



# Florida Public Service Commission

# SPECIAL REPORT

APRIL 2004 NO. 2

Petition by Customers of

## **Aloha Utilities, Inc.**

for Deletion of a Portion of Territory in the Seven Springs Area in Pasco County

### **Purpose of Customer Service Hearings**

The Florida Public Service Commission (PSC) is conducting two customer service hearings to gather testimony about the audit report prepared by Dr. Audrey Levine regarding Aloha Utilities, Inc.'s water quality in the Seven Springs system. Because customer concerns regarding Aloha's water quality have already been identified and discussed on a number of occasions, the Commission is encouraging customers to provide testimony concerning proposed solutions. Dr. Levine's report suggests three potential solutions. The Commission is interested in hearing customer testimony on these suggested solutions as well as other options that may lead to a resolution of this matter.

The PSC is very much aware of the problems that Aloha customers are experiencing in their homes with black water and hydrogen sulfide odors. The Commission has pushed to find a solution to this problem. In April 2002, the Commission ordered Aloha to implement a treatment process designed to remove the majority of any hydrogen sulfide contained in the raw water pumped from the utility's wells. Implementation was delayed when the PSC's order was appealed by the utility to the First District Court of Appeal. That appeal has been resolved and the PSC's order is now in effect.

### **The Levine Study:**

During discussions at the November 12, 2002 Agenda Conference, the Office of Public Counsel offered to undertake and finance an audit of Aloha's water quality. Dr. Audrey Levine, a professor at the University of South Florida, was retained. The study was completed in two phases. Phase II of the study was issued in February 2004. In that study, Dr. Levine provided an analysis of the water in the Seven Springs system and identified several options which could modify the existing treatment system to address water quality concerns:

**Option 1: Packed tower aeration.** Removal of hydrogen sulfide can be accomplished using packed tower aeration. However, this method can promote biological growth in the aeration system and lead to release of microorganisms and elemental sulfur into the distribution system. Frequent maintenance and/or filtration is needed.

**Option 2: Alternative oxidants.** The use of an alternative oxidant, such as hydrogen peroxide or ozone, would decrease the chlorine demand and provide for more efficient disinfection using chloramination. The supplemental oxygen in the treated water will improve the taste of the water and help reduce the growth of anaerobic microorganisms in the distribution system. Supplemental control of pH may be necessary.

**Option 3: Membrane technologies.** Membrane technologies can be coupled with chemical oxidation to remove particulate forms of sulfur and improve water quality. The use of membrane processes requires a reliable energy source and a means for treatment/disposal of the reject water.

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**The Levine Study:** *Continued*

Dr. Levine recommended that the impacts of alternative treatment systems on the formation of black water should be tested on a pilot-scale system. While several treatment technologies may be effective for improving water quality, there are constraints due to the need for water conservation, the lack of capacity for discharge/disposal of by-products or reject water, and economics. Prior to the final selection of a treatment approach, it is important to assess the potential impacts of the treatment system on water corrosivity, copper release, disinfection effectiveness, disinfection by-product formation, and the potential for production of "black water."

**Aloha Response:**

Aloha was asked to estimate the cost of the three options for the following categories: the initial installation costs (capital costs), the ongoing operations and maintenance costs (O&M costs), and the estimated impact on rates. The utility developed cost estimates listed in the table below based upon limited data, and therefore those costs must be considered conceptual. The cost analysis provides a means to compare the treatment alternatives based on similar design assumptions. More accurate cost information will result from discussing regulatory requirements with the Florida Department of Environmental Protection as project design work is undertaken.

| <b>Conceptual Implementation Costs:</b> |                                    |                                |                                |                    |
|---|------------------------------------|--------------------------------|--------------------------------|--------------------|
| <b>Option</b>                           | <b>Treatment Option</b>            | <b>Conceptual Capital Cost</b> | <b>Conceptual O&amp;M Cost</b> | <b>Rate Impact</b> |
| 1                                       | Packed Tower Aeration              | \$14,500,000                   | \$3,100,000                    | 261.95%            |
| 2a                                      | H2O2 Oxidation – Rental            | \$3,500,000                    | \$390,000                      | 43.85%             |
| 2a                                      | H2O2 Oxidation – Purchase          | \$4,000,000                    | \$340,000                      | 44.40%             |
| 2b                                      | Ozone Oxidation                    | \$6,900,000                    | \$520,000                      | 72.99%             |
| 3                                       | H2O2 Oxidation/Membrane – Rental   | \$11,800,000                   | \$580,000                      | 108.09%            |
| 3                                       | H2O2 Oxidation/Membrane – Purchase | \$12,300,000                   | \$530,000                      | 108.64%            |

