



PUBLIC WORKS DEPARTMENT

May 29, 2015

Joel Klumpp, Team Leader
Technical Review & Oversight Team MC-159
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Re: City of Wichita Fall – PWS ID # 2430001
Temporary Direct Potable Reuse Project
Decommissioning of the Temporary Direct Potable Reuse WTP

Dear Mr. Klumpp,

The City of Wichita Falls has recently been blessed with substantial rainfall and its supply reservoirs are of sufficient volumes that drought restrictions are no longer required. To that end, the City is in a position to be able to decommission its Direct Potable Reuse (DPR) plant and return to normal operation with its conventional Water Treatment Plants.

As required in the TCEQ approval letter dated August 5, 2013, the City is submitting its Decommissioning Plan for the DPR Water Treatment Plant, and reactivation of its conventional Water Treatment Plants at Cypress WTP. Please find attached a hard copy of the Plan, for your teams review and approval.

The City of Wichita Falls appreciates all of the hard work that the TCEQ has put into the activation and success of the City's DPR project, and is looking forward to continuing to work with you as we transition back from our severe drought activities. If you have any questions, please feel free to contact me at 940-761-7477, or by e-mail at Russell.Schreiber@wichitafallstx.gov.

Sincerely,

Russell Schreiber, P.E.
Director of Public Works
City of Wichita Falls, Texas

Cc: Daniel K. Nix, Utilities Operations Manager
Mark Southard, Water Source/Purification Superintendent

CITY OF WICHITA FALLS

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DECOMMISSIONING OF THE DIRECT POTABLE REUSE SYSTEM:

Once Lake Levels reach adequate capacity, the City will decommission the Direct Potable Reuse (DPR) System and will convert back to Standard Treatment Operations (Surface Water). The City intends to implement the following Decommissioning Plan for the DPR temporary piping and treatment systems.

DIRECT POTABLE REUSE SYSTEM DISINFECTION PROCEDURES:

It is the City's intent to utilize the following American Water Works Association (AWWA) Standards for the various disinfection process:

C651-05 Disinfection of Water Mains

C652-02 Disinfection of Water Storage Facilities

C653-03 Disinfection of Water Treatment Plants

DECOMMISSIONING/REMOVAL/DISSASSEMBLY OF DIRECT POTABLE REUSE PIPING:

In reference to the Temporary Direct Potable Reuse Conveyance Facilities Project (attached) and the Temporary Direct Potable Reuse Cypress WTP Piping Modifications Project (attached).

- The City will decommission the temporary pump station at River Road Wastewater Treatment Plant and will drain all effluent remaining in the pipeline back to the River Road Wastewater Treatment Plant.
- The City will disconnect all Reuse Piping from the Raw Water Flow Control Vault at Cypress WTP (reference Temporary Direct Potable Reuse Conveyance Facilities Project) and will re-install all pipe and fittings to their original configuration. All pipe and fittings will be cleaned of debris and sprayed with a solution of 200 ppm chlorine prior to reconnection.
- The City will disassemble Connections No. 1, No. 2, No. 6, No. 8, and No. 9 (reference Temporary Direct Potable Reuse Cypress WTP Piping Modifications Project) and will re-install all piping to its original condition. All pipe and fittings will be cleaned of debris and sprayed with a solution of 200 ppm chlorine prior to reconnection.

LAKE KEMP RAW WATER SUPPLY PIPELINE:

Once the wastewater effluent (DPR) line is removed from the Raw Water Flow Control Vault at Cypress WTP, the City will pump, disinfect, and flush the Lake Kemp Raw Water Supply Pipeline.

- The MF/RO Clarifier will be drained (to the Brine Discharge Pump Station), and the Lake Kemp/Headquarters Road Pump Station will begin pumping at a minimum of 3ft/sec (scouring velocity) with chlorine dioxide being injected into the raw water. The drain valve to the MF/RO Clarifier will remain open until the line is flushed.

MEMBRANE TREATMENT FACILITY (MF/RO):

Once the wastewater effluent (DPR) line is removed from the flow control vault that supplies effluent water to the MF/RO Plant and the Lake Kemp Raw Water line is flushed and restored, the City will begin its disinfection procedures for the MF/RO Plant.

- The MF/RO Clarifier will be drained (to the Brine Discharge Pump Station), washed out with fire hoses and the walls sprayed with a solution of 200 ppm chlorine. After the appropriate contact time, the clarifier will then be refilled with raw Lake Kemp water. Once the water level is at sufficient height, the chloramine biocide system will be restarted in the clarifier. Since this treatment component receives raw, untreated lake water, bacteriological tests will not be performed before it is placed into service.
- Each MF cell will be drained and washed out with a fire hose. Since there is no AWWA Standard for disinfecting membranes, the City will perform the manufacturer's recommended Clean-in Place (CIP) procedure which utilizes acid solutions (down to a pH of 2) and chlorine solutions at 400 ppm. After the CIP is complete, the MF cells will be re-filled with potable water and perform bacteriological tests for effectiveness of the cleaning procedure. If any cell fails the bacteriological testing, then the cleaning/testing procedure will be re-performed on that cell until a bacteriological test is successfully passed.
- The Break Tank will be drained to the Brine Pump Station, washed out with a fire hose and the tank disinfected with one of the approved methods found within C652-02 or newest version. After the appropriate contact time, a bacteriological test will be performed on the tank for effectiveness of the disinfection process. If the Break Tank fails the bacteriological testing, then the cleaning/testing procedure will be re-performed until a bacteriological test is successfully passed.
- Each R/O skid will be drained and cleaned. Since there is no AWWA Standard for disinfecting membranes, the City will perform the manufacturers' recommended Clean-in-Place (CIP) procedure which utilizes acid solutions (down to 2 pH) and biocide solution. After the CIP is complete, the RO skids will be refilled with water from the Break Tank and a bacteriological test performed for effectiveness of the cleaning procedure. If any skid fails the bacteriological testing, then the cleaning/testing procedure will again be performed on that skid until a bacteriological test is successfully passed.

- The two (2) Permeate Tanks will be drained to the Brine Pump Station, washed out with a fire hose and the tanks disinfected with one of the approved methods found within C652-02. After the appropriate contact time, a bacteriological test will be performed on the tanks to determine the effectiveness of the disinfection process. If any of the Permeate Tanks fail the bacteriological testing, then the cleaning/testing procedure will again be performed on that tank until a bacteriological test is successfully passed.
- Once the RO permeate line that discharges to the lagoon is disconnected from the permeate pipeline and the pipeline is reconnected to the 2010 Clearwell (Connection No. 2), both the permeate pipeline and the 2010 Clearwell will be disinfected together, in accordance with C651-05 & C652-02, respectively. After the appropriate contact time, a bacteriological test will be performed on the pipeline and clearwell to test for effectiveness of the disinfection process. If either one fails the bacteriological testing, then the disinfection procedure will again be performed on both until a bacteriological test is successfully passed.

Shawn M. Garcia, P.E.
Civil Engineer
City of Wichita Falls
Public Works/Engineering Division

