

City of Wichita Falls (PWS 2430001)

**Alarm & Shutdown Triggers
for
Full Scale Operation
of the
Temporary Direct Potable Reuse Plant**

June 2014



Alarm & Shutdown Triggers for the City of Wichita Falls Temporary Direct Potable Reuse Plant	
Public Water System ID:	2430001
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RRWWTP

Trigger

Discolored Water at the Headworks

Priority

MODERATE – Requires Notification of Plant Supervisory Personnel

Alarm or Auto Shutdown

Alarm Only

Location

TCEQ Location ID	City Location ID
N/A	Headworks

On-line or Grab Sample

Grab (Visual Observation)

Actions

- 1) Operators are to notify the Plant Supervisory Personnel as soon as it is determined that any discolored water appears at the Headworks.
- 2) Supervisory Personnel are to follow SOP and determine if Discolored water poses a threat to the DPR Plant.
- 3) If deemed a problem, then the DPR Operations Supervisor is to be notified within 24 hours of discolored waters appearance and the DPR Plant shutdown.
- 4) All treatment of drinking water is to shift to the Jasper Water Treatment Plant.

DPR Reactivation Trigger

The DPR Operations Supervisor will reactivate the DPR Plant once the Headworks has been free of any discolored water for 24 hours (the length of time to go through WW Treatment).

Related SOP's

Communications between the River Road WWTP and the Cypress WTP DPR SOP
Truly Discolored Water at Headworks SOP

Referenced in Monitoring Plan:

Section 1.21

- 1) Discolorization

RRWWTP

Trigger

High Dissolved Oxygen Demand in Aeration Basins

Priority

MODERATE – Requires Notification of Plant Supervisory Personnel

Alarm or Auto Shutdown

Alarm Only

Location

TCEQ Location ID	City Location ID
N/A	Aeration Basins

On-line or Grab Sample

Grab (Dissolved Oxygen Test)

Actions

- 1) Operators are to notify the Plant Supervisory Personnel as soon as any demand on the air being supplied to the Aeration Basins is detected.
- 2) Supervisory Personnel are to follow SOP and determine if High DO Demand poses a threat to the DPR Plant.
- 3) If deemed a problem, then the DPR Operations Supervisor is to be notified within 8 hours of High Dissolved Oxygen Demand being determined and the DPR Plant shutdown.
- 4) All treatment of drinking water is to shift to the Jasper Water Treatment Plant.

DPR Reactivation Trigger

The DPR Operations Supervisor will reactivate the DPR Plant once the Dissolved Oxygen Demand of the Aeration Basins returns to a normal level for 8 to 16 hours depending on detention time. (the length of time for water to clear the from the Aeration Basins through the Chlorine Contact Basin).

Related SOP's

Communications between the River Road WWTP and the Cypress WTP DPR SOP
High Dissolved Oxygen Demand At River Road WWTP DPR SOP

Referenced in Monitoring Plan:

Section 1.21

- 2) Dissolved Oxygen

RRWWTP

Trigger

Planned Maintenance

Priority

LOW – Requires Attention of Operations Staff Only (To be included in Shift Briefing)

Alarm or Auto Shutdown

Alarm Only

Location

TCEQ Location ID	City Location ID
N/A	Anywhere Within WWTP

On-line or Grab Sample

N/A

Actions

- 1) Operators are to be notified of equipment that is being maintained by Maintenance staff.
- 2) Operators are responsible for communicating the maintenance to any proceeding shifts as the unit remains off line.
- 3) Once maintenance is complete with the repair, operators are to communicate the unit being back in service during proceeding shift briefings.

DPR Reactivation Trigger

The Operations Staff will reactivate the Unit once the Maintenance Staff releases it back to Operations.

Related SOP's

Communications between the River Road WWTP and the Cypress WTP DPR SOP
Planned Maintenance DPR SOP

Referenced in Monitoring Plan:

N/A

RRWWTP

Trigger

Fish Kill at the Outfall

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm Only

Location

TCEQ Location ID	City Location ID
N/A	Outfall Structure (Fish Tank)

On-line or Grab Sample

Grab (Visual Observation)

Actions

- 1) Operators are to notify the Plant Supervisory Personnel as soon as a fish kill is detected.
- 2) Supervisory Personnel are to follow SOP and determine if the Fish Kill is attributed to a toxic component.
- 3) If deemed a problem, then the DPR Operations Supervisor is to be notified immediately and the discharge of water to the DPR Plant shutdown.
- 4) Wastewater Operations are to begin discharging effluent to the Big Wichita River via Outfall #001.
- 5) All treatment of drinking water is to shift to the Jasper Water Treatment Plant.

DPR Reactivation Trigger

The DPR Operations Supervisor will reactivate the DPR Plant once the RRWWTP is able to demonstrate that the effluent being discharged is not toxic to fish.

Related SOP's

Communications between the River Road WWTP and the Cypress WTP DPR SOP
Fish Kill at the River Road Outfall Monitoring Pond DPR SOP

Referenced in Monitoring Plan:

Section 1.21

15) Fish Kill

RRWWTP

Trigger

Microscopic Examination Indicating Toxicity

Priority

MODERATE – Requires Notification of Plant Supervisory Personnel

Alarm or Auto Shutdown

Alarm Only

Location

TCEQ Location ID	City Location ID
N/A	Aeration Basins

On-line or Grab Sample

Grab (Microscopic Observation)

Actions

- 1) Operators are to notify the Plant Supervisory Personnel as soon as a toxicity issue appears in the microscopic examination of the aeration Basins.
- 2) Supervisory Personnel are to follow SOP and determine if the toxicity issues are an immediate threat to the DPR.
- 3) If deemed a problem, then the DPR Operations Supervisor is to be notified immediately and the discharge of water to the DPR Plant shutdown.
- 4) Wastewater Operations are to begin discharging effluent to the Big Wichita River via Outfall #001.
- 5) All treatment of drinking water is to shift to the Jasper Water Treatment Plant.

DPR Reactivation Trigger

The DPR Operations Supervisor will reactivate the DPR Plant once the RRWWTP is able to demonstrate that the aeration basins are back to a normal flora.