*note: H2O2 is hydrogen peroxide*

**Aloha's expected advantages and disadvantages to the proposed treatment options:**

At staff's request, Aloha provided the expected advantages and disadvantages for each of Dr. Levine's three options. Copies of the company's response will be available at the hearing, and are also on the Commission's Web site [<http://www.psc.state.fl.us/>], in Docket No. 020896-WS, in the document filings section. Staff has summarized the company's response below:

**Option 1:** For Packed Tower Aeration, the advantages include increasing the oxygen content in the water, which could reduce copper corrosion. Additionally, the process would make Aloha's water compatible with that water anticipated to be purchased from Tampa Bay Water beginning in January 2005. The major disadvantage is that the process cannot be implemented at the well sites due to space limitations, and would instead require centralized facilities, which are expensive to construct. Another disadvantage is that the treatment process is noisy, and would likely not be permitted near residences. This method of treatment has a higher capital cost and O&M costs than other alternatives. The total reduction in sulfur load will be small compared to the total background load.

Construction time would prevent implementation prior to January 2005, which is when water from Tampa Bay Water is expected to be purchased.

**Option 2a:** Hydrogen Peroxide Oxidation has the following advantages: it will result in slight increase in oxygen content of the finished water, which may help reduce copper corrosion and formation of black water; the process would make Aloha's water compatible with water anticipated to be purchased from Tampa Bay Water; the process can be implemented at the well sites; it has the lowest capital cost and O&M costs of the alternatives; and it can be implemented by January 2005. A disadvantage is that the total sulfur load will not be reduced.

**Option 2b:** Using Ozone Oxidation would make Aloha's water compatible with water anticipated to be purchased from Tampa Bay Water and, oxygen levels will be increased slightly, which may help reduce copper corrosion and formation of black water. Additionally, this alternative has lower capital costs and O&M costs than the other alternatives. Disadvantages are that ozone gas is toxic and

may not be feasible at existing well sites near homes. If centralization of facilities is required, the cost would be expensive. Finally, total sulfur load will not be reduced, and the process cannot be implemented by January 2005.

**Option 3:** Hydrogen Peroxide Oxidation coupled with membrane filtration will not provide much more benefit than

the hydrogen peroxide oxidation alone, because the sulfur reduction would be minor. Disadvantages include the need for backwash water for the membranes; a sewer connection would be needed for the backwash; membrane filtration units are large and may not fit at the existing well sites. If centralization is required, the cost would be expensive, and the process cannot be implemented by January 2005.

### History of Case

Aloha Utilities, Inc. is a water and wastewater utility in Pasco County providing service to approximately 10,000 customers in the Aloha Gardens and Seven Springs areas. Critical water supply concerns have been identified for these areas which are in the Northern Tampa Bay Water Use Caution Area of the Southwest Florida Water Management District (SWFWMD).

On July 18, 2002, a Petition was filed at the PSC by a number of Aloha's customers for deletion of a portion of the service territory in Seven Springs. This docket (Docket No. 020896-WS) was opened to address the Petition. By Order No. PSC-02-1722-PCO-WS, issued December 9, 2002, the Commission held this docket in abeyance until the First District Court of Appeal rendered a decision on the utility's appeal of the rate case order issued in Docket No. 010503-WU. Moreover, at the November 19, 2002, agenda conference, the Office of Public Counsel offered to provide funding for an independent water quality audit, resulting in a study by Dr. Audrey Levine. A second Petition for deletion of territory was filed on December 29, 2003. The First District Court of Appeal rendered its decision on May 6, 2003 on the utility's appeal of the rate case order, and the Court's Mandate was issued on June 30, 2003. Dr. Levine's second audit report was issued in February 2004. By Order No. PSC-04-0254-PCO-WS, issued March 8, 2004, the Commission removed the docket from abeyance to allow all parties and staff to fully consider the audit report, and to hold a customer service hearing on the audit report and the implications of its findings. Because the results of the audit report may directly impact the Petitions for deletion of territory, the Commission deferred a ruling on them, and the motions responsive to them, until after all parties and staff have fully analyzed the audit report and customer service hearings are held.

