DIRECT TESTIMONY
OF
JULIA FORGUE, P.E.
ON BEHALF OF THE CITY OF NEWPORT, UTILITIES DEPARTMENT, WATER DIVISION

In re: City of Newport Utilities Department, Water Division

Docket No.

November 2, 2009

I. INTRODUCTION

Q. Please provide your full name, title and business address for the record.

A. Julia Forgue, P.E. I am employed by the City of Newport where I serve as Director of Utilities. My business address is 70 Halsey Street, Newport, RI.

Q. How long have you held this position?

A. I began my employment with the City of Newport on March 12, 2001 as Director of Public Works. While Director of Public Works, I also served as the General Manager of the Water Division. In December 2007 a reorganization of City Departments was finalized and my new position is now Director of Utilities.

Q. What are your responsibilities as Director of Utilities with regard to the Newport Water System?

A. As Director of Utilities, I serve as general manager of the water and water pollution control divisions. I am responsible for planning, organizing and directing the activities for the Water Division. I direct and supervise the work of supervisors on administrative and technical issues conforming to a policy framework established by the City as well as State and Federal agencies.

Q. Can you provide a brief description of your work experience?

A. Prior to working for the City of Newport, I was employed by the City of East Providence for 14 years with the last 11 years as Director of Public Works. At DPW in East Providence, I managed the water division. The City of East Providence purchases water wholesale from Providence Water and operates and maintains its own transmission and distribution system with approximately 15,000 services. Prior to working for the City of East Providence, I was employed as a project engineer at consulting firms in Colorado and New Hampshire.

Q. What is your educational background?

A. In 1981 I received a B.S. in Civil Engineering from Northeastern University and in 1982 a M.S. in Civil Engineering from the University of Colorado at Boulder. I am a registered Professional Engineer in Rhode Island and New Hampshire.

Q. Do you have any professional affiliations?

A. Yes, I am a member of the American Water Works Association, New England Waterworks Association and the Rhode Island Waterworks Association. I served as President of the RIWWA December 2001 to December 2003. I am also a member of the Water Environment Association and the American Public Works Association in which I served as President of the New England Chapter in 2002.

NEWPORT'S WATER SYSTEM

Q. In the Cost of Service Study, Mr. Smith has assigned certain costs for the Station One Plant to Portsmouth. Can you explain the assignment of these costs to Portsmouth?

A. Yes, these costs are assigned to Portsmouth because, like the rest of Newport Water's customers, Portsmouth benefits from the operation of the Station One plant. In short, Portsmouth benefits from costs associated with Newport's ability to meet demand by producing water at both of its treatment plants and therefore should share the recovery of those costs with the rest of Newport's customers.

Q. Doesn't Portsmouth only take water from a tank at the Lawton Valley treatment plant?

A. Yes, but Portsmouth's connection to Newport's system cannot be viewed in a vacuum. While Portsmouth takes the water it purchases from the 4 million gallon tank at the Lawton Valley Treatment Plant ("LVWTP"/"Lawton Valley"), Newport Water operates its two treatment plants in concert to meet the average day and peak day demands placed on the system, including those placed on the system by Portsmouth. Therefore, Portsmouth's connection must be viewed in context of the entire system. Newport's system is one of the most complex systems in the state with two (2) water treatment plants, nine (9) raw water reservoirs of varying quality (two of which are on the mainland and serviced with the Sakonnet River crossing), and a significant demand fluctuation between seasons. While Portsmouth receives water from the Lawton Valley plant, they benefit from costs associated with the Newport's system wide management policies.

Q. Can you explain this further?

A. Newport's water system consists of three (3) pressure zones, High, Medium, and Low. The pressure zones are located at the northern (high), middle (medium) and southern (low) sections

of Aquidneck Island. The Station One Water Treatment Plant ("Station One") and the LVWTP are linked together by a 24-inch transmission main. Water from the nine (9) surface water reservoirs is treated and can be distributed to each of the three pressure zones. We must manage operations of both treatment facilities taking into account both the quantity and quality of raw water is the various reservoirs. The LVWTP, located in the medium pressure zone, can also supply treated water to the high and low pressure zones. Likewise Station One, located in the low pressure zone, can supply treated water to the medium and high pressure zones at different times of the year as dictated by the quantity and quality of the raw water in the various reservoirs and the demands placed on the system. While treated water from Station One does not directly feed Portsmouth's meter pit, they receive all the benefits of Newport's flexibility to provide water to the entire Island

Q. Can you please provide an example?

A. Yes. The Lawton Valley, St. Mary's and Sisson reservoirs provide water to the LVWTP, which in turn provides water to Portsmouth. These reservoirs are located at higher elevations in the northern end of the Island, and they have smaller watersheds. Within the system, there are large fluctuations of water demands between winter and summer months. Obviously the greater demand occurs in the summer. Therefore, we must allow these three reservoirs in the higher elevations to recover in the winter. This recovery ensures that we can meet demand in the peak seasons, and that we can provide Portsmouth with the water they need from the Lawton Valley Treatment plant during peak demand.

