

TESTIMONY

of

PAMELA M. MARCHAND, P.E.

before the

PUBLIC UTILITIES COMMISSION

FOR

ABBREVIATED RATE RELIEF

for

PROVIDENCE WATER

April 30, 2009

**PROVIDENCE WATER SUPPLY BOARD
TESTIMONY OF
PAMELA M. MARCHAND**

1 **Q. Please state your full name and title?**

2 A. Pamela M. Marchand, P.E., Chief Engineer and General
3 Manager of the Providence Water Supply Board (Providence
4 Water).

5
6 **Q. How long have you held the position of Chief Engineer and
7 General Manager?**

8 A. I have held this position since January of 2006. Prior to
9 that, I held the position of Chief Engineer and General
10 Manager of the Pawtucket Water Supply Board from June,
11 1999. From 1986 until 1999 I held the positions of
12 Operations Manager, then Executive Engineer for the
13 Onondaga County Water Authority in Syracuse, NY.

14
15 **Q. Would you please state your education, background and
16 professional associations?**

17 A. I graduated from Syracuse University with an MS in
18 Environmental Engineering and Public Administration and a
19 BS in Environmental Engineering; and an AAS in Chemical
20 Technology from Onondaga Community College.

21
22 I am Director-at-Large for the American Water Works
23 Association (AWWA), Vice-President of the RI Water Works

**PROVIDENCE WATER SUPPLY BOARD
TESTIMONY OF
PAMELA M. MARCHAND**

1 Association, a member of the Disinfection of Facilities
2 Standards Committee for AWWA, a member of the
3 Diversity/Inclusion Committee and the Young Professional
4 Committee of AWWA, Chair of the Softening and Conditioning
5 Chemicals Standards Committee of the NEWWA, and member of
6 the Softening and Conditioning Chemicals Standards
7 Committee of AWWA.

8
9 **Q. Have you testified before this Commission with respect to**
10 **operating matters or rates either in your current position**
11 **or in your previous positions?**

12 **A.** Yes, I have testified before the Commission in my position
13 as Chief Engineer and General Manager of the Pawtucket
14 Water Supply Board and the Providence Water Supply Board.

15
16 **Q. What is the purpose of this filing?**

17 **A.** Providence Water is submitting an abbreviated rate filing
18 to raise rates to cover known and measurable increases in
19 costs.

20
21 **Q. What will this abbreviated filing increase generally**
22 **cover?**

23 **A.** The majority of the increase is for known and measurable

**PROVIDENCE WATER SUPPLY BOARD
TESTIMONY OF
PAMELA M. MARCHAND**

1 changes for salaries and wages, employee benefits, and
2 property taxes, as well as increased funding for
3 Insurance, Chemicals and Infrastructure Replacement funds,
4 and operating reserves.

5
6 **Q. Why is a revenue increase needed by Providence Water at**
7 **this time?**

8 A. Providence Water's last rate increase was effective
9 November 1, 2007 for revenues required to meet expenses
10 for the calendar year 2008. This filing is requested for
11 expenses for the calendar year 2010, but we are hoping for
12 authority to implement it as of December 1, 2009.

13
14 **Q. How was this filing prepared?**

15 A. Providence Water has engaged the services of Raftelis
16 Financial Consultants to prepare the Cost of Service
17 schedules and testimony in support of this abbreviated
18 filing. Our internal staff has provided and overseen the
19 preparation of the other filing documents.

20
21 **Q. Has the Board approved this filing?**

22 A. Yes, the Board approved this filing at a special Board
23 Meeting held on April 22, 2009.

**PROVIDENCE WATER SUPPLY BOARD
TESTIMONY OF
PAMELA M. MARCHAND**

1

2 **Q. What will the additional funding be utilized for?**

3 **A.** The major issues being addressed are as follows:

4 1) An additional \$2,100,000 for IFR funding for project
5 and debt service costs;

6 2) additional costs for insurance and chemical/sludge
7 expenses;

8 3) contractual increases to salaries and wages;

9 4) increased costs associated with employee health
10 benefits, Retirement, and Post Retirement health
11 benefits required under GASB 43/45;

12 5) the inclusion of the agreed upon annual amount for
13 past retiree's health costs, in the event the
14 Supreme Court rules in the City's favor prior to the
15 completion of this docket;

16 6) additional costs associated with property tax
17 increases, (however if the Scituate Tax Agreement is
18 fully executed prior to the completion of this
19 docket, there would be a property tax expense
20 decrease and we will make the necessary adjustment);

21 7) an increase in the operations allowance;

22 8) continued funding for strategic planning; and,

23 9) known and measurable increases in other expenses.