The February 2004 Report of Dr. Levine, an associate professor at the University of South Florida, is the second of two reports to the Office of Public Counsel regarding Aloha's Seven Springs Water system. The stated purpose of the report, entitled *Technical Review of Production and Distribution of Drinking Water in the Seven Springs Water System*, was to evaluate water quality factors that impact the Seven Springs water system, and identify potential operational and treatment modifications that could be used to reduce the incidence of black water.

The report concludes that the water quality of the wells serving the Seven Springs area is typical for that region of Florida. The primary water quality concern is control of hydrogen sulfide in the source water. Although the water is treated with chlorine, various forms of sulfur can react biologically or chemically within the distribution system or residential plumbing to either re-form hydrogen sulfide or to react with dissolved metals to form insoluble particulates. These reactions are exacerbated by warm water temperatures and tend to occur more consistently in water lines that are used infrequently. The report further concludes that removal of sulfate from the water is not practical.

While the current treatment system is in compliance with Federal and State drinking water requirements for potable water systems, the water tends to react with metals in pipelines, faucets, and hot water tanks to form black insoluble particles. The use of alternative treatment approaches to control hydrogen sulfide may help reduce the incidence of black water formation. In addition, upcoming modifications to convert the disinfection system from free chlorine to chloramines will impact the stability of sulfides in the distribution system.

## PSC COMMISSIONERS



Chairman Baez

**Braulio L. Baez** was appointed to the Florida Public Service Commission by Governor Jeb Bush on August 23, 2000, to complete a term ending January 2002. He was then reappointed by the Governor to a four year term ending January 2006. Prior to his appointment, Chairman Baez was an attorney in Miami, Florida, with a statewide practice representing municipal and county governments in telecommunications, cable franchising and other regulatory matters. He was Executive Assistant to Commissioner Joe Garcia from 1994 to 1998. A native of South Florida, Chairman Baez received his undergraduate degree from Florida International University in 1988, and his Juris Doctorate degree from Nova University, Shepard Broad Law Center, in 1993. Chairman Baez is a member of the National Association of Regulatory Utility Commissioners' Committees on Electricity and International Relations. He is Past-President of the Southeastern Association of Regulatory Utility Commissioners and has served on the North American Electric Reliability Council. A member of the Florida Bar, he is a past Director of the Hispanic Bar Association, 2nd Judicial District.

**J. Terry Deason** was first appointed to the Commission by the Florida Public Service Commission Nominating Council in January 1991 for a term ending in January 1995. He was subsequently reappointed by the late Governor Lawton Chiles for a term ending in January 1999. Commissioner Deason was then reappointed by Governor Jeb Bush to a term ending in January 2003, and to his current term which ends in January 2007. Commissioner Deason has served as Chairman of the Commission on two occasions, from January 1993 to January 1995, and from July 2000 to January 2001. Commissioner Deason is an active member of the National Association of Regulatory Utility Commissioners (NARUC). He currently serves on NARUC's Board of Directors, its Finance and Technology Committee, and the Federal/State Joint Conference on Accounting. Commissioner Deason also serves on the executive committee for the Nuclear Waste Strategy Coalition. Prior to his appointment, he served as Chief Regulatory Analyst in the Office of Public Counsel. In that capacity, he was responsible for the coordination of accounting and financial analysis used by the Public Counsel in cases before the Public Service Commission, presented testimony as an expert witness, and consulted with the Public Counsel on technical issues and ratemaking policies concerning regulated utilities in the State of Florida. From 1981 to 1987, Commissioner Deason served as Executive Assistant to PSC Commissioner Gerald L. Gunter, during which time he reviewed and analyzed staff recommendations and advised the Commissioner on those recommendations and other pertinent policy determinations. From 1977 to 1981, he served as a Legislative Analyst with the Office of Public Counsel. He attended the U.S. Military Academy at West Point, and in 1975 received his bachelor of science degree in accounting, summa cum laude, from Florida State University. He also received his master of accounting degree from FSU in 1989.