Related SOP's

Communications between the River Road WWTP and the Cypress WTP DPR SOP
River Road WWTP Microscopic Examination SOP
River Road Microscopic Toxicity SOP

Referenced in Monitoring Plan:

Section 1.21

- 3) Microscopic Examination for Toxicity

RRWWTP

Trigger

Power Failure

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm & Shutdown

Location

TCEQ Location ID	City Location ID
1J through 2bJ	Any unit Within WWTP directly tied to DPR

On-line or Grab Sample

N/A

Actions

- 1) Once a power failure within the DPR Plant is detected, the operations staff is to immediately communicate the power failure to CWTP so they can begin their Emergency Shutdown Procedures.
- 2) Operations staff are to then begin shutting off any equipment that was not affected by the power failure.
- 3) Once power is restored, operations are to restart the WWTP and notify CWTP that DPR water will begin flowing from RRWWTP again.

DPR Reactivation Trigger

The DPR will be reactivated once all equipment is powered and shown to be functioning properly.

Related SOP's

Communications between the River Road WWTP and the Cypress WTP DPR SOP
Power Failure DPR SOP

Referenced in Monitoring Plan:

N/A

RRWWTP

Trigger

Petroleum Detected in Final Clarifiers

Priority

MODERATE – Requires Notification of Plant Supervisory Personnel

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
1J	Final Clarifier

On-line or Grab Sample

Grab Sample

Actions

- 1) Operators are to notify the Plant Supervisory Personnel as soon as Petroleum is detected in the Final Clarifier.
- 2) Supervisory Personnel are to follow SOP and determine if the Petroleum is an immediate threat to the DPR.
- 3) If deemed a problem, then the DPR Operations Supervisor is to be notified immediately and the discharge of water to the DPR Plant shutdown.
- 4) Wastewater Operations are to begin discharging effluent to the Big Wichita River via Outfall #001.
- 5) All treatment of drinking water is to shift to the Jasper Water Treatment Plant.

DPR Reactivation Trigger

The DPR Operations Supervisor will reactivate the DPR Plant once the Petroleum is no longer an issue for the DPR treatment processes.

Related SOP's

Communications between the River Road WWTP and the Cypress WTP DPR SOP
River Road Petroleum Detected in the Secondary Clarifiers DPR SOP

Referenced in Monitoring Plan:

Section 1.21

- 4) Petroleum

RRWWTP

Trigger

Solids Washout in Final Clarifier

Priority

MODERATE – Requires Notification of Plant Supervisory Personnel

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
1J	Final Clarifier

On-line or Grab Sample

Grab

Actions

- 1) Operators are to notify the Plant Supervisory Personnel as soon as a solids washout is detected in the Final Clarifier.
- 2) Supervisory Personnel are to follow SOP and determine if the solids washout is an immediate threat to the DPR.
- 3) If deemed a problem, then the DPR Operations Supervisor is to be notified immediately and the discharge of water to the DPR Plant shutdown.
- 4) Wastewater Operations are to begin discharging effluent to the Big Wichita River via Outfall #001.
- 5) All treatment of drinking water is to shift to the Jasper Water Treatment Plant.

DPR Reactivation Trigger

The DPR Operations Supervisor will reactivate the DPR Plant once the solids washout is no longer an issue for the DPR treatment processes.

Related SOP's

Communications between the River Road WWTP and the Cypress WTP DPR SOP
Solids washout into the Chlorine Contact Basin DPR SOP

Referenced in Monitoring Plan:

Section 1.21

- 6) Solids Washout from Final Clarifier

RRWWTP

Trigger

Surfactants Visible in Final Clarifier

Priority

MODERATE – Requires Notification of Plant Supervisory Personnel

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
1J	Final Clarifier

On-line or Grab Sample

Grab

Actions

- 1) Operators are to notify the Plant Supervisory Personnel as soon as Surfactants are detected in the Final Clarifier.
- 2) Supervisory Personnel are to follow SOP and determine if the Surfactants are an immediate threat to the DPR.
- 3) If deemed a problem, then the DPR Operations Supervisor is to be notified immediately and the discharge of water to the DPR Plant shutdown.
- 4) Wastewater Operations are to begin discharging effluent to the Big Wichita River via Outfall #001.
- 5) All treatment of drinking water is to shift to the Jasper Water Treatment Plant.

DPR Reactivation Trigger

The DPR Operations Supervisor will reactivate the DPR Plant once the Petroleum is no longer an issue for the DPR treatment processes.

Related SOP's

Communications between the River Road WWTP and the Cypress WTP DPR SOP
Surfactant Test DPR SOP

Referenced in Monitoring Plan:

Section 1.21

- 5) Surfactants

RRWWTP

Trigger

Detection of Giardia >700 cysts/Liter

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm & Shutdown

Location

TCEQ Location ID	City Location ID
2bJ (relocated)	End of Chlorine Contact Basin

On-line or Grab Sample

Grab

Actions

- 1) Once the Water Purification Division receives notification from the testing laboratory that the Giardia concentrations are > 70 cysts / Liter, a new sample will be collected at the End of the Chlorine Contact Basin and immediately shipped to the outside testing lab for an expedited analysis and result.
- 2) The DPR Plant is to be shutdown and all treatment switched to JWTP.
- 3) TCEQ will be contacted. (Unless they are a member of the WQTF)
- 4) The Water Quality Task Force is to be convened to determine if there has been an increase in Giardiasis over the course of the period of time it has taken to receive the lab results.

DPR Reactivation Trigger

The DPR Plant can be restarted once the results from the River Road sample collected before the shutdown show that the Giardia levels are back < 70 cysts/L.

Related SOP's

Communications between the River Road WWTP and the Cypress WTP DPR SOP

Pathogen DPR SOP

Cryptosporidium/Giardia Sampling Procedure

Referenced in Monitoring Plan:

Section 1.21

10) Giardia

RRWWTP

Trigger

Detection of Cryptosporidium >9.48 oocysts/Liter

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm & Shutdown

Location

TCEQ Location ID	City Location ID
2bJ (relocated)	End of Chlorine Contact Basin

On-line or Grab Sample

Grab

Actions

- 1) Once the Water Purification Division receives notification from the testing laboratory that the Cryptosporidium concentrations are > 9.48 oocysts / Liter, a new sample will be collected at the End of the Chlorine Contact Basin and immediately shipped to the outside testing lab for an expedited analysis and result.
- 2) The DPR Plant is to be shutdown and all treatment switched to JWTP.
- 3) The Water Quality Task Force is to be convened to determine if there has been an increase in Cryptosporidiosis over the course of the period of time it has taken to receive the lab results.