**PROVIDENCE WATER SUPPLY BOARD
TESTIMONY OF
PAMELA M. MARCHAND**

1 **Q. When is the proposed rate relief needed to take effect?**

2 A. Providence Water is requesting an effective date of May
3 30, 2009. However, with the expected Commission
4 suspension, Providence Water is hoping for authority to
5 implement the new rates for billing on and after December
6 1, 2009. The rate year reflects a calendar year ending
7 December 31, 2010.

8
9 **Q. Have you attached the tables required by R.I.G.L.39-3-**
10 **12.1?**

11 A. Yes, they are attached as an Exhibit to my testimony.

12
13 **Q. Is Providence Water requesting an increase in funding for**
14 **the Infrastructure Replacement Program?**

15 A. Yes, we have requested an increase in the Infrastructure
16 Replacement Program (IFR) of \$2,100,000. The increase is
17 needed for project costs and debt service and for the
18 water treatment plant projects described below.

19 I have submitted funding requests for \$13.2 million from
20 the RI Clean Water Finance Agency (CWFA) to utilize
21 funding provided by the federal stimulus program on
22 projects that can be started before February 2010.

23

**PROVIDENCE WATER SUPPLY BOARD
TESTIMONY OF
PAMELA M. MARCHAND**

1 The CWFA is planning to bond for the projects and use the
2 stimulus funds to reduce the principal on the payments.
3 At this time, it appears that an 8% to 12% reduction may
4 be applied, but there are a number of issues still to be
5 worked out with the federal agencies.

6

7 **Q. What projects were submitted to the CWFA for funding?**

8 **A.** Funding the lead service line replacement program has
9 taken priority over the replacement of water mains.
10 However, we are finding that many streets with lead
11 services also require the replacement of the deteriorated
12 water main. Most of these services were installed from
13 1900 to 1930. I have requested \$10 million from CWFA for
14 this work, to be completed over three years.

15

16 A portion of the stimulus funding is restricted to
17 projects that promote efficiency. Water meter
18 replacements with leak detection, Mlog leak detection for
19 the distribution system, and hydrant locks to prevent
20 unauthorized use of hydrants qualified for the funding,
21 in the amount of \$3.2 million. Again, the CWFA program
22 is still to be determined.

23

**PROVIDENCE WATER SUPPLY BOARD
TESTIMONY OF
PAMELA M. MARCHAND**

1 **Q. Please provide an update to the Lead Service Replacement**
2 **Program.**

3 A. In August 2006, Providence Water exceeded the EPA lead
4 action level of 15 parts per billion in more than 10% of
5 the samples that were required to be taken. That imposed
6 the mandate for Providence Water to replace seven (7)
7 percent of lead water services per year. Providence
8 Water had approximately 27,000 lead services in the
9 system, therefore requiring the replacement of about
10 1,800 services per year.

11
12 The management requirements of replacing the services are
13 extensive, including numerous customer notifications,
14 sampling, tracking of information and customer contacts,
15 offering estimates for customer side replacement,
16 reporting, field investigations, communications, etc.
17 However, by December 2007, approximately 1,800 services
18 had been replaced. As of March 31, 2009, 5,463 lead
19 services have been replaced for an average cost of \$3,735
20 per service.

21
22 Three contractors were hired for the first two years of
23 the project. The three contractors agreed to meet the

**PROVIDENCE WATER SUPPLY BOARD
TESTIMONY OF
PAMELA M. MARCHAND**

1 lowest bid prices. We have begun the 2009 construction
2 season with a new bid with two contractors for a two-year
3 contract.

4
5 The EPA requires the replacement of lead services until
6 two consecutive sets of samples (taken every six months)
7 are below the 15 ppb action level. Providence Water has
8 met the 15 ppb action level only once since 2006, which
9 was unfortunately followed by an exceedance of the action
10 level for the next sampling period.

11
12 Since the chemical treatment we attempted did not result
13 in lower lead levels, service pipes were again sent to
14 the EPA lab for scale analysis. The analysis showed that
15 there appears to be a very slow conversion of the soluble
16 lead to the insoluble lead, which was the purpose of
17 lowering the pH in the system. Therefore, we are now
18 considering additional treatment with carbon dioxide to
19 speed up the conversion process. There is empirical
20 evidence that other systems with similar water quality
21 and lead issues have been successful at reducing lead
22 leaching in service lines with the use of carbon dioxide.

