Providence Water

552 Academy Avenue
Providence, RI 02908

401-521-6300
www.provwater.com

July 1, 2011

Luly Massaro, Commission Clerk
RI Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

RE: Docket 4070: Compliance Filing-Conservation Rates

Dear Luly:

Enclosed for filing is an original and nine copies of Providence Water's Compliance filing regarding conservation rates as required by item #2 of Report and Order # 19767, effective September 2, 2009.

Michael R. McElroy, Esq., will be representing Providence Water as our Attorney in this matter. He may be contacted at 21 Dryden Lane, Post Office Box 6721, Providence, RI 02940.

If you have any questions, I can be reached at 521-6300, extension 7217.

Sincerely,

Mary Deignan-White
Senior Regulatory Manager

cc: Service List Dk 4070

H:\QPW\WPDOCS\PUC\LM_conservation7111.odt

DIRECT TESTIMONY OF
HAROLD J. SMITH
RAFTELIS FINANCIAL CONSULTANTS, INC.

for

PROVIDENCE WATER SUPPLY BOARD

CONSERVATION FILING

DOCKET # 4070

July 1, 2011

PRE-FILED DIRECT TESTIMONY OF
HAROLD J. SMITH

Q. Please state your name and business address.

A. My name is Harold J. Smith and my business address is, 1031 South Caldwell Street, Suite 100, Charlotte, NC 28203.

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

A. I am a Vice President of Raftelis Financial Consultants, Inc. (RFC), a consulting firm specializing in the areas of water and wastewater finance and pricing. RFC was established in 1993 in Charlotte, North Carolina to provide environmental and management consulting services to public and private sector clients. RFC is a national leader in the development of water and wastewater rates.

Q. Please describe your educational background and work experience.

A. I obtained a Master of Business Administration from Wake Forest University in 1997 and a Bachelor of Science in Natural Resources from the University of the South in 1987. I am also a Licensed Professional Geologist in North Carolina. As an employee of RFC I have been involved on engagements involving a wide range of technical specialties including water utility cost of service and rate structure studies and water utility financial planning studies.

Q. Have you previously testified before any regulatory agencies or in court on utility rate related matters?

A. Yes. I provided testimony in the Providence Water Supply Board's recent rate filings (Docket Nos. 3832, 4061 and 4070). I have also provided testimony for Newport Water in six rate filings (Docket Nos. 3578, 3675, 3818, 4025, 4128 and 4243). I have also testified on behalf of the Consumer Advocate before the Nova Scotia Utility and Review Board (W-HRWC-R-10).

Q. Do you belong to any professional organizations or committees?

A. Yes. I am a member of the American Water Works Association where I served as the chairman of the Strategic Management Practices Committee and I am a member of the Financial Management Committee of the New England Water Works Association.

Q. What is the purpose of your testimony?

A. Providence Water hired RFC to develop conservation rate structures pursuant to the Commission's Order in Docket No. 3832 and two conservation rate structure options were presented in Docket No. 4070. My testimony in that docket recommended that Providence Water not be required to implement a conservation rate structure until it was able to gather more customer demand data. The Commission accepted that recommendation and required Providence Water to begin collecting any necessary data such that it could submit a conservation rate proposal by July 1, 2011. This testimony describes the process that was used to determine the appropriate rate structures and provides calculations and schedules in support of a conservation rates structure that Providence Water is presenting to the Commission for their consideration.

Q. Have you prepared any Exhibits to accompany your testimony?

A. Yes, Exhibits identified as Schedules HJS-1 through HJS-5 as well as Appendix Schedules HJS-A and HJS-B have been prepared by me or have been prepared under my supervision. Schedule HJS-1 shows the proposed conservation rates compared to the previously approved rates from Docket No. 4061. Schedule HJS-2 compares the revenue approved by rate class in Docket No. 4061 to the revenue under the rates proposed in this filing. Schedule HJS-3 shows the calculation of the conservation rates for single-family residential customers. Schedule HJS-4 shows a comparison of single-family residential bills at different levels of usage under the existing and proposed rates. Schedule HJS-5 shows the calculation of the conservation rates for wholesale customers. Appendix Schedule HJS-A shows a historical bill frequency for single-family residential customers. Appendix Schedule HJS-B shows detailed usage information and a bill comparison for the wholesale customers.

