. - no matter where the water comes from

They cannot turn on the 61 or 87 plants since WW effluent is on site

They cannot send the treated ww effluent to disbuton without approval

No water leaves the plant without approval.



smaller Raw Pump 4-10 MGD

ANGIA AND JENNIFER

Item	Location OK? (Y/N)	TCEQ Frequency	WF Frequency	Frequency OK? (Y/N)	Comments
TCEQ-23J-1: Raw Secondary Reservoir Source Water Quality (prior to chlorine dioxide injection)					
1. Flow rate (gpm)		15-min			
2. Turbidity (NTU)		4-hrs	Control	2, 1, 1, 1	
3. Temperature (°C)		1/day			
4. pH		1/day			
5. TDS (mg/L)		1/day			
6. TSS (mg/L)		1/day			
7. Daily flow rate (gpd)		1/day			
8. Nitrate (mg/L)		1/day also split sample to lab Startup, 30 day and end			
9. Alkalinity (mg/L) (to be conducted on-site)		1/7 days			
10. TOC (mg/L) (to be conducted on-site)		1/7 days			
11. DOC (mg/L)		1/7 days			
12. Bromide (mg/L)		1/7 days			
13. Chemicals listed in §290.106(b) Inorganic Chemicals 3		Start up, 30 days, end			
14. Chemicals listed in §290.107(b) Organic Chemicals 3		Start up, 30 days, end			
15. Chemicals listed in §290.108(b)(1) and §290.108(b)(2) & 40 CFR §141.66(d)		Start up, 30 days, end			
16. Chemicals listed in §290.118(b), Secondary Chemicals		Start up, 30 days, end			
17. Escherichia coli (E. coli) enumeration		PCR: once per day & EPA 1623: start up, 30 day, end			
18. Giardia (cysts/L)		PCR: once per day & EPA 1623: start up, 30 day, end			
19. Cryptosporidium (oocysts/L)		PCR: once per day & EPA 1623: start up, 30 day, end			
20. Total culturable viruses (MPN/L)		Start up, 30 days, end			
30. Perchlorate (ug/L)		Start up, 30 days, end			
TCEQ-24J: Begin Secondary Reservoir raw water (RW) D2-1 (at chlorine dioxide injection point on Secondary Reservoir raw water transmission pipe)					
1. Chlorine dioxide dosage (mg/L)		4-hrs			
2. pH level (from TCEQ-23J-4)		1/day			
3. Temperature (°C) (from TCEQ-23J-3)		1/day			

Item	Location OK? (Y/N)	TCEQ Frequency	WF Frequency	Frequency OK? (Y/N)	Comments
THM (mg/L)		1/ 7 days			
14. HAA5 (mg/L)		1/ 7 days			
15. Bromide (mg/L)		1/ 7 days			
16. Chemicals listed in §290.106(b) Inorganic Chemicals 3		Start up, 30 days, end			
17. Chemicals listed in §290.107(b) Organic Chemicals 3		Start up, 30 days, end			
18. Chemicals listed in §290.108(b)(1) radionuclides		Start up, 30 days, end			
19. Chemicals listed in §290.108(b)(2) & 40 CFR §141.66(d) manmade radionuclides		Start up, 30 days, end			
20. Chemicals listed in §290.118(b) Secondary Chemicals		Start up, 30 days, end			
21. Total culturable viruses (MPN/L)		Start up, 30 days, end			
24. Chlorite (mg/L)		1/day			

TCEQ 301: Begin Blended partial treated RRWWTP & Secondary Reservoir waters (Blended) D24 (at chlorine & ammonia injection after Cypress Splitter Box and before 2010 Rapid Mix)

1. Free chlorine dosage (mg/L)		4-hrs			
2. Ammonia dosage (mg/L)		4-hrs			
3. Total chlorine residual, after ammonia injection (mg/L)		4-hrs			
4. Monochloramine residual, after ammonia injection (mg/L)		4-hrs			
5. Free chlorine residual, after ammonia injection (mg/L)		4-hrs			
6. Free ammonia residual, after ammonia injection (mg/L)		4-hrs			
7. pH level at monochloramine residual monitoring tap		4-hrs			
8. Water temperature at monochloramine monitoring tap (oC)		4-hrs			
9. Quantity of chlorine used (ppd)		1/day			
10. Quantity of ammonia used (ppd)		1/day			