While these reservoirs recharge, the majority of treatment occurs at Station One utilizing one of the facilities' two booster pumps (each rated at 2.25 MGD). During this time period, Station One produces 5-6 MGD , and Lawton Valley's production drops below 2 MGD. However, we have to continue operating Lawton Valley to provide water to Portsmouth in the winter. During the winter, treatment at Lawton Valley occurs approximately one shift per day. If we did not have to supply Portsmouth, we could shut the plant altogether on certain days during the off peak season and reduce costs. Thus, other customers share in the cost of keeping Lawton Valley open in the winter.

By allowing these three reservoirs to recover, it ensures there is enough water for Portsmouth in the peak demand seasons, and it reduces the cost of providing water during this peak time. If the reservoirs were not allowed to recover, we would have to pump water using the Sakonnet Pump Station from the mainland reservoirs to the LVWTP during peak season. Pumping from the mainland reservoirs would bring increased costs. As such, the system wide costs associated with proper management – in this case replenishing the three reservoirs – benefits Portsmouth.

Q. Is the water supplied by the Station One more costly than that supplied by the LVWTP?
A. Yes, this is mostly due to the pumping costs associated with Station One providing water to the medium and high pressure zones. But again, these costs cannot be viewed in a vacuum. One must consider system wide management issues. First, Lawton Valley's costs are lower because it is at a higher elevation and can provide water to the medium and low pressure zones by gravity. Station One also uses granular activated carbon (GAC) as a filter media, which requires replacement and can be thought of as a consumable. Lawton Valley's filtration uses a dual media sand, which is backwashed rather than being replaced on a regular schedule similar to the GAC. GAC however is more effective in meeting TOC removal and turbidity standards.

Further in accordance with our residual management plan for Lawton Valley and the consent agreement for the Lawton Valley RIPDES permit, we maximize treatment at Station One and minimize treatment at Lawton Valley during the off peak season in order to minimize residual discharges. Historically, the LVWTP discharged all plant residuals to Lawton Brook. The new residual management system at Lawton Valley, which began operation on January 30, 2008, now collects and transports solids from the coagulation basins and sedimentation basins to the sanitary sewer system. Due to the volume and discharge rate, the filter backwash continues to be discharged to the Lawton Brook. In June 2009 we began discharging a portion of the filter backwash to a constructed wetland prior to discharge to the Lawton Brook. The initial portion of the filter backwash is diverted to the residual management system. As part of the consent agreement with the Rhode Island Department of Environmental Management, Newport Water has committed to the completion of a new Lawton Valley facility by December 31, 2014 that will eliminate any discharge to the Lawton Brook. Maximizing the operation of Station One is required to address the environmental issue by minimizing LVWTP sludge discharges.

Naturally, this results in additional costs at Station One. However, it benefits the entire system, and all of our customers, including Portsmouth.

Q. Will the way in which the treatment plants are operated change once the new treatment plant that is replacing the existing LVWTP becomes operational?

A. Decisions regarding the operation of the system once the new treatment plant is online will be finalized once the plant is constructed and operational such that its production capabilities can be fully assessed. While the new plant will eliminate the existing plant's problems associated with plant residuals and filter backwash, Newport Water will still be required to make production decisions based on the quantity and quality of raw water in its reservoirs and the demands placed on the system. Therefore it is likely that the new treatment plant will fill a role similar to that played by the existing LVWTP and we will continue to operate both plants in concert to meet the demands of the system in the most efficient way possible.

Q. Are there other ways that Portsmouth benefits from Station One?

A. Yes, Station One provides valuable production redundancy that increases system reliability. In the event of an emergency shut down of the LVWTP, Newport Water can meet at least a portion of Portsmouth's demand by producing water at Station One and delivering it to Portsmouth via the connections to the 2 million gallon storage tank at the LVWTP and to the Goulart Lane 1.5 million gallon storage tank. Both of these connections are operated manually.

Q. Does this conclude your direct testimony?

A. Yes.