Q. Please summarize your findings and recommendations to the Commission in this proceeding.

A. Working with Providence Water management and staff, RFC identified a conservation rate structure for Providence Water's single-family residential customers as well as a structure to promote conservation among Providence Water's wholesale customers. RFC then used the costs and revenues that were approved by the Commission in Docket No. 4061 to calculate rates under each of these options.

Q. Do you recommend that Providence Water implement these rate structures immediately?

A. I do not because for a conservation rate structure to be effective, customers must be billed on a monthly basis such that they have an opportunity to respond in a timely manner to the conservation message such a structure sends. While Providence Water does gather monthly billing data from the single-family residential customers, it does not currently bill these customers monthly. A proper implementation of monthly billing and a conservation rate structure will require significant changes to Providence Water's billing system which will take some time. For that reason I recommend that instead of an immediate implementation of the proposed structure, Providence Water be allowed to utilize the proposed structures in the development of its next rate filing which is anticipated to be filed no later than April 30, 2013.

Q. Is Providence Water requesting a revenue increase in this rate proposal?

A. As mentioned previously, the rates under the two conservation rate structure options were calculated using costs and revenues that Providence Water is allowed under Docket No. 4061. Therefore, no additional volume rate revenues above those allowed in Docket No. 4061 are being requested under these proposals. However, as shown on Schedule HJS-2, implementation of the conservation rates would result in Providence Water collecting slightly higher revenues (approximately 0.01%) than those requested in Docket No. 4061. This difference in revenues is simply the result of rounding the rates to the appropriate number of decimal places.

Q. Will all rates increase by the same amount?

A. No. First, the conservation rate proposal only affects the commodity rates assessed to Providence Water's single-family residential customers and its wholesale customers; therefore the other rates and charges would remain the same as those approved in Docket No. 4061. Second, since the proposed rate structures are inclining block rates, the change from the rates currently in effect will be dependent upon the amount of water consumed.

Q. Why have you only developed conservation rate structures for Providence Water's single-family residential and wholesale customers?

A. Because the proposed rate structures are designed to reduce discretionary consumption and it is more difficult to distinguish between discretionary and non-discretionary consumption for customers other than single-family residential. The most common method for estimating non-discretionary usage for non-homogenous customer classes, such as multi-family residential, commercial, and wholesale customers, is the use of individualized block rates, similar to what we have done for the wholesale customers.

Q. If that is the case, how were you able to develop conservation rates for the wholesale customers?

A. While the rates for the wholesale customers should help promote conservation, they would be more accurately described as demand management rates in that they involve assessing higher per unit rates when a wholesale customer's demand exceeds a predetermined level based on their past usage.

Q. Do the proposed wholesale rates target discretionary consumption?

A. Not directly, but since the proposed rates discourage consumption above a certain level they should provide an incentive for each of Providence Water's wholesale customers to implement their own conservation rates that will specifically target discretionary consumption in an effort to reduce total demand. However, it should be noted that it is possible that for wholesale customers the block rates could promote undesirable results,

in particular some customers may resort to less sustainable water sources during peak usage periods to avoid the higher rates.

Q. Please describe how you developed the details of the rate structures that you are proposing.

A. When developing any kind of rate structure, it is first necessary to determine whether the utility has necessary data. An inclining block structure should be based on customer demand data resulting from meter reads performed at least monthly. This type of data is necessary in order to develop an understanding of the customers' demand characteristics so that their reaction to conservation rates can be predicted.

Q. Does Providence Water have this type of data?

A. Providence Water has been collecting monthly data on all of its customers since February of 2008; therefore, we now have several complete years worth of monthly data. For the analysis presented in this filing we have used three twelve month periods: the Fiscal Year ending June 30, 2009; the Fiscal Year ending June 30, 2010; and the twelve month period ending April 30, 2011. There is some overlap in this period, the months of May and June 2010 are used twice to provide three years of data. Providence Water also has several years worth of monthly data for its wholesale customers.

Q. How did you determine the appropriate number of blocks and block cut-offs for the residential inclining block structure?

