

OK BSV2; 0.15 probably is needed for cold water plan.

Direct Potable Water Reuse Standard Operating Procedure

vp
6-9-14

Wichita Falls, Texas

2010 Filter Backwash SOP

This SOP supersedes any previous SOP on this topic.

INTRODUCTION

Filters must be backwashed on a regular schedule in order to clear the trapped particulates from within the filter. This procedure may be performed based on loss of head, filter run hours or (IFE) individual filter effluent turbidity.

OBJECTIVE

To maintain: optimum filter performance, operational integrity, and turbidity compliance.

PROCEDURE

Filters backwashes may only be initiated at the filter panel for each individual filter in the 2010 filter building.

The filter backwash should be initiated when either the loss of head is greater than 6, or when the filter reaches 100 run hours. A filter backwash may also be initiated based on continued IFE turbidity greater than 0.250 NTU. IFE turbidity may also be in indication of clarifier performance, and it warrants further investigation into plant operation.

For Manual Backwashing (Manual backwash will be required for duration of the DPR project, as the filter to waste discharge lines have been physically severed):

The following steps must be performed from the 2010 filter building SCADA panel.

- 1) Turn off the 2010 Transfer Pump and Place it in manual.
- 2) Put the filter influent gate and drain valves in manual and close them.
- 3) Close the Discharge Isolation Valve.
- 4) Put the Filter Effluent Flow Control Valve in manual and set the open set point to 0%.
- 5) Go to the **hand valves at the transfer pumps**; open the valve going to the backwash line and close the valve going to the recovery well.
- 6) On the SCADA panel open:
 - o Air Scour Valve
 - o Backwash Supply Valve
 - o Backwash Gate
- 7) Turn on the air scour blower in the blower room.
 - o Start a 4 minute timer for air scour.

- Turn off the air scour blower after the 4 minute time period and close the Air Scour Valve.
- 8) Go to the high service pump page on the SCADA panel and select the Backwash Flow Control Valve.
 - Open it in manual to 25%
- 9) Start the # 3 2010 VFD transfer pump at 25%
 - Watch the flow at the Backwash Flow Control Valve, you should ramp up the VFD speed and open the Backwash Flow Control Valve until you get 3500 GPM
 - Conduct the low flow backwash for 4 minutes.
- 10) Once the 4 minute timer is up on the low flow backwash, ramp up the VFD and open the Backwash Flow Control Valve until you have 7500 GPM (pump 75% valve 75%).
 - Conduct the high flow backwash for 4 minutes.
- 11) When the timer is up, reduce the VFD speed to lower the backwash flow to 3500 GPM.
 - When the flow slows to 3500 GPM, stop the VFD. (pump 25%, valve 25%)
 - Close the Backwash Supply Valve.
 - Close the Backwash Waste Gate.
 - Set the Backwash Flow Control Valve back to 0%.
- 12) Go back to the **hand valves at the transfer pumps**; open the valve to the recovery well and close the valve to the backwash supply line.
- 13) Place the transfer pump back into Auto.
- 14) Place the Filter Influent Gate back into Auto.
- 15) Place the Filter Effluent Valve back into Level.

If placing the filter back into service following a backwash, see the 2010 Filter Start-up SOP.

See Associated SOP:
2010 Filter Start-up SOP

Prepared by: _____ Date: _____

Approved by: _____ Date: _____

*This SOP is considered effective on the date it is approved. SOP's are to be reviewed and/or updated annually or any time this process has changed.

Reviewed by: _____ Date: _____

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Reviewed by: _____ Date: _____

Sign below and date that you have read this SOP. By signing you are stating that you understand and will defer to this SOP when applicable.

Printed Name	Signature	Date	Printed Name	Signature	Date