DPR Reactivation Trigger

The DPR Plant can be restarted once the results from the River Road sample collected before the shutdown show that the Cryptosporidium levels are back < 9.48 oocysts/L.

Related SOP's

Communications between the River Road WWTP and the Cypress WTP DPR SOP

Pathogen DPR SOP

Cryptosporidium/Giardia Sampling Procedure

Referenced in Monitoring Plan:

Section 1.21

11) Cryptosporidium

RRWWTP

Trigger

Detection Total Culturable Virus > 22.2 MPN/Liter

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm & Shutdown

Location

TCEQ Location ID	City Location ID
2bJ (relocated)	End of Chlorine Contact Basin

On-line or Grab Sample

Grab

Actions

- 1) Once the Water Purification Division receives notification from the testing laboratory that the Total Culturable Virus concentrations are > 22.2 MPN / Liter, a new sample will be collected at the End of the Chlorine Contact Basin and immediately shipped to the outside testing lab for an expedited analysis and result.
- 2) The DPR Plant is to be shutdown and all treatment switched to JWTP.
- 3) The Water Quality Task Force is to be convened to determine if there has been an increase in waterborne viral diseases over the course of the period of time it has taken to receive the lab results.

DPR Reactivation Trigger

The DPR Plant can be restarted once the results from the River Road sample collected before the shutdown show that the Total Culturable Virus levels are back < 22.2 MPN/L.

Related SOP's

Communications between the River Road WWTP and the Cypress WTP DPR SOP
Pathogen DPR SOP
Total Culturable Virus Procedure

Referenced in Monitoring Plan:

Section 1.21

12) Total Culturable Virus

RRWWTP

Trigger

Turbidity $\geq$ 24.0 NTU

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm & Auto Shutdown

Location

TCEQ Location ID	City Location ID
1J (original)	Before Chlorine Contact Basin

On-line or Grab Sample

On-Line

Actions

- 1) The DPR Pumps will automatically shutdown on a turbidity of 24.0 NTU or greater.
- 2) RRWWTP Operators are to immediately notify the CWTP Operators that there is no water coming from RRWWTP, and notify the DPR Operations Supervisor.
- 3) RRWWTP Operators are to grab a sample of water from the TCEQ 1J sample site and test it on a benchtop turbidimeter to confirm the turbidity reading.

DPR Reactivation Trigger

Once the turbidity drops below 24.0 NTU, the DPR Operations Supervisor will restart the DPR Plant.

Related SOP's

Communications between the River Road WWTP and the Cypress WTP DPR SOP
High Turbidity SOP

Referenced in Monitoring Plan:

Section 1.21

- 8) Turbidity

RRWWTP

Trigger

High Chlorine Demand

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
2bJ (relocated)	After Chlorine Contact Basin

On-line or Grab Sample

Grab

Actions

- 1) RRWWTP Operators are to alert The Plant Supervisor and determine the cause of the High Chlorine Demand.
- 2) If the High Chlorine Demand cannot be determined within an hour and resolved, then the DPR Operations Supervisor shall be notified for potential shutdown.

DPR Reactivation Trigger

Once the RRWWTP can demonstrate the ability to maintain a consistent Chlorine Residual, the DPR Operations Supervisor will reactivate the DPR Plant.

Related SOP's

Communications between the River Road WWTP and the Cypress WTP DPR SOP
River Road High Chlorine Demand or Loss of Chlorine SOP

Referenced in Monitoring Plan:

Section 1.21

- 14) Total Chlorine

RRWWTP

Trigger

Chlorine Injection Failure

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm & Auto Shutdown

Location

TCEQ Location ID	City Location ID
2J (original)	Before Chlorine Contact Basin

On-line or Grab Sample

On-Line

Actions

- 1) If the RRWWTP Operators determine that the Chlorine Injection System has failed, it will immediately shutdown the DPR Plant and notify the DPR Operations Supervisor.
- 2) RRWWTP Operations will notify the CWTP operations that water is no longer being discharged from the RRWWTP.

DPR Reactivation Trigger

Once the Chlorine Injection failure has been resolved, the DPR Operations Supervisor will reactivate the DPR Plant/

Related SOP's

Communications between the River Road WWTP and the Cypress WTP DPR SOP
Chlorine Injection Failure SOP

Referenced in Monitoring Plan:

N/A

RRWWTP

Trigger

Permit Failure

Priority

MODERATE – Requires Notification of Plant Supervisory Personnel

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
2bJ (original)	After Chlorine Contact Basin

On-line or Grab Sample

Grab

Actions

- 1) Once the Wastewater Plant Supervisors determine that the Permit Limits have been exceeded they will notify the DPR Operations Supervisor.
- 2) The DPR Operations Supervisor will convene the Water Quality Task Force to determine if the permit level issue presents a hazard to the performance of the DPR Plant.
- 3) If the exceeded Permit Limit presents an issue, then the DPR Operations Supervisor will shutdown the DPR Plant.

DPR Reactivation Trigger

The DPR Operations Supervisor will reactivate the DPR Plant once the WWTP demonstrated that it will pass a Permit Limitation.

Related SOP's

Communications between the River Road WWTP and the Cypress WTP DPR SOP

Referenced in Monitoring Plan:

N/A

RRWWTP

Trigger

E. coli > 75 CFU / 100 mL

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm and Shutdown

Location

TCEQ Location ID	City Location ID
2bJ (relocated)	End of Chlorine Contact Basin

On-line or Grab Sample

Grab

Actions

- 1) Once the Wastewater Laboratory receives notification that the *E. coli* concentrations are > 75 CFU / 100 milliliters, a new sample will be collected at the End of the Chlorine Contact Basin and immediately incubated.
- 2) The DPR Plant is to be shutdown and all treatment switched to JWTP.
- 3) The Water Quality Task Force is to be convened to determine if there has been an increase in waterborne bacterial or viral diseases over the course of the period of time it has taken to receive the lab results.

