

JKD
5-10-14

Direct Potable Water Reuse Standard Operating Procedure

also leave
in 1J

Wichita Falls, Texas

- 1J

High Turbidity at Secondary Combined Effluent (Pre-Chlorination) WW-O16

Direct Potable
Reuse

This SOP supersedes any previous SOP on this topic.

INTRODUCTION

This is the Standard Operating Procedures for a high turbidity reading at sample point 1J. A High Alarm is defined as ≥ 24 NTU. When this occurs, it will result in an Auto Shutdown of the DPR pumps at the RRWWTP. Images 1-4 are attached to the end of this SOP to aid in identifying controls and equipment.

OBJECTIVE

The objective of this document is to provide guidelines to verify the readings; an action plan once the shutdown occurs and proper guidelines before the DPR pump can be restarted. A High turbidity could possibly be associated with an increased *Giardia* or *Cryptosporidium* count. Therefore attention to the steps outlined are critical. If unsure at any time contact a supervisor before proceeding.

The Turbidity meter will send a shutdown command to the DPR pumps when the turbidity at sample site 1J reaches ≥ 24 NTU. If the system shuts the pumps off for high turbidity the following must be completed.

- Turn both of the DPR pump controls to the off position so the pumps can't auto restart until the alarm can be substantiated. If utilizing the electric pump reference # 1 image. If utilizing the diesel pump reference # 2 image for motor controls.
- Notify the Cypress Plant Operator that the pumps have been turned off and why. Why is very important in this scenario.
- Grab a sample from the sample point 1J and visually analyze the sample for turbidity. Water with turbidity ≥ 24 NTU will be very turbid and should be very obvious to plant staff.
- Check turbidity meter inside Chlorine Contact Basin (CCB) room. Reference image # 3. Make sure the unit is powered and has sufficient water flow. If unit has no water flow or power contact on-call supervisor and inform them of the situation with all pertinent facts.
- If the unit is powered and has water flow, grab a sample from sample line from site 1J and perform a turbidity test on the bench top unit to insure the online unit is working properly. If in the CCB room reference image # 4 for turbidity reading. If the bench top unit reads below the shutdown trigger of 24 NTU, then contact the on-call supervisor and that individual will contact the Electronic Technician if needed to come and make necessary repairs to the unit.

- Once repairs have been made to the unit and the unit is working properly and is verified once again with the bench top unit. The Cypress Operator will be notified what the actual turbidity of the water is and the DPR pumps are ready to start upon their command.

Cypress WTP

If the Turbidity is verified to be ≥ 24 NTU the River Road operator will contact the Cypress Plant Operator and inform them of such. At no time will water with a turbidity ≥ 24 NTU be pumped to the DPR facility. The on-call supervisor will also be notified so he can contact the appropriate administrative staff.

- Once turbidity has been verified as high and the appropriate staff has been notified. Plant Operators should be investigating as to why the high turbidity occurred. This should be completed working backwards from the Chlorine Contact Basin through the remainder of the plant.
- Once a determination has been made as to why the turbidity was high. The administrative staff in conjunction with the Plant Operators will assess the situation to determine if this was an operational upset or a mechanical failure. All details concerning a high turbidity shutdown will be documented with great detail as to alleviate any confusion.
- Once a determination has been made as to the reason for the high turbidity and the problem has been rectified. The turbidity shall be verified by the on-line turbidimeter and the bench top unit also. When both units are recording turbidity levels below the shutdown limits, the River Road Operators will contact Cypress Water Plant and give them a detailed update and when given approval, the River Road Operator will start the DPR pump.
- Once the DPR pump is flowing water, the online turbidimeter will be monitored closely for upward or downward trends in the turbidity from site 1J.

Associated SOP's. River Road Shutdown Communication.

Prepared By *Harold Burns*

Prepared Date 5/9/14

Approved by *[Signature]*

Approved Date 5-9-14

Reviewed by _____

Reviewed Date _____

Reviewed by _____

Reviewed Date: _____

Reviewed by: _____

Reviewed Date: _____

SOP considered effective upon approval date.

*SOP's are to be reviewed and/or updated annually or any time this process has changed.