A. The number of blocks and block cut-offs are to a large degree dependent upon the type of demand that the utility wishes to target with its conservation message. In Providence Water's case, it was decided that the utility wished to target discretionary consumption, but to also recognize that some discretionary water use, such as responsible lawn irrigation, has benefits to the community. A three block inclining block structure helps achieve this objective by charging a relatively low unit rate for non-discretionary usage; a slightly higher rate for consumption that could be attributed to responsible lawn irrigation and a still higher rate for usage that could be considered to be excessive.

Q. Please discuss what you mean by discretionary and non-discretionary consumption.

A. For the residential class, non-discretionary consumption is consumption that is necessary to support a modern lifestyle. It includes water for such things as drinking, cooking, bathing, laundry and toilet flushing.

Q. What about discretionary consumption?

A. Discretionary consumption is water use other than non-discretionary use and includes such things as lawn irrigation, pool filling and car washing although many will make the argument that lawn irrigation is not truly discretionary. This argument is valid to some extent in that many people have invested a significant amount of money and time in their lawns and landscapes and proper irrigation is necessary to maintain that investment. Thus many utilities consider a reasonable level of lawn irrigation to be non-discretionary consumption.

Q. How much non-discretionary water does a typical single-family residential customer use?

A. Obviously the level of non-discretionary usage varies by customer depending on a number of variables, with the dominant variable being family size. Larger families typically require more water than small families. One common way of determining the typical level of non-discretionary usage within a service area is to look at consumption during the winter months when outdoor water use is at a minimum. In the case of Providence Water, average consumption by single-family residential customers in March 2011 (the month with the lowest consumption in the most recent twelve months examined) was approximately 5.5 hcf per month. We believe this is a reasonable estimate of the average non-discretionary usage by Providence Water single-family customers.

Q. What are the proposed blocks for single-family residential customers?

A. Based on examination of Providence Water's data and discussions with Providence Water staff the proposed block cut-offs are 8 hcf and 16 hcf per month. There is no exact science for determining these cut-offs, but given the usage patterns of Providence Water's customers and the utility's conservation goals we believe they are appropriate.

Q. How do the proposed conservation rates for single-family residential customers compare to the existing rates?

A. The Block 1 rate for usage up to 8 hcf per month is 7.96% lower than the current uniform volume rate, the Block 2 rate is unchanged from the current uniform volume rate, while the Block 3 rate is 10.05% higher than the current uniform volume rate.

Q. What is the proposed block cut-off for wholesale customers?

A. We have set the second block for wholesale customers at 120% of average winter consumption. As discussed previously with the single-family residential blocks, there is no exact science for determining this amount, but we believe that this will encourage wholesale customers to implement their own conservation rates to avoid the additional costs of buying water in the second block.

Q. Why does the wholesale structure only have two rate blocks?

A. As mentioned earlier, the proposed wholesale structure is a demand management structure that is designed to provide an incentive to Providence Water's wholesale customers to implement conservation rate structures of their own. The use of two blocks accomplishes this goal, but is still relatively simple to calculate, implement and understand.

Q. How do the proposed rates for wholesale customers compare to the existing rates?

A. The Block 1 rate for usage up to 120% of average winter consumption (AWC) is 3.43% less than the current uniform volume rate while the rate for Block 2 usage over 120% of AWC is 15.89% higher than the current uniform volume rate.

Q. What period will be used to determine each wholesale customer's average winter consumption (AWC)?

A. Each wholesale customer's AWC will be set each year in May based on the previous November through April billings.

Q. How do the proposed rate changes for wholesale customers compare to those of single-family residential customers?

A. The difference between Block 1 and Block 2 was set at 20%, approximately the same difference between Block 1 and Block 3 of the single-family residential rates.

Q. What are the impacts of the proposed wholesale rates on Providence Water wholesale customers?

A. The hypothetical impacts on wholesale customers based on their usage in the period of May 2010 through April 2011 is shown at the bottom of Schedule HJS-B. The total annual hypothetical impact ranges from a decrease of 3.43% for Kent County Water Authority, which had no usage over its AWC in the period, to an increase of 3.03% for Johnston, which had the highest percentage of usage above its AWC during the period. Note that this comparison uses the AWC from November 2010 through April 2011, while in actual practice the consumption in May 2010 through October 2010 would have used the previous fiscal year's AWC. This was done to most accurately reflect each wholesale customer's latest available usage information.