DPR Reactivation Trigger

The DPR Plant can be restarted once the results from the River Road sample collected before the shutdown show that the *E. coli* levels are back < 75 CFU /100 mL.

Related SOP's

Communications between the River Road WWTP and the Cypress WTP DPR SOP

Pathogen DPR SOP

E coli DPR SOP

Referenced in Monitoring Plan:

Section 1.21

13) *E. coli*

RRWWTP

Trigger

E. coli > 30,000 CFU / 100 mL

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
1J (Original)	Before Chlorine Contact Basin

On-line or Grab Sample

Grab

Actions

- 1) Once the Wastewater Laboratory receives notification that the *E. coli* concentrations are > 30,000 CFU / 100 milliliters, a new sample will be collected before the Chlorine Contact Basin and immediately incubated.
- 2) At an *E. coli* level of 15,000 or greater, samples will be collected and tested for *Cryptosporidium* and *Giardia*.
- 3) Plant process will be evaluated.
- 4) If deemed a problem, then the DPR Operations Supervisor is to be notified immediately and the discharge of water to the DPR Plant shutdown.
- 5) The Water Quality Task Force is to be convened to determine if there has been an increase in waterborne bacterial or viral diseases over the course of the period of time it has taken to receive the lab results.

DPR Reactivation Trigger

The DPR Plant can be restarted once the results from the River Road sample collected before the shutdown show that the *E. coli* levels are < 30,000 CFU /100 mL.

Related SOP's

Communications between the River Road WWTP and the Cypress WTP DPR SOP

Pathogen DPR SOP

E coli DPR SOP

Referenced in Monitoring Plan:

Section 1.21

13) *E. coli*

RRWWTP

Trigger

Monochloramine <1.0 ppm at end of Chlorine Contact Basin

Priority

MODERATE – Requires Notification of Plant Supervisory Personnel

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
2bJ (Relocated)	End of Chlorine Contact Basin

On-line or Grab Sample

Grab

Actions

- 1) Once the Wastewater Operators determine that the Monochloramine residual leaving the Chlorine Contact Basin is below 1.0 ppm, they are to notify the Cypress Water Treatment Plant Operations and the DPR Wastewater Plant Supervisor, in that order.
- 2) The Cypress Water Treatment Plant Operations will notify the DPR Water Plant Supervisor for evaluation of whether or not the Chlorination system within the 2008 MF/RO Clarifier will need to be adjusted.
- 3) The DPR Wastewater Plant Supervisor will implement an investigation as to the cause and implement the correct SOP for resolution of the problem.

DPR Reactivation Trigger

The DPR Supervisor will notify the Cypress Water Treatment Plant Operations once the monochloramine residual is back to a normal level.

Related SOP's

Communications between the River Road WWTP and the Cypress WTP DPR SOP

Chain of Command SOP

Monochloramine SOP

Chlorine Injector Failure SOP

Emergency Ammonia (LAS) Feed SOP

Referenced in Monitoring Plan:

Section 1.21

21) Monochloramine

RRWWTP

Trigger

Loss of Free Ammonia

Priority

MODERATE – Requires Notification of Plant Supervisory Personnel

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
2J	Before Chlorine Contact Basin

On-line or Grab Sample

Grab

Actions

- 1) If Free Ammonia is lost, then Operations will refer to the Monochloramine residual and LAS DPR SOP and the associated dosage calculation sheet.
- 2) The Operators will switch to a backup system identical to the primary source for LAS and or bring both on line to provide adequate levels of free Ammonia.
- 3) In the event that this does not provide adequate levels of Ammonia the Wastewater Operation Supervisor will be notified.

DPR Reactivation Trigger

The DPR Supervisor will notify the Cypress Water Treatment Plant Operations once the Free Ammonia has returned and Monochloramine residual is back to a normal level.

Related SOP's

Communications between the River Road WWTP and the Cypress WTP DPR SOP

Chain of Command SOP

Monochloramine SOP

Chlorine Injector Failure SOP

Emergency Ammonia (LAS) Feed SOP

Referenced in Monitoring Plan:

Section 1.21

22) Free Ammonia

2008 MF/RO SWTP

Trigger

Detection of Leak on Pipeline Between RRWWTP and CWTP

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
N/A	DPR Pipeline

On-line or Grab Sample

N/A

Actions

- 1) The Inspections crews are to notify the DPR Operations Supervisor immediately upon finding a leak on the DPR Pipeline between RRWWTP and CWTP.
- 2) The DPR Operations Supervisor will make the determination if the leak can be repaired under pressure or if the pipeline will need to be de-pressurized for the repair.

DPR Reactivation Trigger

If the pipeline is shutdown, the DPR Operations Supervisor will reactivate the DPR Plant once the repairs to the pipeline are completed.

Related SOP's

Communications between the River Road WWTP and the Cypress WTP DPR SOP
Pipeline Inspection

Referenced in Monitoring Plan:

N/A

2008 MF/RO SWTP

Trigger

MF Cell Failing Direct Integrity Test

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Auto Shutdown

Location

TCEQ Location ID	City Location ID
10J	MF Cell

On-line or Grab Sample

On-Line

Actions

- 1) Individual microfilter cell failing the DIT taken out of service.
- 2) Work order filled out requesting maintenance.
- 3) Operations and Maintenance Supervisor notified.
- 4) Cell is not returned to service until a DIT with passing value is performed.

DPR Reactivation Trigger

DIT pressure drop must be ≤ 1.65 psi/min.

Related SOP's

Microfiltration DIT SOP

Chain of Command SOP

Referenced in Monitoring Plan:

2008 MF/RO SWTP

Trigger

Individual MF Cell Effluent Turbidity >0.100 NTU (100 mNTU) for 2 consecutive 5-minute readings

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Auto Shutdown

Location

TCEQ Location ID	City Location ID
10J	MF Cell

On-line or Grab Sample

On-line

Actions

- 1) Individual microfilter cell producing the turbidity value is taken out of service and a DIT performed.

DPR Reactivation Trigger

DIT pressure drop must be ≤ 1.65 psi/min.

