DIRECT TESTIMONY
OF
WILLIAM J. MCGLINN, P.E.
ON BEHALF OF THE
PORTSMOUTH WATER AND FIRE DISTRICT

In re: Application for Rate Relief
City of Newport Utilities Department, Water Division
Docket No. 4128

Q. Please state your name and business address.

A. My name is William J. McGlinn and my business address is 1944 East Main Road in Portsmouth, Rhode Island.

Q. By whom are you employed and in what capacity?

A. I am employed by the Portsmouth Water and Fire District (PWFD) and my position is General Manager and Chief Engineer.

Prior Experience

Q. Please describe your professional qualifications and experience.

A. I have been employed by PWFD as its General Manager and Chief Engineer for over twenty-one years. My responsibilities include managing the PWFD's staff and day to day operations, performing engineering analysis and design, coordinating the activities of professional consultants, advising the elected Administrative Board and implementing the policy decisions of the Board.

I also served as an engineering consultant to PWFD from May of 1982 to October of 1988. During that time I advised the Administrative Board and the Maintenance Manager on the hydraulic operation and expansion of the water system.

Prior to being hired by PWFD, I was employed for eleven years by Maguire Group Inc., an engineering consulting firm located in Providence, Rhode Island. I was responsible for project engineering and management in the Environmental Engineering Division. At the time of my departure, I held the title of Senior Principal Engineer. My assignments during this tenure included the design and construction management of municipal and private water systems. In addition, I was responsible for water system hydraulic computer modeling and analysis, as well as water system troubleshooting and testing. While at Maguire, I was also involved in sanitary engineering and resource recovery engineering.

I am a graduate of the University of Rhode Island with a bachelor's degree in Civil and Environmental Engineering and have been engaged in water supply engineering, civil engineering and construction for over thirty-three years.

Q. Do you have any professional registrations or certifications?

A. Yes. I am a registered professional engineer in the State of Rhode Island. I am also certified as a Class 4 Drinking Water Distribution Operator and a Class 2 Drinking Water Treatment Operator in the State of Rhode Island.

Q. Mr. McGlinn, do you have any professional affiliations?

A. Yes. I am a member of the Rhode Island Water Works Association (RIWWA). I served on RIWWA's Executive Committee from 1990 to 1998 and as its President from December 1993 to December 1995. I am presently the Chairman of the RIWWA Water for People Committee, serve on the Legislative Committee and have been the liaison for RIWWA to the Department of Public Utilities and Carriers (DPUC) on Dig Safe matters for over ten years.

I am also a member of the New England Water Works Association, the American Water Works Association, the National Society of Professional Engineers, and the American Society of Civil Engineers.

Q. Have you previously presented testimony as an expert witness?

A. Yes. I have testified before the Rhode Island Superior Court and the Portsmouth and Tiverton Zoning Board's of Review on behalf of PWFD, and in the Rhode Island Superior Court on behalf of the Narragansett Bay Water Quality Management District Commission. I have also appeared as an expert witness before the Rhode Island Public Utilities Commission on behalf of PWFD on several rate cases. These appearances included expert testimony on water supply engineering, sanitary engineering and general civil engineering.

Overview

Q. Can you please describe your role in this proceeding?

A. My role in this proceeding is to coordinate the review of the Newport Water Department (NWD) rate case with PWFD's rate expert and attorneys and respond to data requests submitted by the rate case parties. I will also provide testimony on the PWFD system and how it obtains water from NWD.

Q. Please describe the PWFD organization and its water system.

A. PWFD is a quasi-municipal, governmental agency created by an act of the Rhode Island General Assembly. PWFD was created to provide drinking water and water for fire protection throughout its legislated service area - approximately ninety percent of Portsmouth on Aquidneck Island. PWFD is governed by a seven-member Administrative Board (Board), which is elected by the registered voters within PWFD's boundaries.