23

**PROVIDENCE WATER SUPPLY BOARD
TESTIMONY OF
PAMELA M. MARCHAND**

1 **Q. Please provide an update to the water treatment plant**
2 **upgrade project.**

3 A. Providence Water bid the renovation of the filtration
4 system and facilities on February 17, 2009. Bids are due
5 to be opened on April 27, but may be delayed due to the
6 large number of vendor questions that require a response.
7 Over 80 plan and specification sets have been issued.
8 Each plan set contains approximately 160 plan sheets.
9 The project duration is expected to take 2,000 calendar
10 days, with a notice to proceed to be issued this fall.
11 The renovation must take place while maintaining the full
12 operational functions of the treatment process. The
13 project expense is estimated to be \$40,000,000.

14
15 **Q. Please provide an update to the Strategic Planning**
16 **Project.**

17 A. Our chosen consultant, Horsley-Witten, was selected in
18 September 2008, following a bid and interview process.
19 Horsley-Witten began with an organization evaluation
20 utilizing an employee survey, interviews with members from
21 all departments and levels of the organization, and with
22 Board members. From the gathered information, they
23 selected a number of issues that were addressed and

**PROVIDENCE WATER SUPPLY BOARD
TESTIMONY OF
PAMELA M. MARCHAND**

1 prioritized at an organization retreat. Committees of
2 employees representing all departments were assigned the
3 top four (4) issues and asked to develop goals and action
4 items to support the goals, which were presented to the
5 Board on April 15th. Committees are in the process of
6 being assigned tasks. Meanwhile, Horsley-Witten is
7 completing the Strategic Plan, which is due the end of
8 June. Providence Water has included a request for funding
9 in this filing because the amount approved in the prior
10 docket was not expended in the test year.

11
12 **Q. Are you requesting changes to the Operations Reserve?**

13 **A.** Yes. Providence Water is requesting a 1% increase in both
14 the unrestricted reserve and restricted reserves, for a
15 2% unrestricted and a 3% restricted reserve for revenue
16 shortfalls. At the present time, Providence Water is
17 significantly below the consumption amount calculated for
18 the CY 2008 water rates.

19
20 Also, Providence Water is planning to separately submit
21 the required Conservation Rate Compliance filing by July
22 1st in accordance with Report and Order #19145, in Docket
23 3832.

**PROVIDENCE WATER SUPPLY BOARD
TESTIMONY OF
PAMELA M. MARCHAND**

1 Should conservation rates be implemented, a higher
2 reserve for revenue shortfalls will be required.

3
4 **Q. Do you have any final comments?**

5 **A.** Providence Water is working to become a more efficient
6 and productive operation while adding programs to
7 maintain water quality and infrastructure through
8 technology, strategic planning, asset management, and
9 employee programs. We will have a GIS system on-line
10 this year for system infrastructure design and
11 maintenance which will affect every department by
12 allowing access to system and customer information
13 through one program. We are starting a valve maintenance
14 program by including field information on every valve in
15 the GIS program for operational information. This will
16 lead to a mandated distribution flushing program. A
17 future asset management program will facilitate a system
18 wide preventative maintenance program as well as a means
19 of evaluating infrastructure for replacement. We are
20 evaluating automated leak detection systems and meter
21 systems for water use efficiency. As the water
22 distribution system is 150 years old, we are continuously
23 looking for more efficient means of operation and

**PROVIDENCE WATER SUPPLY BOARD
TESTIMONY OF
PAMELA M. MARCHAND**

1 maintenance.

2

3 Technology such as asset management, GIS, valve operation
4 software, hydraulic modeling, and automated system wide
5 leak detection will be the most cost effective

6 investments in the next few years as we target funds to

7 renovate and replace the water distribution system. Some

8 of these funds are included in existing and requested

9 rates, through the Strategic Plan funding and the IFR.

10

11 **Q. Does this conclude your testimony?**

12 **A. Yes.**

EXHIBIT I
TABLE A

STATUS OF PHYSICAL PLANT

The physical plant of the Providence Water Supply Board consists of five (5) feeder reservoirs (Ponagansett, Moswansicut, Barden, Westconnaug, and Regulating) and the main Scituate Reservoir, a 100% surface water supply with a total storage capacity of 41,268 million gallons; a filtration plant with associated sedimentation basins, and chemical storage and feeding equipment, and a filtration capacity of 144 million gallons per day; a transmission and distribution system, consisting of more than 948 miles of transmission and distribution mains, which vary in size from 6 inch to 66 inches, and consisting primarily of pipe constructed of cast and ductile iron, asbestos-cement and concrete; four (4) completely enclosed distribution reservoirs with a total capacity of 115.3 million gallons; one (1) prestressed concrete cylindrical tank with a total capacity of 3.5 million gallons; four (4) distribution system pumping stations; one (1) raw water booster pumping station; six (6) pressure boosting pumping stations; eleven (11) emergency power systems, eight (8) driven by diesel engines and three (3) driven by gas engines; and administrative and maintenance garage facilities.