Related SOP's

Microfiltration Individual Filter Effluent Turbidity Monitoring SOP
Chain of Command SOP

Referenced in Monitoring Plan:

Section 2.3

- 8) Turbidity

2008 MF/RO SWTP

Trigger

Individual MF Cell Effluent Turbidity >0.100 NTU (100 mNTU) for 2 consecutive 5-minute readings twice in one hour

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Auto Shutdown

Location

TCEQ Location ID	City Location ID
10J	MF Cell

On-line or Grab Sample

On-line

Actions

- 1) Individual microfilter cell producing the turbidity value is taken out of service and cause of turbidity values is investigated.
- 2) TCEQ notification.
- 3) Following investigation, maintenance/corrective actions must be performed.

DPR Reactivation Trigger

Following investigation of cause and maintenance, a DIT must be performed. The DIT pressure drop must be ≤ 1.65 psi/min.

Related SOP's

Microfiltration Individual Filter Effluent Turbidity Monitoring SOP
Chain of Command SOP

Referenced in Monitoring Plan:

Section 2.3

- 8) Turbidity

2008 MF/RO SWTP

Trigger

Combined MF Effluent Turbidity >0.20 NTU for 2 consecutive 5-minute readings

Priority

MODERATE – Requires Notification of Plant Supervisory Personnel

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
11J	Header Pipe Before Bisulfite Injection

On-line or Grab Sample

On-line

Actions

- 1) Notify the Operations and Maintenance Supervisor.
- 2) Investigate cause of high values (check IFE turbidity values).

DPR Reactivation Trigger

No shut down required, monitoring only.

Related SOP's

Microfiltration Combined Filter Effluent Turbidity Monitoring SOP
Chain of Command SOP

Referenced in Monitoring Plan:

Section 2.3

- 9) Turbidity

2008 MF/RO SWTP

Trigger

RO Feed Silt Density Index >3

Priority

MODERATE – Requires Notification of Plant Supervisory Personnel

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
16J	RO Feed Pipe from Break Tank

On-line or Grab Sample

Grab sample.

Actions

- 1) The RO trains are shut off, and the water is by-passed to the brine pump station.

DPR Reactivation Trigger

The SDI must be less than 3.

Related SOP's

SDI SOP

Chain of Command SOP

Referenced in Monitoring Plan:

Section 2.3

- 18) Silt Density Index

2008 MF/RO SWTP

Trigger

RO Feed ORP >500

Priority

MODERATE – Requires Notification of Plant Supervisory Personnel

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
16J	RO Feed Pipe from Break Tank

On-line or Grab Sample

On-line

Actions

- 1) The RO trains are shut off, and the water is by-passed to the brine pump station.
- 2) The sodium bisulfite feed at the microfiltration combined effluent is checked.

DPR Reactivation Trigger

The ORP must be less than 500 mV.

Related SOP's

RO ORP SOP

Chain of Command SOP

Referenced in Monitoring Plan:

Section 2.3

23) ORP

2008 MF/RO SWTP

Trigger

RO Permeate Nitrate >9.5 mg/L

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
20J	RO Permeate Spigot on Panel

On-line or Grab Sample

Grab Sample

Actions

- 1) Train producing the high nitrate concentration is shut off.
- 2) Samples upstream of RO permeate are collected and tested.
- 3) Prior conductivity data provided by train should be further investigated.

DPR Reactivation Trigger

RO permeate nitrate concentration must be less than 9.5 mg/L.

Related SOP's

RO Permeate Nitrate Sampling SOP

Chain of Command SOP

Referenced in Monitoring Plan:

Section 2.3

19) Nitrate

2008 MF/RO SWTP

Trigger

RO Pressure Vessel Exceeds 20% of the Average Conductivity of all Pressure Vessels in that Stage.

Priority

MODERATE – Requires Notification of Plant Supervisory Personnel

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
20J	RO Permeate Side of Pressure Vessels

On-line or Grab Sample

Grab Sample

Actions

- 1) Pressure Vessel that is 20% or greater than the average conductivity of all pressure vessels in that stage, will be probed to determine where in the pressure vessel the breakthrough of conductivity is occurring.
- 2) Operations staff will notify the DPR Plant Supervisor of the high conductivity and the DPR Plant Supervisor will arrange to have Maintenance perform the Probing Procedure within 24 hours of the notification.
- 3) The RO Skid will not be taken out-of-service to perform the probing, due to the nature of having the unit producing water to facility sampling.
- 4) Maintenance will replace any o-ring or RO Element found to be the cause of conductivity breakthrough.

DPR Reactivation Trigger

The DPR Plant Supervisor will place the RO skid back in service once all repairs have performed.

Related SOP's

RO Probing SOP

Chain of Command SOP

Referenced in Monitoring Plan:

Section 2.3

21) Conductivity

2008 MF/RO SWTP

Trigger

RO Train Exceeds 20% of the Average Conductivity of the Train from Previous Day.

Priority

MODERATE – Requires Notification of Plant Supervisory Personnel

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
20J	RO Permeate Side of Pressure Vessels

On-line or Grab Sample

Grab Sample

Actions

- 1) Any Train who's average of the 3, 8-hour conductivity measurements is 20% than the previous days average conductivity, will have a Pressure Vessel Profile conducted to determine which vessels need to be probed.
- 2) Operations staff will notify the DPR Plant Supervisor of the high conductivity and the DPR Plant Supervisor will arrange to have Maintenance perform the Probing Procedure within 24 hours of the notification.
- 3) The RO Skid will not be taken out-of-service to perform the probing, due to the nature of having the unit producing water to facility sampling.
- 4) Maintenance will replace any o-ring or RO Element found to be the cause of conductivity breakthrough.

DPR Reactivation Trigger

The DPR Plant Supervisor will place the RO skid back in service once all repairs have performed.

Related SOP's

RO Probing SOP

Chain of Command SOP

Referenced in Monitoring Plan:

Section 2.3

21) Conductivity

2008 MF/RO SWTP

Trigger

Detection of Giardia in RO Permeate

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm and DPR Shutdown

Location

TCEQ Location ID	City Location ID
20J	RO Permeate Line leaving Skid

On-line or Grab Sample

Grab Sample

Actions

- 1) RO trains by-passed to brine pump station.
- 2) Samples upstream of RO permeate collected.
- 3) Prior conductivity data provided by train should be further investigated.
- 4) Notify the TCEQ.
- 5) Convene Water Quality Task Force.