Q. Does your proposal include any other changes to the rates?

A. We are not proposing any other changes to the rates, but as mentioned previously, for a conservation structure to be truly effective, customers must be billed on a monthly basis. Therefore, our proposal does include a switch to monthly billing for single-family residential customers instead of the current quarterly billing. Providence Water has an approved base charge for monthly billing. The change to monthly billing is an important

aspect of the conservation rate structure because without it the customers will not receive a timely pricing signal that is necessary for conservation rates to be effective.

Q. How would this change to monthly billing impact single-family residential customers?

A. As shown in the single-family bill impacts in Exhibit HJS-4, the monthly cost for single-family residential customer will go up a greater percentage at lower usage levels due to the additional costs associated with billing, collection, and customer service that are recovered through the monthly billing charge compared to the quarterly billing charge. However, the volumetric component of the bills for customers with consumption that does not exceed the cut-off for the second block will decrease.

Q. Does your proposal include any other changes to Providence Water's revenue requirements?

A. We have not incorporated any changes in Providence Water's revenue requirements. In general we do not believe that the changes in this proposal will have a significant impact on the revenue requirements. However, one potential area of concern that we will follow is the potential revenue decrease due to the effectiveness of the conservation rates in decreasing non-discretionary consumption. We have used a price elasticity of -.2 (Meaning that the proposed 10% increase in Block 3 rates would result in a 2% decrease in usage in that block) to reflect the effectiveness of the conservation rates. This estimate of elasticity is taken from the American Water Works Association Manual M-1 (Chapter 21) which bases its estimate on elasticity studies performed by others. However, if consumption decreases at a greater level than that, Providence Water could face a revenue shortfall, so it may be necessary to adjust the allowed reserve in the future.

Q. Mr. Smith, does that conclude your testimony?

A. Yes it does.

Providence Water Supply Board
Conservation Rate Filing
Summary of Conservation Rates

Schedule HJS-1

Retail Consumption:			Docket 4061	Conservation Filing	% Change From 4061
Single Family Residential	per HCF	Block 1	$ 2.488	$ 2.290	-7.96%
		Block 2	$ 2.488	$ 2.488	0.00%
		Block 3	$ 2.488	$ 2.738	10.05%
Multi-Family Residential	per HCF		$ 2.488	$ 2.488	0.00%
Commercial	per HCF		$ 2.390	$ 2.390	0.00%
Industrial	per HCF		$ 2.346	$ 2.346	0.00%

Service Charge:	Quarterly			Monthly		
(Meter size inches)	Docket 4061	Conservation Filing	% Change From 4061	Docket 4061	Conservation Filing	% Change From 4061
5/8"	$ 18.34	$ 18.34	0.00%	$ 10.82	$ 10.82	0.00%
3/4"	$ 19.47	$ 19.47	0.00%	$ 11.19	$ 11.19	0.00%
1"	$ 22.85	$ 22.85	0.00%	$ 12.32	$ 12.32	0.00%
1.5"	$ 27.36	$ 27.36	0.00%	$ 13.83	$ 13.83	0.00%
2"	$ 39.77	$ 39.77	0.00%	$ 17.97	$ 17.97	0.00%
3"	$ 131.15	$ 131.15	0.00%	$ 48.42	$ 48.42	0.00%
4"	$ 164.98	$ 164.98	0.00%	$ 59.70	$ 59.70	0.00%
6"	$ 243.95	$ 243.95	0.00%	$ 86.02	$ 86.02	0.00%
8"	$ 334.19	$ 334.19	0.00%	$ 116.11	$ 116.11	0.00%
10"	$ 415.97	$ 415.97	0.00%	$ 143.37	$ 143.37	0.00%
12"	$ 497.76	$ 497.76	0.00%	$ 170.63	$ 170.63	0.00%