EXHIBIT I
TABLE B

MAINTENANCE POLICY

It is the policy of the Water Supply Board to maintain its system in proper operating condition in accordance with all accepted standards. Leaks and damaged valves, hydrants and other appurtenances of the distribution system are repaired and/or replaced expeditiously. Physical plant maintenance is performed in a planned manner by permanent crews when possible. Outside contractors are used to supplement forces when needed. Distribution pipes (most recent main extensions) were installed through fiscal reporting year ending June 30, 2008. Total pipe installed (and or replaced) in the last ten (10) year period is as follows:

<u>Year</u>	<u>Feet</u>	<u>Miles</u>
1999	6,513	1.23
2000	7,015	1.33
2001	8,420	1.59
2002	15,990	3.03
2003	11,424	2.16
2004	7,606	1.44
2005	11,400	2.16
2006	13,388	2.54
2007	8,122	1.54
2008	7,868	1.49
Total	97,746	18.51

EXHIBIT I
TABLE C

WATER TREATMENT METHODS AND CHEMICALS USED

During the last fiscal reporting period, (July 2007 through the end of June 2008), Providence Water utilized the following four (4) chemicals during the treatment process, as follows:

- 1) Ferric sulfate - used to coagulate and settle out micro-organisms and particles that cause color and turbidity,
- 2) Lime - used to adjust the pH,
- 3) Chlorine - used to control bacteria,
- 4) Fluoride - used to control dental cavities.

The quantities and costs of the chemicals used based on purification plant reporting data for dosing of all specified water are as follows:

	<u>Chemical</u>	<u>Quantity Used</u>	<u>Unit Cost</u>	<u>Total Cost*</u>
Ferric Sulfate		738,505 gals	\$1.44 /gal	\$1,134,105.86
Lime		1,702.05 tons	\$168.90 /ton	\$278,594.76
Chlorine		146.42 tons	\$900.00 /ton	\$141,762.77
Fluoride		99,100 gals	\$1.439 /gal	\$128,365.86
			Total	<u>\$1,682,829.25</u>

*Total cost does not compute exactly from figures shown, as it includes audit adjustment.

EXHIBIT I
TABLE D

POLICY RELATING TO EXPANSION AND RENOVATION

It is the policy of the Board to assure that the system will continue to provide service to all existing customers. Technical evaluations are made to determine future needs so that required expansion can proceed in a timely manner in order to assure that new customers can be provided with the same level of service without any degradation of service to existing customers. Providence Water has an Infrastructure Replacement Program that addresses the renovation or replacement of major system components. A Capital Improvement Program is also in place to address the implementation of new capital assets. Funding has been provided through rates established by the Public Utilities Commission. The programs are administered through restricted funds for which semi-annual reports are provided to the Commission.

In fiscal year ending June 30, 2008, Providence Water invested approximately \$18.8 million into the infrastructure replacements and capital improvements to the system.

EXHIBIT I
TABLE E

PROVIDENCE WATER SUPPLY BOARD
NON-ACCOUNTED FOR WATER
Hundred Cubic Feet

	<u>FYE '04</u>	<u>FYE '05</u>	<u>FYE '06</u>	<u>FYE '07</u>	<u>FYE '08</u>
Total Quantity of Water Pumped	34,403,770	33,733,529	34,461,096	32,595,468	32,841,364
Sales to Ultimate Consumer	15,915,370	15,249,684	16,258,137	15,338,829	14,630,493
Sales for Resale	<u>14,826,899</u>	<u>14,987,721</u>	<u>14,881,594</u>	<u>13,783,250</u>	<u>14,517,901</u>
Sub-total Sales	30,742,269	30,237,405	31,139,731	29,122,079	29,148,394
Water used by Company	0	0	0	0	0
Non-accounted for Water	3,661,501	3,496,124	3,321,365	3,473,389	3,692,970
% of Total Water Pumped	10.64%	10.36%	9.64%	10.66%	11.24%