DPR Reactivation Trigger

No Giardia detected in RO permeate. Samples collected will be tested with 3 day turn around time.

Related SOP's

Crypto/Giardia EPA 1623 Sample Collection SOP
Chain of Command SOP

Referenced in Monitoring Plan:

Section 2.3

- 14) Giardia

2008 MF/RO SWTP

Trigger

Detection of Cryptosporidium in RO Permeate

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm and DPR Shutdown

Location

TCEQ Location ID	City Location ID
20J	RO Permeate Line Leaving Skid

On-line or Grab Sample

Grab Sample

Actions

- 1) RO trains by-passed to brine pump station.
- 2) Samples upstream of RO permeate collected.
- 3) Prior conductivity data provided by train should be further investigated.
- 4) Notify the TCEQ.
- 5) Convene Water Quality Task Force.

DPR Reactivation Trigger

No Cryptosporidium detected in RO permeate. Samples collected will be tested with 3 day turn around time.

Related SOP's

Crypto/Giardia EPA 1623 Sample Collection SOP
Chain of Command SOP

Referenced in Monitoring Plan:

Section 2.3
15) Cryptosporidium

2008 MF/RO SWTP

Trigger

Power Failure

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
3J through 22J	Any unit within the 2008 MF/RO Plant

On-line or Grab Sample

N/A

Actions

- 1) Notify RRWWTP Operator to shut off discharge pumps.
- 2) Notify Operations and Maintenance Supervisor-up the Chain of Command.
- 3) Shut off chlorine and ammonia feed tank valves (if in use).

DPR Reactivation Trigger

Power returned to entire treatment plant and SCADA operational.

Related SOP's

Power Failure SOP

Communications between the River Road WWTP and the Cypress WTP DPR SOP

Chain of Command SOP

Referenced in Monitoring Plan:

N/A

2008 MF/RO SWTP

Trigger

Planned Maintenance

Priority

LOW – Requires Attention of Operations Staff Only (To be included in Shift Briefing)

Alarm or Auto Shutdown

Alarm Only

Location

TCEQ Location ID	City Location ID
N/A	Anywhere Within 2008 MF/RO SWTP

On-line or Grab Sample

N/A

Actions

- 1) Operators are to coordinate maintenance of MF/RO unit with Maintenance Staff.
- 2) Supervisory Personnel to be notified when maintenance begins.
- 3) If deemed a problem, maintenance of unit may be rescheduled if possible.

DPR Reactivation Trigger

The Operations Staff will reactivate the unit being maintained once the Maintenance Staff releases it back to Operations.

Related SOP's

Communications SOP

Planned Maintenance SOP

Referenced in Monitoring Plan:

N/A

2010 Conventional SWTP

Trigger

Power Failure

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
23J through 42J	Any Unit from Secondary Reservoir thru 2010 Plant

On-line or Grab Sample

N/A

Actions

- 1) Notify RRWWTP Operator to shut off discharge pumps.
- 2) Notify Operations and Maintenance Supervisor-up the Chain of Command.
- 3) Shut off chlorine and ammonia feed tank valves (if in use).

DPR Reactivation Trigger

Power returned to entire treatment plant and SCADA operational.

Related SOP's

Power Failure SOP

Communications between the River Road WWTP and the Cypress WTP DPR SOP

Chain of Command SOP

Referenced in Monitoring Plan:

N/A

2010 Conventional SWTP

Trigger

Lagoon Flow Exceeds Secondary Reservoir Flow

Priority

MODERATE – Requires Notification of Plant Supervisory Personnel

Alarm or Auto Shutdown

Auto Shutdown

Location

TCEQ Location ID	City Location ID
28J	Parschall Flume

On-line or Grab Sample

On-line

Actions

- 1) Lagoon pumps are taken out of service (based on 5-minute exceedance of 50% lagoon flow).
- 2) Notify Operations and Maintenance Supervisor.
- 3) Adjust position of lagoon return valve.

DPR Reactivation Trigger

Lagoon pump started and lagoon return valve adjusted to reduce lagoon flow to less than 50% total flow.

Related SOP's

Lagoon Return Pump Operation SOP

Chain of Command SOP

Referenced in Monitoring Plan:

Section 2.3

- 1) Flow Metering

2010 Conventional SWTP

Trigger

Individual Filter Effluent Turbidity 0.30 NTU for 2 consecutive 15-minute readings on a Granular Filter

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Auto Shutdown

Location

TCEQ Location ID	City Location ID
35J	2010 Granular Filter

On-line or Grab Sample

On-line

Actions

- 1) Individual filter is taken out of service.
- 2) Settled water turbidity checked.
- 3) Coagulant feed checked.
- 4) Filter backwashed.

DPR Reactivation Trigger

Once the filter is backwashed, it may be returned to service.

Related SOP's

2010 Individual Filter Effluent Turbidity Monitoring SOP
Chain of Command SOP

Referenced in Monitoring Plan:

Section 2.3

- 10) Turbidity

2010 Conventional SWTP

Trigger

2010 Plant Clearwell <50.0% of total volume

Priority

MODERATE – Requires Notification of Plant Supervisory Personnel

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
40J	2010 Clearwell

On-line or Grab Sample

On-line

Actions

- 1) Operator to notify the Operations and Maintenance Supervisor to have the transfer pump operation investigated.

DPR Reactivation Trigger

No shutdown required.

Related SOP's

Chain of Command SOP

Referenced in Monitoring Plan:

N/A

2010 Conventional SWTP

Trigger

Planned Maintenance

Priority

LOW – Requires Attention of Operations Staff Only (To be included in Shift Briefing)

Alarm or Auto Shutdown

Alarm Only

Location

TCEQ Location ID	City Location ID
N/A	Anywhere Within 2010 Conventional SWTP

On-line or Grab Sample

N/A

Actions

- 1) Operators are to coordinate maintenance of 2010 Plant with Maintenance Staff.
- 2) Supervisory Personnel to be notified when maintenance begins.
- 3) If deemed a problem, maintenance of unit may be rescheduled if possible.

DPR Reactivation Trigger

The Operations Staff will reactivate the Unit being Maintained once the Maintenance Staff releases it back to Operations.