Commissioner Deason

**Lila A. Jaber** was appointed to the Florida Public Service Commission by Governor Jeb Bush in February 2000 to complete a term ending January 2001. She was reappointed by Governor Jeb Bush for a term ending in January 2005. Commissioner Jaber served as Chairman of the Florida Public Service Commission from January 2002 through January 5, 2004. As a Commissioner, she also serves as Vice Chair of the NARUC (National Association of Regulatory Utility Commissioners) Committee on Telecommunications and is a member of the NARUC Committee on Consumer Affairs. In July 2001, she was appointed by the Federal Communications Commission (FCC) to the Federal-State Joint Board on Universal Service which was created to promote the availability and access to quality telecommunications services throughout the Nation. Commissioner Jaber has served as chair of the Federal-State Joint Conference on Advanced Services (706 Joint Conference) created by the FCC to promote the rapid deployment of advanced services to all Americans. She has also served as co-chair of the e-Infrastructure Subcommittee for the Florida Information Service Technology Development Task Force (ITFlorida.com), and is currently an ex-officio member of the Florida Research Consortium, the affiliate of ITFlorida.com, created as a partnership between Florida's universities and technology sectors to focus on high-tech research and development. Prior to serving on the Florida Public Service Commission, Commissioner Jaber was a bureau chief in the Commission's Division of Legal Services for water and wastewater, where she implemented law and policy in the regulation of more than 1,500 water and wastewater facilities, and subsequently, became the Executive Assistant to Commissioner Julia L. Johnson. Commissioner Jaber, a court-certified mediator and a member of the Florida Bar, received a bachelor of arts degree in political science and business from Stetson University in DeLand, Florida, and received a juris doctorate from the Stetson University College of Law in St. Petersburg, Florida.



Commissioner Jaber

**Rudolph (Rudy) Bradley** was appointed to the Florida Public Service Commission by Governor Jeb Bush for a four year term beginning January 8, 2002. Commissioner Bradley serves on the National Association of Regulatory Utility Commissioners' Committees on Consumer Affairs, Water, and International Relations. He is also a member of the Energy Market Access Partnership Board which is a joint project between the Department of Energy and the National Association of Regulatory Utility Commissioners. Prior to his appointment to the Commission, Commissioner Bradley served as a member of the Florida Legislature for seven years representing District 55 which includes Pinellas, Manatee and Hillsborough Counties. As a member of the Legislature, he served as the Vice Chairman of the Utilities and Telecommunications Committee and as the Chairman of the Select Committee on Energy Restructuring. Commissioner Bradley also served as the Chairman of the Business Development and International Trade Committee and Chairman of the Economic Development Council. As a legislator, Commissioner Bradley maintained a special interest in improving Florida's educational system and expanding business opportunities for all citizens. Commissioner Bradley earned his Bachelor of Science Degree from the University of Tampa and his Masters Degree from the University of Michigan. He served as an educator in Pinellas County for several years and he developed several private enterprises involving real estate and livestock.