PWFD has its own transmission and distribution system, separate and apart from NWD. This system has been constructed, funded and maintained by the PWFD ratepayers and taxpayers over the last fifty-five years. PWFD has over one hundred twenty-six (126) miles of pipe, four (4) water storage tanks, two (2) pumping stations, five hundred fifty-five (555) fire hydrants, six thousand five-hundred (6,500) service connections, and a three thousand (3,000) square foot administration and operations building. PWFD services over sixteen thousand seven hundred (16,700) residents in Portsmouth. PWFD has a staff of ten people. In addition to the General Manager and Chief Engineer, PWFD has an Office Manager with a staff of two (2) office clerks and an Operations Manager with a staff of four (4) water system operators and an engineering technician.

Q. Can you please explain how PWFD obtains water from NWD?

A. Yes. I have attached a color-coded map (Exhibit 1) with numerical references denoted herein by brackets [#] to assist in answering this question.

All of the water that PWFD purchases from NWD is drawn from NWD's 4.0 million gallon (MG) underground, treated water reservoir [1] located at the Lawton Valley Water Treatment Plant (LV-WTP) [2]. The gradient of the reservoir is 201 feet Mean Sea Level (MSL).

Pumps located inside the LV-WTP [2] supply the 4.0 MG reservoir [1] with treated water through a NWD 24-inch effluent main [8]. This reservoir does not receive water from the Station One Water Treatment Plant in Newport.

PWFD draws water from the 4.0 MG reservoir [1] using its own Union Street Pumping Station [3] and its own 16-inch suction main [4]. PWFD's suction main [4] is connected to a NWD 16-inch reservoir effluent main [5] at a point approximately 63 feet from the 4.0 MG reservoir.

In essence, by using its own infrastructure, constructed and paid for by the PWFD ratepayers and taxpayers, PWFD is drawing water directly from the LV-WTP [2] through the 4.0-MG underground reservoir [1] located at the plant and pumping it into it's own system at a gradient of 360 feet (MSL)..

Q. How do other NWD customers receive water from the Lawton Valley Treatment Plant?

A. The Navy has a 10-inch water main [10] that draws water from the 4.0 MG reservoir [1] and the 24-inch plant effluent main [8]. This Navy connection supplies only the Melville area of Naval Station Newport, which represents less than 10% of the Navy's total metered usage.

The NWD Lawton Valley Pump Station [9] located on the LV-WTP site also draws water from the 4.0-MG reservoir [1] and the 24-inch plant effluent main [8]. This pump station

supplies the medium pressure zone for the NWD distribution system [6] including the 2.0-MG standpipe [7] at the plant. This medium pressure zone operates at a gradient of 251 feet (MSL). Those customers in the NWD medium pressure zone that receive water from this pump station [9], the 2.0 MG standpipe [7] and the Newport transmission and distribution system [6] include:

- the majority of the NWD retail customers in Middletown;
- all of the NWD retail customers in Portsmouth, which comprises 10% of Portsmouth;
- a small amount of the NWD retail customers in Newport; and
- numerous Navy connections.

There is also a high pressure zone on the NWD system that draws water from the NWD medium pressure zone. This high pressure zone, which operates at a gradient of 334 feet, is located in the higher elevation area of Middletown and is supplied by the NWD's Forest Avenue Pumping Station and the Goulart Lane Water Storage Tank.

Q. Does PWFD receive any water from the NWD medium or high pressure zones?

A. No. The medium and high pressure zones that operate at gradients of 250 feet and 334 feet, respectively, supply the NWD retail customers. The medium pressure zone also supplies numerous Navy connections.

PWFD receives all of its water from the LV-WTP at a gradient of 201 feet. PWFD then pumps that water into its system at a gradient of 360 feet. PWFD does not receive water that is pumped by the Lawton Valley Pumping Station [9] or the Forest Avenue Pumping Station.

