

**DEPARTMENT OF THE ARMY**

**COMPLETE STATEMENT OF**

**Mr. Thomas P. Jacobus  
General Manager  
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**BEFORE THE**

**Subcommittee on Federal Workforce, Postal Service, and the District  
of Columbia  
Committee on Oversight and Government Reform**

**HOUSE OF REPRESENTATIVES**

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Chairman Davis and Members of the Subcommittee, I am Tom Jacobus, General Manager of Washington Aqueduct. Thank you for inviting me here today to discuss drinking water quality and the interaction between Washington Aqueduct and the District of Columbia Water and Sewer Authority (DC WASA).

You asked me to address a number of issues pertaining to Washington Aqueduct's interaction with DC WASA.

Before I get into the details of what Washington Aqueduct does and how it does it in conjunction with DC WASA, let me say that Washington Aqueduct's working relationship with DC WASA is sound and productive. Working together – with effective oversight from Region 3 of the United States Environmental Protection Agency -- we provide the residents of the District of Columbia with excellent water delivered with exceptionally high reliability at a reasonable cost.

Washington Aqueduct also works well with other federal, state-level, and local agencies that have stewardship responsibilities over physical and biological resources. That, coupled with our interest in working with private advocacy groups, gives us the opportunity to contribute to solutions to environmental issues.

One of the great strengths I see in both of our organizations is our willingness to continually evaluate our performance and to make improvements wherever we can. The public expects and should receive no less.

### **Background on Washington Aqueduct**

Washington Aqueduct is a public water utility providing wholesale service to the District of Columbia, Arlington County, Virginia and the City of Falls Church service area in Northern Virginia.

It is a federal entity that is part of the U. S. Army Corps of Engineers (Baltimore District).

The provisions of the Safe Drinking Water Act and its associated regulations are the basis for all operations concerning the production, storage, and transmission of the drinking water produced and sold by Washington Aqueduct to its wholesale customers. We are regulated by Region 3 of the United States Environmental Protection Agency.

The Potomac River is the source of all water treated by Washington Aqueduct at its Dalecarlia and McMillan water treatment plants. The treatment consists of chemically induced sedimentation using aluminum sulfate as the coagulant; filtration in dual media sand and anthracite coal filters; and disinfection using chlorine as the primary disinfectant and chloramines as a secondary disinfectant.

The primary objective of the treatment process is to produce and deliver water to the tap that is free of contaminants and is pleasant to drink.

Washington Aqueduct's financial and strategic planning is governed by a Wholesale Customer Board comprised of the general manager of the District of Columbia Water and Sewer Authority, the Arlington County manager, and the City of Falls Church city manager. There are technical committees that meet to evaluate engineering and financial operations throughout the year.

All funds to pay for Washington Aqueduct operations and for capital improvements come from its three wholesale customers. There are no appropriated funds used to carry out our mission.

Washington Aqueduct meets all elements of all regulations that govern water quality as well as other environmental statutes.

In the sections that follow, I will provide information on Washington Aqueduct operations, but I believe this will be of interest to the Subcommittee as you think about DC WASA's role as the retail provider – and as a member of the board that makes strategic decisions concerning Washington Aqueduct activities and provides its share of the funds for Washington Aqueduct's operations.

### **Developments in Drinking Water Quality**

Drinking water treatment has steadily improved over the last 150 years to incorporate new technology and processes in order to protect the public health. The greatest single advance in that period has been the use of chlorine to disinfect the water to kill the microbial organisms that plagued earlier societies with illness and death.

As human activity increases in the watersheds that supply source water, a range of new challenges beyond just the biological has emerged and more challenges are on the horizon. Tailoring the water treatment techniques to meet these challenges is the responsibility of the public water utilities.

Washington Aqueduct's treatment plants employ multiple barriers to remove physical, chemical and biological contamination. However, as the potential contaminants become more complex and the ability to detect them at extremely low levels advances, we must continue to evaluate whether changes in treatment are warranted to meet Federal public health standards.

Washington Aqueduct will work with its neighboring utilities, Fairfax Water and Washington Suburban Sanitary Commission to sample our mutual source and our individual finished waters for the most likely endocrine disruptor chemicals including pharmaceuticals. Additionally, Washington Aqueduct is preparing a scope of work for a consultant to work with us to develop a framework in which to make decisions for possible future changes to the current treatment process. A wide range of concerns will be addressed including improved disinfection byproduct precursor removal, improved removal/inactivation of pathogens, treatment of emerging contaminants and improved taste and odor. If treatment changes are indicated to meet future water treatment

challenges and potential regulatory changes, techniques such as ozonation and ultraviolet light disinfection are among those that will logically be considered as additive to the current treatment techniques. As we do this, all of the secondary effects of any change in treatment will be considered.

Once the water leaves the water treatment plants and enters the distribution system there are challenges there as well. While Washington Aqueduct is not responsible for the management of the pipes per se, it is responsible to deliver water with the proper chemistry to ensure that it remains free of contaminants all the way to the glass the customer holds in his or her hand.

The two major issues in the distribution systems are lead (in the form of pipes, solder and fixtures) and the chemical byproducts of disinfection. Water treatment techniques and chemistry are capable of dealing with both.

Washington Aqueduct and DC WASA work collaboratively to lower the likelihood of lead leaching into the water from lead pipes serving some homes in the District of Columbia. The addition of orthophosphate as a corrosion inhibitor in the fall of 2004 is proving to be very effective in reducing the amount of lead that might leach into water in these homes.

The use of chloramine as a secondary disinfectant has significantly reduced the concentrations of the regulated disinfection byproducts trihalomethanes and haloacetic acid. The current treatment is effective.