Wholesale:			Docket 4061	Conservation Filing	% Change From 4061
Consumption	per HCF	Up to 120% AWC	$ 1.269514	$ 1.226032	-3.43%
		Over 120% AWC	$ 1.269514	$ 1.471239	15.89%
Consumption	per Million Gallons	Up to 120% AWC	$ 1,697.21	$ 1,638.97	-3.43%
		Over 120% AWC	$ 1,697.21	$ 1,966.76	15.88%
Public Fire Supply:	per Hydrant		$ 339.33	$ 339.33	0.00%

Private Fire Supply:	Quarterly		
(Service size inches)	Docket 4061	Conservation Filing	% Change From 4061
3/4"	$ 19.67	$ 19.67	0.00%
1"	$ 23.31	$ 23.31	0.00%
1.5"	$ 28.70	$ 28.70	0.00%
2"	$ 42.63	$ 42.63	0.00%
4"	$ 182.72	$ 182.72	0.00%
6"	$ 295.45	$ 295.45	0.00%
8"	$ 443.93	$ 443.93	0.00%
10"	$ 613.33	$ 613.33	0.00%
12"	$ 816.53	$ 816.53	0.00%
16"	$ 1,340.64	$ 1,340.64	0.00%

Providence Water Supply Board
Conservation Rate Filing
Calculation of Revenues at Present and Proposed Rates

Schedule HJS-2

	Consumption /Units	Current Rates	Revenues Docket No. 4061	Conservation Rates Revenues Proposed	Conservation Rates Percent Increase
	HCF				
Retail Customers					
Residential Sales					
Single Family	4,192,192	$ 2.488	$ 10,430,175	$ 10,433,783	0.03%
Multi Family	4,361,959	$ 2.488	$ 10,852,553	$ 10,852,553	0.00%
Subtotal Residential			$ 21,282,728	$ 21,286,336	0.02%
Commercial Sales	4,565,640	$ 2.390	$ 10,911,880	$ 10,911,880	0.00%
Industrial Sales	190,041	$ 2.346	$ 445,836	$ 445,836	0.00%
Sub-total Retail	13,309,832		$ 32,640,443	$ 32,644,052	
Wholesale	12,450,200		$ 15,805,703	$ 15,805,703	0.00%
Total Consumption Revenue	25,760,032		$ 48,446,147	$ 48,449,755	0.01%
Service Charges			$ 5,828,666	$ 5,828,666	0.00%
Private Fire Service Charge	1,820		$ 2,137,098	$ 2,137,098	0.00%
Public Fire Protection	6,082	$ 291.06	$ 2,063,805	$ 2,063,805	0.00%
Miscellaneous Revenues					
Miscellaneous Income			$ 1,402,137	$ 1,402,137	0.00%
Tax Refund Contribution			$ 375,000	$ 375,000	0.00%
Subtotal Miscellaneous			$ 1,777,137	$ 1,777,137	
Total Revenue			$ 60,252,853	$ 60,256,461	0.01%

Providence Water Supply Board
Conservation Rate Filing
Calculation of Single-Family Residential Conservation Rates

Schedule HJS-3

Single Family Residential Test Year units of service (HCF)	4,192,192	(HJS-3)	
Residential Volume Rate (per HCF)	$ 2.488		
Single Family Residential Volume Rate Revenue	$ 10,430,175		
Allocation of Residential Volume Costs from Docket No. 3832 (HJS-8)			
Base	$ 17,857,847		74.18%
Maximum Day	$ 4,875,637		20.25%
Maximum Hour	$ 1,340,219		5.57%
Allocation of Single Family Residential Volume Costs			
Base	$ 7,737,092		74.18%
Maximum Day	$ 2,112,419		20.25%
Maximum Hour	$ 580,664		5.57%

Block Rate Calculations

Consumption within blocks					
Block 1	Cut-off =	8	1,386,696	HCF	33.1%
Block 2	Cut-off =	16	1,378,785	HCF	32.9%
Block 3			1,426,712	HCF	34.0%

Allocation of Costs to Blocks

	Base	Max. Day	Max. Hour	
Block 1	100.00%	85.00%	0.00%	
Block 2	0.00%	15.00%	40.00%	
Block 3	0.00%	0.00%	60.00%	
Block 1	$ 7,737,092	$ 1,795,556	$ -	$ 9,532,648
Block 2	$ -	$ 316,863	$ 232,265	$ 549,128
Block 3	$ -	$ -	$ 348,398	$ 348,398