Q. Are there any interconnection between PWFD and the NWD medium pressure zones?

A. Yes. There is one emergency connection [11] to the medium pressure zone at the LV-WTP. This connection was constructed at PWFD expense in 1989 when a new suction main to the reservoir effluent pipe was installed. The purpose of this connection, which was installed at the recommendation of NWD, is to allow the District to obtain a temporary water supply

should the NWD 4.0 MG Underground Reservoir be taken out of service for maintenance or an emergency.

Q. Has PWFD ever received any water through this medium pressure zone emergency connection?

A. Yes, on one occasion. As NWD indicated in PWFD 2-4, PWFD used this emergency connection in the spring of 1999 while NWD cleaned the 4.0 MG Reservoir. NWD and PWFD agreed that PWFD should use the emergency connection for this two week period for water quality and safety reasons. The cleaning of the reservoir was being performed by divers using underwater vacuuming equipment. Both NWD and PWFD were concerned about sediment being stirred up by the vacuuming process and any resulting high turbidity water being drawn into the PWFD system. In addition, both parties were concerned with diver safety, should one of the divers be working underwater near the tank effluent line at the same time that the PWFD pumps turned on to draw water. This is the only time this connection has been used in its twenty-one year existence.

Q. Are there any interconnections between PWFD and the NWD high pressure zone?

A. Yes. There is one emergency connection between the PWFD system and the NWD high pressure zone. This connection was constructed in the fall of 1988 by PWFD and the cost was shared by both parties. The purpose of this connection was to enable NWD to supply its high pressure zone with water from PWFD and to allow PWFD to supply its system from the NWD high pressure zone in the event of emergencies in either system. This connection allows NWD to receive approximately 680,000 gallons per day from PWFD. Due to the lower gradient and limited pumping capacity of NWD's high pressure zone, this connection allows PWFD to receive only 300,000 gallons per day from NWD.

Q. Have PWFD or NWD ever received any water through this high service emergency connection?

A. Yes. Contrary to NWD's response in PWFD 2-4 regarding this connection, PWFD's records show that PWFD has used this connection on one occasion in April 1989 when a break occurred in a pipe in PWFD's Union Street Pumping Station. The emergency connection to PWFD was active for four days.

PWFD records also show that NWD has used this connection on three occasions. The connection was used by NWD in January 1989 and December 2005 for a total of three days due to water main breaks in NWD's system in Middletown. In addition, NWD used this connection for over ten weeks from March to June, 2009 while it renovated its Goulart Lane Water Storage Tank in Middletown.

Q. Are there any interconnections between PWFD and the NWD low pressure zone supplied by the Station One WTP?

A. No, there are not.

Q. Should the cost of the Lawton Valley Pumping Station and the Forest Avenue Pumping Station be allocable to the PWFD in any rate model?

A. No. The cost of power, maintenance, capital expenses and debt service, if any, for these pumping stations are allocable to the customers that use the NWD distribution system and none of these costs should be borne by PWFD, as this facility is not used by NWD to supply PWFD. As stated earlier, PWFD has its own pumping station to move the water from the LV-WTP into the PWFD distribution system at a gradient of 360 feet (MSL).

Q. Does PWFD receive any water from the NWD Station One WTP?

A. No. All of the water purchased by PWFD comes from the LV-WTP. The water from Station One generally supplies only the low pressure zone in Newport. Although NWD does move water from its low pressure zone (Station One water) to the medium pressure zone

(Middletown and the Navy) during certain times of the year, this water does not go into the 4.0 MG reservoir and does not supply PWFD.

Q. Are there any other NWD customers that obtain water service in a manner similar to PWFD?

A. No. PWFD is unique in that it has one connection to NWD and takes all of its water directly from the underground reservoir at the treatment plant using PWFD's own infrastructure to pump and transmit the water to PWFD.

PWFD does not utilize NWD's storage tanks or distribution system for any purpose, including peak hour demand and fire protection, but instead relies on PWFD storage tanks and distribution system for this purpose. In essence, PWFD relies on NWD to supply its maximum day demand.