Commissioner Bradley

Following the unanimous recommendation of the PSC Nominating Council, Governor Jeb Bush appointed **Charles Davidson** to the Florida Public Service Commission for a four-year term ending January 2007. Commissioner Davidson relocated from New York to Florida in 2000 to serve in the Office of Governor Bush, as the Executive Director of Florida's Information Technology Taskforce. In that role, he was responsible for developing public policies to help ensure that Florida maintains progressive economic development processes and rational regulatory regimes. In 2001, Davidson was recruited by the Florida House of Representatives to launch the state's first Committee on Information Technology. He currently serves *ex officio* as a member of the board of directors of ITFlorida, a statewide not-for-profit organization that is focused on developing sound technology-related public policies. From 1993 to 1999, Commissioner Davidson was an attorney resident in the New York Office of Baker & McKenzie, the world's largest law firm. In 1999, he joined the New York Office of Duane Morris with other attorneys from Baker & McKenzie to form a new international dispute resolution practice group. While in private practice, Davidson was responsible for an array of regulatory, commercial, international, and technology matters in the United States and abroad. His work included multi-jurisdiction antitrust disputes, compliance proceedings before the Department of Justice and the Securities & Exchange Commission, complex commercial dispute resolution, and international technology disputes. His work also included international commercial claims against the Government of Iran before the Iran-United States Claims Tribunal and claims against the Government of Iraq before the United Nations Compensation Commission. Commissioner Davidson has handled an array of domestic and international arbitrations and mediations. While in New York, Davidson served as Special Professor of Law at Hofstra University School of Law. Commissioner Davidson speaks frequently on technology and public policy issues. Recently, Commissioner Davidson testified before Congress on the regulatory treatment that should be afforded broadband technologies. Commissioner Davidson also recently testified before the FCC on the regulatory issues impacting and impacted by Voice over Internet Protocol (VoIP). A Phi Beta Kappa graduate, Commissioner Davidson holds a Masters of Law in Trade Regulation from New York University. He also holds a Masters in International Business from Columbia University. Davidson received his baccalaureate and juris doctorate degrees from the University of Florida, where he served as a fellowship instructor at the College of Law.



Commissioner Davidson



## Consumer Statements at PSC Hearings

The Commissioners are interested in what consumers have to say about potential solutions to Aloha's water quality issues and other matters of concern to consumers in the Seven Springs Area in Pasco County. The main purpose of these hearings is to receive comments from the public.

Anyone may make a statement, and speaking is an effective way to let the Commissioners know how you feel about the case under review. Those consumers who wish to speak should arrive early. The hearings will begin as scheduled and continue until all the consumers have been heard.

At the beginning of the hearings, procedures will be set up to establish an order for comments. PSC staff will have sign-up sheets, and consumers will be called in the order of those sheets. PSC staff will be available to coordinate consumer comments and assist members of the public.

Any person who wishes to comment or provide information to the PSC staff, orally or in writing, may do so at the hearings. Written comments also may be sent to: Florida Public Service Commission, Division of the Commission Clerk and Administrative Services, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850. Letters will be placed in the correspondence file of this docket (Docket No. 020896-WS). Although a comment form is attached to this Special Report, consumers may also call the PSC's toll-free number, **1-800-342-3552**, or dial **1-800-511-0809** to fax.

Any person who is unable to attend and who wishes to obtain a copy of the recommendation or the order may do so by writing to: Director, Division of the Commission Clerk and Administrative Services, Florida Public Service Commission, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850.

### CUSTOMER HEARINGS

DOCKET NO. 020896-WS

**Thursday, April 8, 2004**

First Customer Hearing: 9:30 a.m. to 12:30 p.m.  
 Second Customer Hearing: 4:00 p.m. to 7:00 p.m.  
 West Pasco Government Center  
 County Commission Board Room, Suite 160  
 7530 Little Road  
 New Port Richey, Florida

### PSC Staff and Reference Numbers

**For technical questions, contact:**

Tom Walden (850) 413-6950  
 Marshall Willis (850) 413-6914

**For legal questions, contact:**

Rosanne Gervasi (850) 413-6224

**For general questions, contact:**

Bridget Hoyle (850) 413-6111  
 Or call toll-free 1-800-342-3552  
 (1-800-511-0809 to fax)  
 E-mail: [contact@psc.state.fl.us](mailto:contact@psc.state.fl.us)  
 Internet Home Page: [www.floridapsc.com](http://www.floridapsc.com)

Florida Public Service Commission

*Division of*  
**Consumer Affairs**

2540 Shumard Oak Boulevard  
 Betty Easley Conference Center, Room 184  
 Tallahassee, Florida 32399-0850

The Public Service Commission's Division of Consumer Affairs provides a staff of information specialists who are available to answer questions from Florida consumers.

To reach a PSC consumer representative, please call the Division of Consumer Affairs during business hours at (850) 413-6100, or send a fax to 1-800-511-0809. See the PSC's Internet home page at [www.floridapsc.com](http://www.floridapsc.com).



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Division of the Commission Clerk and Administrative Services  
2540 Shumard Oak Boulevard  
Tallahassee, Florida 32399-0850

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