Related SOP's

Communications SOP

Planned Maintenance SOP

Referenced in Monitoring Plan:

N/A

2010 Conventional SWTP

Trigger

Total Chlorine Residual at Entry Point <3.0 mg/L

Priority

MODERATE – Requires Notification of Plant Supervisory Personnel

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
42J (relocated)	2010 High Service Pumps

On-line or Grab Sample

On-line

Actions

- 1) Operators to check post chlorine/ammonia feed and make adjustment to compensate for low residual.
- 2) Samples at 2010 filter and clearwell checked for chlorine residual.

DPR Reactivation Trigger

No shutdown required, monitoring only.

Related SOP's

Chain of Command SOP

Referenced in Monitoring Plan:

Section 3.1

- 3) Total Chlorine

2010 Conventional SWTP

Trigger

Detection of Giardia at Entry Point

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm and DPR Shutdown

Location

TCEQ Location ID	City Location ID
42J (relocated)	2010 High Service Pumps

On-line or Grab Sample

Grab Sample

Actions

- 1) Complete DPR process shut down.
- 2) Notify the DPR Operations Supervisor.
- 3) Ground storage tank sampled for Giardia with expedited return time.
- 4) Conduct meeting with the Water Quality Task Force to discuss results.
- 5) TCEQ must be notified.

DPR Reactivation Trigger

Zero cysts detected in expedited sample.

Related SOP's

Detection of Cryptosporidium/Giardia in Point of Entry SOP
Waterborne Disease Outbreak SOP
Cryptosporidium/Giardia EPA 1623 Sampling SOP
Chain of Command SOP

Referenced in Monitoring Plan:

Section 3.1

10) Giardia

2010 Conventional SWTP

Trigger

Detection of Cryptosporidium at Entry Point

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm and DPR Shutdown

Location

TCEQ Location ID	City Location ID
42J (relocated)	2010 High Service Pumps

On-line or Grab Sample

Grab Sample

Actions

- 1) Complete DPR process shut down.
- 2) Notify the DPR Operations Supervisor.
- 3) Ground storage tank sampled for Cryptosporidium with expedited return time.
- 4) Conduct meeting with the Water Quality Task Force to discuss results.
- 5) TCEQ must be notified.

DPR Reactivation Trigger

Zero oocysts detected in expedited sample.

Related SOP's

Detection of Cryptosporidium/Giardia in Point of Entry SOP
Waterborne Disease Outbreak SOP
Cryptosporidium/Giardia EPA 1623 Sampling SOP
Chain of Command SOP

Referenced in Monitoring Plan:

Section 3.1

- 11) Cryptosporidium

2010 Conventional SWTP

Trigger

Detection of Total Culturable Virus at Entry Point

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
42J (relocated)	2010 High Service Pumps

On-line or Grab Sample

Grab Sample

Actions

- 1) Notify the DPR Operations Supervisor.
- 2) Ground storage tank sampled for TCV.
- 3) Conduct meeting with the Water Quality Task Force to discuss results.
- 4) TCEQ must be notified.

DPR Reactivation Trigger

No TCV detected in re-sample.

Related SOP's

Detection of TCV in Point of Entry SOP
Waterborne Disease Outbreak SOP
TCV EPA 1615 Sampling SOP
Chain of Command SOP

Referenced in Monitoring Plan:

Section 3.1
12) Total Culturable Virus

2010 Conventional SWTP

Trigger

Nitrate >9.5 mg/L at Entry Point

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
42J (relocated)	2010 High Service Pumps

On-line or Grab Sample

Grab Sample

Actions

- 1) High service discharge pumps to be shut off.
- 2) Notify the DPR Operations Supervisor.
- 3) Samples collected upstream in treatment process.

DPR Reactivation Trigger

Nitrate must be less than 9.5 mg/L at 10 MG GST.

Related SOP's

Point of Entry Nitrate Sampling SOP

Chain of Command SOP

Referenced in Monitoring Plan:

Section 3.1

19) Nitrate

2010 Conventional SWTP

Trigger

Turbidity >0.2 NTU at Entry Point

Priority

MODERATE – Requires Notification of Plant Supervisory Personnel

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
42J (relocated)	2010 High Service Pumps

On-line or Grab Sample

Grab Sample

Actions

- 1) Check individual filter effluent turbidity values for possible source.
- 2) Check clarifier operation.
- 3) Notify the Operations and Maintenance Supervisor

DPR Reactivation Trigger

No shutdown, increased monitoring only.

Related SOP's

Combined Filter Effluent Turbidity Monitoring SOP

Chain of Command SOP

Referenced in Monitoring Plan:

Section 3.1

- 8) Turbidity

2010 Conventional SWTP

Trigger

Turbidity >0.3 NTU at Entry Point

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
42J (relocated)	2010 High Service Pumps

On-line or Grab Sample

Grab Sample

Actions

- 1) Notify the DPR Operations Supervisor.
- 2) Check individual filter effluent turbidity values for possible source.
- 3) Check clarifier operation.

DPR Reactivation Trigger

Turbidity less than 0.3 NTU at entry point.

Related SOP's

Chain of Command SOP

Referenced in Monitoring Plan:

Section 3.1

- 8) Turbidity

2008 MF/RO SWTP and 2010 Conventional SWTP

Trigger

CT Failure

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
3J	2008 MF/RO Flow Control Vault
7J	2008 MF/RO Clarifier Effluent
11J	Header Pipe Before Bisulfite Injection
25J	DZ1a Sample Point at Secondary Reservoir
26J	DZ1b Sample Point at Secondary Reservoir
27J	DZ1c Sample Point at CWTP before Splitter Box
36J	Beginning of 2010 Clearwell
42J (relocated)	2010 High Service Pumps

On-line or Grab Sample

Grab Sample

Actions

- 1) Notify the DPR Operations Supervisor.
- 2) Check disinfectant equipment/dosages.
- 3) Increased sampling to every 2 hours.
- 4) Must collect all samples to perform a CT calculation.
- 5) Must calculate the inactivation ratio.

