
APPENDIX B: SETPOINT AND RANGE LIST

Sensor	Low	High	Unit	Set Points	Set Point Description
Equalization Tank Level	0	100 %		0% to 80% above 80%	Bypass to EQ is allowed
Equalization Tank Level					Cannot bypass to EQ Tank
Primary DAF Effluent Trough pH	0	14 s.u.		9 or above	Alarm - High pH (potential caustic overdose)
Primary DAF Effluent Trough pH	0	14 s.u.		6 or below	Alarm - Low pH (low caustic addition)
Primary DAF Effluent Trough Turbidity	0.001	4000 NTU		above 150	Alarm - High Turbidity (check Primary DAF operations)
Primary DAF Effluent pH Adjustment Tank Level	0	100 %		75% Level setpoint to maintain	
Primary DAF Effluent pH Adjustment Tank Level	0	100 %		0% Low Alarm	
Primary DAF Effluent pH Adjustment Tank Level	0	100 %		Low Level Alarm, Mixer (MX-10301) Off, Pump (P-10301A/B) Off	
Primary DAF Effluent pH Adjustment Tank Level	0	100 %		25% Mixer (MX-10301) On	
Primary DAF Effluent pH Adjustment Tank Level	0	100 %		30% Mixer (MX-10301) On	
Primary DAF Effluent pH Adjustment Tank Level	0	100 %		40% Primary DAF Effluent Transfer Pump - Duty Pump On	
Primary DAF Effluent pH Adjustment Tank Level	0	100 %		50% Primary DAF Effluent Transfer Pump - Standby Pump OFF	
Primary DAF Effluent pH Adjustment Tank Level	0	100 %		High Level Alarm, Primary DAF Effluent Transfer Pump - Standby Pump ON	
Primary DAF Effluent pH Adjustment Tank Level	0	100 %		90% Standby Pump ON	
Primary DAF Effluent pH Adjustment Tank pH 1	0	100 %		95% High High Level Alarm, Both pumps on 100% speed	
Primary DAF Effluent pH Adjustment Tank pH 1	0	14 s.u.		7.5 Target pH Setpoint	
Primary DAF Effluent pH Adjustment Tank pH 1	0	14 s.u.		8.5 or above	Alarm - High pH (potential caustic overdose)
Primary DAF Effluent pH Adjustment Tank pH 1	0	14 s.u.		6.5 or below	Alarm - Low pH (low caustic addition)
Primary DAF Effluent pH Adjustment Tank Temperature 1	5	275 Deg F		N/A	Monitor only
Primary DAF Effluent pH Adjustment Tank pH 2	0	14 pH		Same setpoints as pH 1	
Primary DAF Effluent pH Adjustment Tank Temperature 2	5	275 Deg F		N/A	Monitor only
Primary DAF Effluent pH Adjustment Tank pH 1 and pH2 Deviation	0	14 s.u.		greater than 0.5 s.u.	Alarm
Primary DAF Effluent Transfer Pump Discharge FCV 1 Position Feedback (FCV-10305)	0	100 %		N/A	Monitor position
Primary DAF Effluent Transfer Pump Discharge FCV 2 Position Feedback (FCV-10306)	0	100 %		N/A	Monitor position (Note valve needs to ramp open or closed based on level change (+/-10%) in Primary DAF Effluent Tank)
MBBR Feed Flow	2.5	200 GPM		N/A	Production Mode, DO control - flow is based on maintaining a DO
MBBR Feed Flow	2.5	200 GPM		265 go above this flow	Production Mode, DO control - high flow setpoint (do not go above this flow)
MBBR Feed Flow	2.5	200 GPM		180 maintained	Production Mode, Flow controls - flow setpoint is maintained
MBBR Feed Flow	2.5	200 GPM		0 Bypass mode - no flow to MBBR	
MBBR pH	0	14 s.u.		8.3 or above	Alarm - High pH (potential caustic overdose)
MBBR pH	0	14 s.u.		6.7 or below	Alarm - Low pH (low caustic addition)

