SOP- Standard Operating Procedure

Revised: 3/13/2020

Normal Shut-Down, Start-Up of Chlorine Evaporators.

This SOP explains the procedure for Normal Rotation of Chlorine Evaporators. The safe procedure for Shut-down and Start-up of Evaporators and the Monitoring of Chlorine Feed. Normal Plant Operations is with one Evaporator In-Service at all times. This procedure is necessary to minimizing interruption of the Disinfection Process and to make sure no Liquid Chlorine is trapped between any two "CLOSED VALVES".

Only properly trained personnel should execute this SOP.

Prep Work:

1. Communications between Maintenance and Operations is Important.
    a. Identify Unit being Removed-from-Service and being placed In-Service.
    b. Monitoring of Chlorine Feed on SCADA Screen.
    c. Identify which Chlorine Feeder is In-Service for monitoring purposes.
    d. Check both VCR Heat Pads, must be working to proceed.
    e. Mechanic and Operator overseeing work.

Getting Off Line Evaporator Pre-Heated:

1. Close Drain Valve.

2. Turn Main Power Switch On

3. Confirm Unit has filled up with water.
4. Confirm Unit is at Operating Temperature on Controller.

In-Service Evaporator Remove-From-Service:

1. Confirm with operator if it's okay to proceed.
2. Close Inlet Valve to Evaporator unit.

 or 

3. Observe In-Service Chlorinator Feed until flow drops out and flow bobber bottoms out. Line pressure is zero or very minimal.

 and 

4. Close Evaporator Feed Line Valve to Inlet Manifold of Chlorinators.

Evaporator Start-up:

1. Open Feed Line Valve to Inlet Manifold of Chlorinators from Evaporator being placed In-Service.

2. Turn Selector switch on Control Panel to ON position. Normal Operation Light will come ON and Hydraulic PRV will Open.

3. Slowly Open Inlet Valve to Evaporator being place In-Service.

4. Visually observe In-Service Chlorine Feeder for the return of chlorine flow as flow bobber rises to desired flow.

5. Confirm with Operator Flow has been re-established.
6. Confirm Evaporator Feed Line Pressure is in normal operating range.

Finish Shut-down of Evaporator Removed-From-Service:

1. Observe Line Pressure, should be zero or very minimal. Anything above 20 PSI report to Supervisor.
2. Turn Selector switch on Control Panel to OFF.
3. Normal Operation Light will turn OFF and Hydraulic PRV will close.
4. Turn Main Power Switch Off.
5. Open Unit drain Valve.

Consequence Of Deviation (COD)

The consequences of deviating from the SOP could place personnel's health and/or life at risk, damage to equipment, and Loss Of Disinfection.