

values/min
open/min
every 250 min
for blowdown

RED AND VERA		PROCEEDURES	Recorded for each Event
MF/RO 2008 Radial Flow Clarifier			
All Blowdown Events			
Blowdown date			
Blowdown start time			
Blowdown duration (mins.)	MIN		MIN X pump capacity
Quantity of sludge wasted (gals.)			
MF Membranes Unit			
Selected Unit No. for testing			435
Daily maximum flux rate (gpm/sf)			19.6 @ 20°C
Daily maximum specific flux rate (gpm/sf-psi)			
1) All Backwash (BW) Events			
BW trigger (time) gals. treated, specific flux, transmembrane pressure (TMP)			Look at TMP time TMP MAX alarm 10.0
BW frequency (mins.)			30 MIN
BW duration (mins.)	?		Set volume of 6600 gals
BW flow rate (gpm)	?		
BW supply pH	?		
Chemical added to BW supply			NO 200 ppm
Chemical concentrations			NO
BW supply temperature (°C)			NO
Quantity filtrate used (gals.)			6600 gal
2) All Chemical Maintenance Clean (MC) Events			
MC trigger (time) gals. treated, specific flux (TMP)			
MC frequency (mins.)			1 every 24 hours
MC date			
MC start time			

6.8-6.9

PROCEDURES	Recorded for each event
MC solution flow rates (gpm)	✓
MC soak duration (mins.)	
MC air flow rate (cfs)	
MC air flow duration (mins.)	NO
MC chemicals used	
MC chemical concentrations (mg/L)	200
MC solution temperature (°C)	meat tank
MC solution pH	6.8-6.9
MC flush flow rate (gpm)	
MC flush duration (mins.)	
Total MC duration (mins.)	
Quantity of filtrate used (gals.)	
Filtrate pH immediately after MC flush	
3) All Clean-In-Place (CIP) Events	
CIP trigger (time, gals. treated, specific flux, TMP)	
CIP date	
CIP start time	
CIP frequency (mins.)	
CIP solution flow rate (gpm)	
CIP soak duration (mins.)	
CIP air flow duration (mins.)	
CIP chemicals used	
CIP chemical concentrations (mg/L)	
CIP solution temperature (°C)	
CIP solution pH	
CIP flush flow rate (gpm)	
CIP flush duration (mins.)	
Total CIP duration (mins.)	
Quantity filtrate used (gals.)	
Filtrate pH immediately after CIP flush	
4) All Direct Integrity Test (DIT) Results	

PROCEDURES		Recorded for each Event
DIT date		
DIT start time		
Starting test pressure (psi)		
Duration (mins.)		
Ending test pressure (psi)		
Deterioration rate (psi/min)		
Calculated log removal value (LRV _{DIT})		
5) All Repairs & Replacements		
Date of repair or module replacement		
Module No.		
Type of repair or module replacement		
RO Membrane Unit		
Selected Unit No. for testing		7 ran 4
Daily maximum flux rate (gpm/sf)		
Daily maximum specific flux rate (gpm/sf-psi)		
1) All Clean-In-Place (CIP) Events		
CIP trigger (time, gals. treated, specific flux, TMP)		
CIP frequency (hrs.)		
CIP date		
CIP start time		
CIP solution flow rate (gpm)		
CIP soak duration (mins.)		
CIP air flow rate (cfs)	no suction	
Quantity of permeate used (gals.)		
2) All RO Membrane Molecular DIT (if applicable)		
DIT date		
DIR start time		
Molecular indicator selected		
Target log removal value (LRV)		
Required feed solution volume (gals.)		

PROCEDURES	Recorded for each Event?
Required dosage rate (mg/L)	
Duration for equilibrium to occur (mins.)	
Sample size (liters)	
No. of samples collected	
Sample frequencies (mins.)	
Feed sample concentrations (mg/L)	
Permeate sample concentrations (mg/L)	
All calculated LRV_{DIT} Values	
Quantity of permeate wasted (gals.)	
3) All Repairs & Replacements	
Date(s) of repair or element replacement	
Stage No.	
Pressure Vessel No.	
Module No.	
Type of repair or replacement	
Person/company performing repair	

✓ 4:5 MF Replacements 1st week of Dec.
 4500 gals replaced
 (end of Oct) Train 4 1st and 2nd stage

ALICIA AND JENNELLE

PROCEDURES		Recorded for each event?
Conventional 2010 SWTP Accelerator		
Solids-Contact Clarifier		
All Blowdown Events		
Blowdown date	Building Solids	
Blowdown start time		
Blowdown duration (mins.)	every min	
Quantity of sludge wasted (gals/event)	0.0	
Conventional 2010 SWTP Media Filter		
Selected Filter No. for testing	2.5 MGD #1, 2, 3	
Maximum daily hydraulic loading rate (gpm/sf)		
All Backwash (BW) Events		
BW date		
BW trigger (time, loss-of-head, turbidity, other)		
Filter run time (hrs.)	100 hrs	
BW start time	A	
BW duration (mins.)	8 min	
BW flow rate (gpm/sf)	7500 gpm	
Quantity of filtered water used for BW (gals.)	50,000	
Filter-to-waste duration (mins.)	during Normal to 0.2 NTU, none during DPR	
Filter ripening duration (mins.)	65 hours	
Unit filter run volumes (gals./day)		

Al #2

1/12 min: 9 min currently