Sensor	Low	High	Unit	Set Points	Set Point Description
MBBR pH	0	14 s.u.		6.9	triggers caustic addition to a pH of 7.3
MBBR pH	0	14 s.u.		7.3	stops caustic addition to MBBR
MBBR Temperature	5	275 Deg F		N/A	Monitor only
MBBR Foam Level	0	3 feet			Measure from interface of the liquid level and to the top of the foam.
MBBR Foam Level	0	3 feet		2.5 ft	high high alarm (blower goes to minimum speed)
MBBR Foam Level	0	3 feet		1.2 ft	high foam level (defoamer pump starts to ramp up)
MBBR Dissolved Oxygen	0	20 mg/L		2.5 mg/L	DO setpoint under Production Mode, DO Control
MBBR Dissolved Oxygen	0	20 mg/L		1.7 mg/L	Minimum DO setpoint
MBBR Dissolved Oxygen	0	20 mg/L		4.0 mg/L	Maximum DO Setpoint, Alarm after 5 minutes of greater than 4 mg/l
DAF Effluent Chamber Turbidity	0 XXX	NTU		above 150	Alarm - High Turbidity (check DAF operations), Verify with WWW
DAF Effluent Chamber Temperature	-4	176 Deg F		N/A	Monitor only
Effluent Discharge Flow					(Daily totalize volumes)
Combined Effluent Tank Level	0	2646 GPM		Monitor only	Alarm if XV-10505 is closed but FE-10501 shows flow;
Combined Effluent Tank Level	0	100 %		50%	Level setpoint to maintain
Combined Effluent Tank Level	0	100 %		0%	Low Low Alarm
Combined Effluent Tank Level	0	100 %		20%	Low Level Alarm, Pump (P-10501A/B) Off
Combined Effluent Tank Level	0	100 %		30%	Combined Effluent Transfer Pump - Duty Pump On
Combined Effluent Tank Level	0	100 %		40%	Combined Effluent Transfer Pump - Standby Pump OFF
Combined Effluent Tank Level	0	100 %			High Level Alarm, Combined Effluent Transfer Pump - 85% Standby Pump ON
Combined Effluent Tank Level	0	100 %			93% High High Level Alarm, Both pumps on 100% speed
Dissolved Air Pump Discharge Pressure	0	150 PSI		50	Low pressure alarm -VERIFY WITH WWW
Dissolved Air Pump Discharge Pressure	0	150 PSI		100	High pressure alarm - VERIFY WITH WWW
Effluent Discharge pH 1	0	14 s.u.		9 or above	Alarm - High pH
Effluent Discharge pH 1	0	14 s.u.		6.5 or below	Alarm - Low pH
Effluent Discharge pH 1	0	14 s.u.		6.8 6.2 or below	Out of Compliance Low - close XV-10505 and open XV-10504
Effluent Discharge pH 1	0	14 s.u.		10 14 or above	Out of Compliance High - close XV-10505 and open XV-10504
Effluent Discharge Temperature 1	5	275 Deg F		N/A	Monitor only
Effluent Discharge pH 2	0	14 pH			Same setpoints as pH 1
Effluent Discharge Temperature 2	5	275 Deg F		N/A	Monitor only

Sensor	Low	High	Unit	Set Points greater than 0.5 s.u.	Set Point Description
Effluent Discharge pH 1 and pH 2	0	14 s.u.		Alarm - Deviation	
Secondary DAF Sludge Tank Level	0	100 %		85% High High alarm	
Secondary DAF Sludge Tank Level	0	100 %		70% High alarm (schedule manual tank pumping)	
Secondary DAF Sludge Tank Level	0	100 %		10% Low alarm	
Secondary DAF Sludge Tank Level	0	100 %		0% Low Low alarm	
Primary DAF Effluent Transfer Pump 1 Speed Feedback	0	100 %	monitor		Pump speed ramps up or ramps down based on Level in the Primary DAF Effluent Tank
Primary DAF Effluent Transfer Pump 2 Speed Feedback	0	100 %	monitor		Pump speed ramps up or ramps down based on Level in the Primary DAF Effluent Tank
Combined Effluent Transfer Pump 1 VFD Speed Feedback	0	100 %	monitor		Pump speed ramps up or down based on tank level
Combined Effluent Transfer Pump 1 VFD Speed Feedback	0	100 %	monitor		Pump speed ramps up or down based on tank level
Ferric Chloride Metering Pump 2 Speed Feedback (Future)	Future				
Secondary DAF Dissolved Air Pump Speed Feedback	0	100 %	monitor		DISCUSS WITH WWW
Primary DAF Effluent pH Adjustment Tank Mixer Speed Feedback	0	100 %	monitor		
Skimmer/DAF Rake Speed Feedback	0	100 %	monitor		DISCUSS WITH WWW
MBBR Aeration Blower 1 VFD Speed Feedback	0	100 %	monitor		
Air Compressor Discharge Pressure	0	150 PSI	80 PSI		Low Pressure Alarm
Air Compressor Discharge Pressure	0	150 PSI	150 PSI		High Pressure Alarm
MBBR Aeration Blower 2 VFD Speed Feedback	0	100 %	monitor		