Q. The Navy is a wholesale customer. Don't they take water in a similar manner to PWFD?

A. No, the Navy does not. PWFD is significantly different from the Navy in the manner in which it takes water from NWD. The following comparison table illustrates the major differences between PWFD and the Navy.

ISSUE	PWFD	NAVY
Number of Connections	One connection to NWD and one meter to be read and billed.	10 active connections to the NWD and 14 meters to be read and billed.
Location of Connections	Draws all water directly from the 4.0 MG underground reservoir at the Lawton Valley Water Treatment Plant which is the least expensive of the two treatment plants to operate.	1. Draws less than 10% of its supply from 4.0 MG underground reservoir at the Lawton Valley Water Treatment Plant. 2. Numerous connections to the medium pressure zone in Middletown. The Navy is utilizing the NWD Lawton Valley pump station, the NWD 2.0 MG storage tank and the NWD transmission and distribution system for these connections. 3. Numerous connections to the low pressure zone in Newport that are supplied by the Station One Treatment plant. Utilizes the NWD low pressure zone transmission and distribution system and storage for these connections.
Meters	PWFD owns, tests, repairs and replaces the meter per contract. PWFD has an independent consultant test this meter twice each year.	NWD owns, tests, repairs and replaces the Navy meters. In recent years, NWD has been replacing the Navy meters at NWD expense.
Emergency Connections	Has the ability to supply up to 1.0 MGD from PWFD gradient 360' to the NWD high pressure zone gradient 334' through a jointly owned emergency connection on Mitchell Lane at East Main Road in Portsmouth.	No ability to provide emergency service.

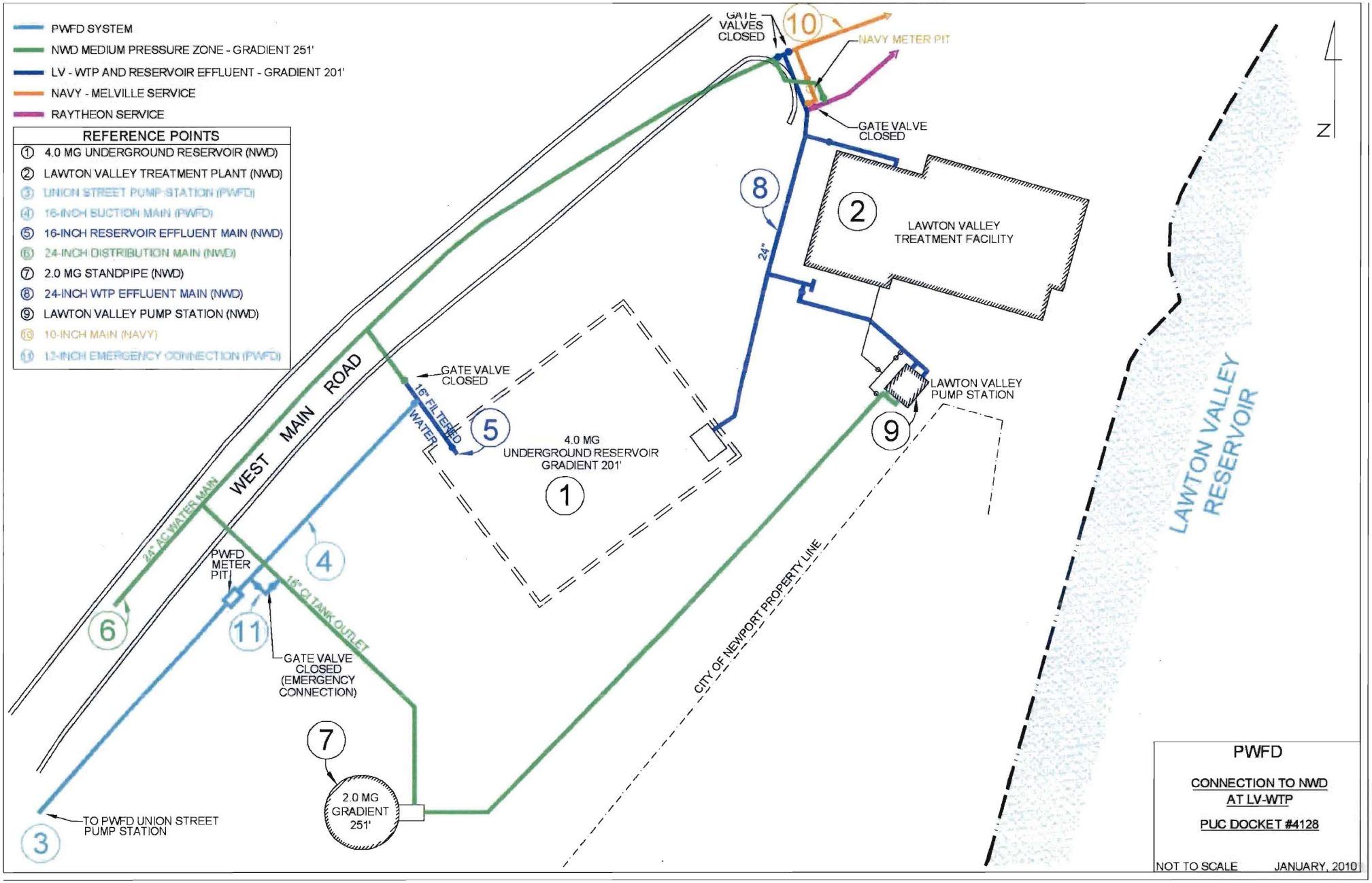
Q. In general, how would you describe PWFD as a customer?