One project, on which construction will begin in the fall of this year, is the conversion of the physical form of the chlorine used for disinfection from pure gaseous chlorine to an aqueous solution known as sodium hypochlorite. This change will be unnoticeable in the water leaving the treatment plants, but it will eliminate the danger of any accidental or purposeful release of chlorine gas – and it will be safer to transport from the manufacturer to the treatment plants.

Through the course of normal human development and activity, there have always been effects of that activity on drinking water. I am confident that the water treatment industry in general and Washington Aqueduct specifically will meet this challenge and always be ready to deliver safe drinking water to the customers.

### **Capital Improvement Program**

Washington Aqueduct's capital improvement program is designed to accomplish three things: revitalization of existing infrastructure, incorporation of new processes that can improve efficiency or efficacy of the operations, and meeting new or anticipated regulatory changes that require upgrades to the treatment process.

The DC WASA share of the Washington Aqueduct capital improvement budget is carried in the DC WASA capital improvement plan.

Since 1996, Washington Aqueduct customers have approved funding of \$257,880,000 to make significant improvements in the reliability and capability of Washington Aqueduct infrastructure and treatment processes. The results over that period represent extraordinary teamwork between Washington Aqueduct and DC WASA as well as its Arlington and Falls Church customers.

DC WASA supports the Washington Aqueduct goal of providing safe, reliable, and cost effective water service. While DC WASA itself has great needs for capital improvement projects to meet its water system and wastewater system obligations to customers and regulators, it has recognized that the Washington Aqueduct's needs must be incorporated in their plan if we, as a wholesale/retail team, are to be successful in meeting the expectations of the District of Columbia customers.

Should there be a need for additional treatment techniques (e.g., ozonation, ultraviolet disinfection, etc.) we will work with DC WASA to program and execute these projects in addition to the baseline revitalization needed to sustain the infrastructure. All of this is being done to protect the consumer and the environment.

## **Environmental Protection**

DC WASA and Washington Aqueduct are committed to meeting our obligations under environmental law and to establish best practices to ensure long-term capabilities to operate industrial activities in urban areas.

In March of this year, Baltimore District, US Army Corps of Engineers on behalf of Washington Aqueduct awarded a major construction project that will recover the water treatment residuals that are generated as sediment is removed from the Potomac River water in the treatment plants. Instead of being returned to the Potomac River that material will be dewatered and hauled for land application – essentially recycling the sediment back to the upland areas.

In the day to day operations at the Washington Aqueduct water treatment plants and its appurtenant facilities, we ensure that air and water quality are not diminished and that solid wastes are transported to appropriate disposal facilities.

To this end, Washington Aqueduct works with the District of Columbia Department of Environment and the Maryland Departments of Environment and Natural Resources. Storm water permits and National Pollutant Discharge Elimination System permits are carefully managed.

This careful management and coordination occurs at both ends of our and DC WASA's mutual systems. For example, the decision to handle water treatment residuals on site at the Washington Aqueduct's Dalecarlia facility was arrived at after considering a range of alternatives, one of which was to put these residuals into the sewer and have them processed at the Blue Plains Advanced Wastewater Treatment

Plant. We worked with DC WASA and in the end we determined that this idea was not feasible because our inorganic solids would have disrupted the significant advances being made by DC WASA to reduce the quantities and impacts of their primarily organic solids that the Blue Plains plant receives for processing.

## **Agency Governance**

As you think about DC WASA governance issues, it might be helpful if I take a moment to review the history of the Washington Aqueduct governance since it is entwined with the creation of DC WASA.

In 1995 and 1996 there was a detailed analysis of the role the U.S. Army Corps of Engineers should play in continuing to provide (via the Washington Aqueduct organization) potable water to the District of Columbia, Arlington County and the City of Falls Church service area. This analysis was directed by the Congress in the Safe Drinking Water Act Amendments of 1996.

After deliberation and analysis of alternative arrangements including privatization and creation of a new regional authority, the recommendation of the District of Columbia, Arlington County and the City of Falls Church to the Chief of Engineers acting for the Secretary of the Army, was to maintain the Washington Aqueduct as the wholesale water provider, but to provide a structure for budget-related decision-making.

The decision to accept that recommendation was recorded in a Memorandum of Understanding that laid out a procedure for the three wholesale customers to act on budgets developed by the general manager of Washington Aqueduct.

The position designated to serve as the Washington Aqueduct Wholesale Customer board principal representing the interests of the water customers in the District of Columbia was the General Manager of DC WASA.

The logic of selecting DC WASA's General Manager as the principal representing the District of Columbia service area, was that the water sales agreement for the water provided to the District of Columbia geographic service area was between Washington Aqueduct and DC WASA. Therefore DC WASA had the financial responsibility to meet its obligations under the sales agreement and, as such, the Washington Aqueduct's costs would be included in the DC WASA budget. That DC WASA budget is then approved according to the procedures established for the DC WASA Board.

In Virginia, the county and city agencies responsible for water service put the Washington Aqueduct costs into their utility budgets that are subsequently presented for review and approval in accordance with the county and city procedures.

In all three instances, the Washington Aqueduct Wholesale Customer Board principals report to the board or council that must approve their budgets and be

responsible for setting the rates and charges to generate the revenue to support the approved Washington Aqueduct budget.

Throughout a period of increased security needs and with the occasional need to address specific problems, this arrangement has served all parties very well. There has been excellent progress in making operational as well as capital improvements that have resulted in a continuing supply of safe, reliable and cost effective drinking water to the residents of the District of Columbia and Arlington County and the City of Falls Church service area.

I believe it is an appropriate business model that will continue to serve us well in the future.

Thank you again for the opportunity to participate in today's hearing. I will be happy to answer your questions.