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July 21, 2008

E-FILE

Ann Cole, Commission Clerk  
Office of Commission Clerk  
Florida Public Service Commission  
2540 Shumard Oak Boulevard  
Tallahassee, FL 32399


RE: Docket No.: 060257-WS; Cypress Lakes Utilities, Inc.'s Application for Rate  
Increase in Polk County, Florida  
Our File No.: 30057.113

Dear Ms. Cole:

Commission Order PSC-07-0912-AS-WS issued in the above-referenced docket required that Cypress Lakes Utilities, Inc., analyze how its water quality within the distribution system could be improved. Enclosed is a copy of a Memorandum addressing that issue.

Should you or the Staff have any questions or concerns regarding this matter, please do not hesitate to give me a call.

Very truly yours,

  
MARTIN S. FRIEDMAN  
For the Firm

MSF/tlc  
Enclosures

cc: John Hoy, Chief Regulatory Officer (w/enclosures) (via email)  
Rick Durham, Regional Vice President for Operations (w/enclosures) (via email)  
Patrick C. Flynn, Regional Director (w/enclosures) (via email)  
Mr. Bart Fletcher, Division of Economic Regulation (w/enclosures) (via email)



## CYPRESS LAKES UTILITIES, INC.

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### MEMORANDUM

Date: July 20, 2008  
To: Patrick Flynn, Regional Director  
From: Tony Wierzbicki, Project Manager  
Subject: Cypress Lakes Water Quality Study Summary of Recommended Improvements

In September 2007, an engineering analysis of the Cypress Lakes Utilities, Inc. Water Treatment Plant was performed by a Tampa engineering firm, TBE Group. The purpose of this analysis was to identify how water quality within the distribution system could be improved and in response to Order PSC-07-0912-AS-WS that was issued by the FPSC on November 9, 2007 in Docket #060257.

During the evaluation of the Cypress Lakes water treatment plant and distribution system, it was discovered that the on-site plant piping did not provide an equal distribution of the groundwater pumped from the two water supply wells through the two hydropneumatic tanks. Compounding this issue was the fact that each tank had a single chlorine injection point upstream of the tank inlet. The water entering each tank did flow at a consistent rate, but the chlorine injected into each tank remained constant. This led to a significant chlorine buildup in one of the tanks and insufficient chlorine in the water in the second tank. It was determined that this imbalance between water flow and chemical addition, particularly when Well #2 was in operation, was the prime cause of the water quality issues experienced in the distribution system.

The final report indicated that the treatment facility was in compliance with all State of Florida and Polk County regulations, but recommended the following:

- Modify the on-site piping at the water treatment plant so either Well #1 or Well #2 can provide an equal supply of water to each hydropneumatic storage tank. In addition, the chlorine injection point should be relocated upstream of the tank inlet distribution header pipe, thus allowing one chlorine injection location for two tanks
- Install automatic flushing valves in the distribution system where water quality issues have been reported
- Exercise all in-line valves within the distribution system to ensure they are fully open and functioning properly

After Cypress Lakes Utilities, Inc. (CLU) staff had the opportunity to review and discuss these recommendations with the consultant, CLU contracted with TBE Group (TBE) to design the on-site piping modifications. TBE discussed the project with the Polk County

Health Dept. who determined that the piping modifications were minor in nature and therefore a construction permit was not required.

In April 2008, construction of these improvements was performed. The water lines from wells #1 and #2 were interconnected to a common header pipe to supply the inlet side of each hydropneumatic tank. This produced an equal flow distribution to each tank. The chlorination injection point was relocated to a point just downstream of the well interconnection but upstream of the connection to the tank inlet header pipe. This provides a single chlorination feed point that allows CLU staff to more effectively control the feed rate, thus providing a more suitable chlorine residual in the storage tanks and distribution system. Additional gate valves were added to the tank bypass line in order to allow CLU staff to provide continuous water service to the customers in the event either tank has to be taken offline for maintenance activities.

In order to efficiently utilize the proposed automatic flushing valves, CLU staff examined the location of water quality complaints. These complaints were mapped onto the water distribution system map. The distribution piping in these areas was then reviewed to determine where these flushing valves should be installed. Five locations were identified in the distribution system where these valves would be most beneficial. Florida Rural Water Association (FRWA) provided assistance in determining these locations and provided a design of a programmable automatic blow-off device that has been used successfully throughout the state. CLU selected this standard design for use within the Cypress Lakes distribution system.

However, none of these flushing valves have been installed to date because the modifications performed at the Cypress Lakes water plant have produced a significant increase in water quality and stabilized the chlorine residual throughout the area. In fact, no customer complaints have been reported in the system since these modifications were performed. Should any portion of the system show a decline in water quality in the future, CLU retains the ability to install automatic flushing valves where needed. Also, by not installing these flushing valves at this time the Utility eliminates the excess use of finished water for flushing purposes that is not deemed necessary to maintain water quality. The Utility will continue to monitor water quality throughout the distribution system and routinely flush dead end mains in accordance with FDEP rules and regulations.

Costs associated with engineering design, permitting and certification amounted to \$23,660. The cost associated with constructing the recommended improvements was \$36,379. The total cost of the project was therefore \$60,039.