A. PWFD is by far the easiest customer for NWD to serve. PWFD buys the water directly from the LW-WTP using its own infrastructure and meter, which it must maintain. The District is billed monthly and pays its bills on time.

Q. Does this conclude your testimony?

A. Yes it does.

Exhibit A


PWFD SYSTEM
NWD MEDIUM PRESSURE ZONE - GRADIENT 251'
LV - WTP AND RESERVOIR EFFLUENT - GRADIENT 201'
NAVY - MELVILLE SERVICE
RAYTHEON SERVICE
REFERENCE POINTS
① 4.0 MG UNDERGROUND RESERVOIR (NWD)
② LAWTON VALLEY TREATMENT PLANT (NWD)
③ UNION STREET PUMP STATION (PWFD)
④ 16-INCH SUCTION MAIN (PWFD)
⑤ 16-INCH RESERVOIR EFFLUENT MAIN (NWD)
⑥ 24-INCH DISTRIBUTION MAIN (NWD)
⑦ 2.0 MG STANDPIPE (NWD)
⑧ 24-INCH WTP EFFLUENT MAIN (NWD)
⑨ LAWTON VALLEY PUMP STATION (NWD)
⑩ 10-INCH MAIN (NAVY)
⑪ 12-INCH EMERGENCY CONNECTION (PWFD)
GATE VALVES CLOSED
10
NAVY METER PIT
GATE VALVE CLOSED
8
24"
2
LAWTON VALLEY TREATMENT FACILITY
GATE VALVE CLOSED
16" FILTERED WATER
5
4.0 MG UNDERGROUND RESERVOIR GRADIENT 201'
1
LAWTON VALLEY PUMP STATION
9
WEST MAIN ROAD
24" AC WATER MAIN
PWFD METER PIT
4
16" CI TANK OUTLET
6
11
GATE VALVE CLOSED (EMERGENCY CONNECTION)
7
2.0 MG GRADIENT 251'
TO PWFD UNION STREET PUMP STATION
3
CITY OF NEWPORT PROPERTY LINE
LAWTON VALLEY RESERVOIR
N
PWFD
CONNECTION TO NWD AT LV-WTP
PUC DOCKET #4128
NOT TO SCALE
JANUARY, 2010