DPR Reactivation Trigger

N/A

Related SOP's

CT Calculation SOP

Chain of Command SOP

Referenced in Monitoring Plan:

N/A

2010 Conventional SWTP

Trigger

TTHM / HAA5 >40/30 ug/L at Entry Point

Priority

MODERATE – Requires Notification of Plant Supervisory Personnel

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
42J (relocated)	2010 High Service Pumps

On-line or Grab Sample

Grab Sample

Actions

- 1) Notify the Operations and Maintenance Supervisor.
- 2) Increased TTHM/HAA sampling.
- 3) Check disinfectant equipment and dosages.

DPR Reactivation Trigger

No shutdown required at this concentration, increased awareness only.

Related SOP's

TTHM or HAA5 Exceedance at the Entry Point SOP

Chain of Command SOP

Referenced in Monitoring Plan:

Section 3.1

- 15) VOC / SOC

2010 Conventional SWTP

Trigger

Violation of Primary Drinking Water Standards at Entry Point

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm and DPR Shutdown

Location

TCEQ Location ID	City Location ID
42J (relocated)	2010 High Service Pumps

On-line or Grab Sample

Grab Sample

Actions

- 1) Notify the DPR Operations Supervisor.
- 2) Shutdown of DPR.

DPR Reactivation Trigger

Sample for Primary Drinking Water Standards in the 10 MG GST must be less than the MCL for each analyte.

Related SOP's

Primary or Secondary Standard Exceedance at Entry Point SOP
Chain of Command SOP

Referenced in Monitoring Plan:

Section 3.1

- 14) Metals / Inorganics
- 15) VOC / SOC
- 16) Radionuclides

2010 Conventional SWTP

Trigger

Violation of Secondary Drinking Water Standards at Entry Point

Priority

MODERATE – Requires Notification of Plant Supervisory Personnel

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
42J (relocated)	2010 High Service Pumps

On-line or Grab Sample

Grab Sample

Actions

- 1) Notify the Operations and Maintenance Supervisor.
- 2) Notify the TCEQ.

DPR Reactivation Trigger

Increased awareness only, no DPR shutdown.

Related SOP's

Primary or Secondary Standard Exceedance at Entry Point SOP
Chain of Command SOP

Referenced in Monitoring Plan:

Section 3.1

- 17) Secondary Contaminants

2010 Conventional SWTP

Trigger

10 MG Ground Storage Tank <50% Total Volume

Priority

MODERATE – Requires Notification of Plant Supervisory Personnel

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
N/A	10 MG Ground Storage Tank

On-line or Grab Sample

Grab Sample

Actions

- 1) Notify the Operations and Maintenance Supervisor.
- 2) Decrease the high service pump discharge flow.
- 3) Increase the Jasper WTP discharge flow as needed to compensate.

DPR Reactivation Trigger

No shutdown required.

Related SOP's

10 MG GST Level Monitoring SOP

Chain of Command SOP

Referenced in Monitoring Plan:

N/A

Distribution System

Trigger

Repeat Total Coliform Sample within Distribution System

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm and DPR Shutdown

Location

TCEQ Location ID	City Location ID
N/A	Distribution System Bacterological Sample Site

On-line or Grab Sample

Grab Sample

Actions

- 1) Notify the DPR Operations Supervisor.
- 2) Collect repeat samples.
- 3) Convene Water Quality Task Force.

DPR Reactivation Trigger

All repeat samples negative for total coliform.

Related SOP's

Total Coliform SOP

Waterborne Disease Outbreak SOP

Chain of Command SOP

Referenced in Monitoring Plan:

Section 4.1

Distribution System

Trigger

Distribution Sample positive for E. coli

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm and DPR Shutdown

Location

TCEQ Location ID	City Location ID
N/A	Distribution System Bacterological Sample Site

On-line or Grab Sample

Grab Sample

Actions

- 1) Notify the DPR Operations Supervisor.
- 2) Notify the TCEQ.
- 3) Collect repeat samples.
- 4) Convene the Water Quality Task Force.

DPR Reactivation Trigger

All repeat samples negative for E. coli.

Related SOP's

Escheria coli Enumeration SOP
Waterborne Disease Outbreak SOP
Chain of Command SOP.

Referenced in Monitoring Plan:

Section 4.1

Distribution System

Trigger

Distribution System sample >80/60 ug/L for TTHM / HAA5

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
N/A	Distribution System DPB Sample Site

On-line or Grab Sample

Grab Sample

Actions

- 1) Notify the Operations and Maintenance Supervisor.
- 2) Shut down DPR.
- 3) Check disinfectant equipment and dosages.
- 4) Increased sampling.

DPR Reactivation Trigger

Increased awareness, no DPR shutdown for single samples, as results are based on locational running annual averages.

Related SOP's

TTHM and HAA5 Exceedance at Point of Entry SOP'
Chain of Command SOP

Referenced in Monitoring Plan:

Section 4.3

Distribution System

Trigger

Systemic problems maintaining Total Chlorine residual above 1.5 mg/L in the Distribution System

Priority

MODERATE – Requires Notification of Plant Supervisory Personnel

Alarm or Auto Shutdown

Alarm

Location

TCEQ Location ID	City Location ID
N/A	Distribution System Bacterological Sample Site

On-line or Grab Sample

Grab Sample

Actions

- 1) Notify the Operations and Maintenance Supervisor.
- 2) Increased sampling in distribution system.

DPR Reactivation Trigger

No shutdown required, increased awareness only.

Related SOP's

Systemic Chlorine Residual in Distribution System SOP
Chain of Command SOP

Referenced in Monitoring Plan:

Section 4.2

Distribution System

Trigger

Waterborne Disease Outbreak

Priority

HIGH – Requires Immediate Notification of DPR Operations Supervisor

Alarm or Auto Shutdown

Alarm and DPR Shutdown

Location

TCEQ Location ID	City Location ID
N/A	Distribution System

On-line or Grab Sample

N/A

Actions

- 1) Notify the DPR Operations Supervisor.
- 2) Convene the Water Quality Task Force.
- 3) Notify the TCEQ.
- 4) Investigate cause of potential waterborne disease outbreak.

DPR Reactivation Trigger

Cause of potential waterborne disease must be identified and show that the DPR is not the source. Restart will be based on Water Quality Task Force Findings and written approval from the TCEQ.

Related SOP's

Waterborne Disease Outbreak SOP
Chain of Command SOP

Referenced in Monitoring Plan:

N/A