TCEQ 311: Conventional 2010 SWTP Rapid Mix and Coagulant Addition

1. Influent alkalinity level (mg/L)		4-hrs			
2. Coagulant dosage (mg/L)		4-hrs			
3. Quantity of coagulant used (gpd)		1/day			

Item	Location OK? (Y/N)	TCEQ Frequency	WCF Frequency	Frequency/OK? (Y/N)	Comments
1. Total chlorine residual (mg/L)	✓	15-min	3.42		
2. Monochloramine residual (mg/L)	✓	15-min	3.013		
3. Free chlorine residual (mg/L)	✓	15-min	0.342		
4. Free ammonia level (mg/L)	✓	15-min	0.000		
5. pH level at monochloramine residual monitoring tap	✓	15-min	9.67		
6. Water temperature (°C) at monochloramine residual monitoring tap	✓	15-min	Behind		
7. Combined filters' effluent (CFE) water flow rate (gpm)	✓	4-hrs			sum of IFE

(CEQ-37) Fluoride Adjustment System (after conventional 2010 SWTP filters and prior to chlorine injection point)

1. Fluoride level, pre-fluosilicic injection (mg/L) (can be monitored at TCEQ-36J monitoring location)		1/day			
2. Fluosilicic acid dosage (mg/L)		1/day		NADA	
Quantity of fluosilicic acid used		1/day		SCADA	

(CEQ-38) Boron Blended DZ5 (at chlorine injection prior to Conventional 2010 SWTP Clarwell)

1. Free chlorine dosage (mg/L)		4-hrs			grab
2. Ammonia dosage (mg/L)		4-hrs			
3. Total chlorine residual, after ammonia injection (mg/L)		4-hrs			
4. Monochloramine residual, after ammonia injection (mg/L)		4-hrs			
5. Free chlorine residual, after ammonia injection (mg/L)		4-hrs			
6. Free ammonia level, after ammonia injection (mg/L)		4-hrs			
7. pH level at monochloramine residual monitoring tap (from TCEQ-36J-5)		4-hrs			
8. Water temperature at monochloramine residual monitoring tap (°C) (from TCEQ-36J-6)		4-hrs			✓
Quantity of chlorine used (ppd)		1/day			SCADA
10. Quantity of ammonia used (ppd)		1/day			"

Item	Location OK? (Y/N)	TCEQ Frequency	WF Frequency	Frequency OK? (Y/N)	Comments
14. Odor (threshold odor number)		1/day			
15. Alkalinity (mg/L)		1/ 7 days			
16. Hardness as calcium carbonate (mg/L)		1/ 7 days			
17. Calculated Langelier saturation Index (LSI)		1/ 7 days			
18. Chemicals listed in §290.106(b) Inorganic Chemicals 3		Start up, 30 days , end			
19. Chemicals listed in §290.107(b) Organic Chemicals 3		Start up, 30 days , end			
20. Chemicals listed in §290.108(b)(1) (radium 226, radium 228, uranium, gross alpha activity)		Start up, 30 days , end			
21. Chemicals listed in §290.108(b)(2) & 40 CFR §141.66(d)		Start up, 30 days , end			
(gross beta particle and photon radioactivity, tritium, strontium 90)		Start up, 30 days , end			
22. Chemicals listed in §290.118(b) Secondary Chemicals		Start up, 30 days , end			
23. TTHM (ug/L)		1/7 days			
24. HAA5 (ug/L)		1/7 days			
25. Lead (mg/L)		Start up, 30 days , end			
26. Total culturable viruses (MPN/L)		Start up, 30 days , end			
36. Perchlorate (ug/L)		Start up, 30 days , end			
37. Bromate (mg/L) (TCEQ added disinfection by-product)		1/7 days			