Test Year units of service

Block 1	1,386,696	HCF	33.1%
Block 2	1,378,785	HCF	32.9%
Block 3	1,426,712	HCF	34.0%

Change in Usage due to Pricing Change

Block 1	0.0%
Block 2	0.0%
Block 3	-2.0%

Test Year units of service based on adjusted pricing

Block 1	1,386,696	HCF
Block 2	1,378,785	HCF
Block 3	1,398,040	HCF

Proposed Block Rates

Block 1	Cut-off =	8	$ 2.290	per HCF
Block 2	Cut-off =	16	$ 2.488	per HCF
Block 3			$ 2.738	per HCF

Providence Water Supply Board
Conservation Rate Filing
Single-Family Residential Customer Bill Impacts - Conservation Rates

Schedule HJS-4

	Monthly Consumption (HCF)	Docket No. 4061 Rates (Existing Rates) Monthly Service Charge Cost (1/3 of Quarterly Charge)	Consumption Charge	Total Monthly Cost	Proposed Rates Monthly Service Charge	Consumption Charge	Total Monthly Bill	% Increases Monthly Service Charge Cost	Consumption Charge	Overall Monthly Cost
5/8 Inch Meter										
	2	$6.11	$4.98	$11.09	$10.82	$4.58	$15.40	77.0%	-8.0%	38.9%
	4	$6.11	$9.95	$16.07	$10.82	$9.16	$19.98	77.0%	-8.0%	24.4%
Approximate Average Winter Usage	6	$6.11	$14.93	$21.04	$10.82	$13.74	$24.56	77.0%	-8.0%	16.7%
	8	$6.11	$19.90	$26.02	$10.82	$18.32	$29.14	77.0%	-8.0%	12.0%
	10	$6.11	$24.88	$30.99	$10.82	$23.30	$34.12	77.0%	-6.4%	10.1%
Approximate Average Summer Usage	12	$6.11	$29.86	$35.97	$10.82	$28.27	$39.09	77.0%	-5.3%	8.7%
	15	$6.11	$37.32	$43.43	$10.82	$35.74	$46.56	77.0%	-4.2%	7.2%
	20	$6.11	$49.76	$55.87	$10.82	$49.18	$60.00	77.0%	-1.2%	7.4%
	40	$6.11	$99.52	$105.63	$10.82	$103.94	$114.76	77.0%	4.4%	8.6%
	50	$6.11	$124.40	$130.51	$10.82	$131.32	$142.14	77.0%	5.6%	8.9%
	75	$6.11	$186.60	$192.71	$10.82	$199.77	$210.59	77.0%	7.1%	9.3%
	100	$6.11	$248.80	$254.91	$10.82	$268.22	$279.04	77.0%	7.8%	9.5%
	200	$6.11	$497.60	$503.71	$10.82	$542.02	$552.84	77.0%	8.9%	9.8%
	300	$6.11	$746.40	$752.51	$10.82	$815.82	$826.64	77.0%	9.3%	9.9%
	400	$6.11	$995.20	$1,001.31	$10.82	$1,089.62	$1,100.44	77.0%	9.5%	9.9%
1 Inch Meter	2	$7.62	$4.98	$12.59	$12.32	$4.58	$16.90	61.8%	-8.0%	34.2%
	4	$7.62	$9.95	$17.57	$12.32	$9.16	$21.48	61.8%	-8.0%	22.3%
	6	$7.62	$14.93	$22.54	$12.32	$13.74	$26.06	61.8%	-8.0%	15.6%
	8	$7.62	$19.90	$27.52	$12.32	$18.32	$30.64	61.8%	-8.0%	11.3%
	12	$7.62	$29.86	$37.47	$12.32	$28.27	$40.59	61.8%	-5.3%	8.3%
	15	$7.62	$37.32	$44.94	$12.32	$35.74	$48.06	61.8%	-4.2%	6.9%
	20	$7.62	$49.76	$57.38	$12.32	$49.18	$61.50	61.8%	-1.2%	7.2%
	25	$7.62	$62.20	$69.82	$12.32	$62.87	$75.19	61.8%	1.1%	7.7%
	35	$7.62	$87.08	$94.70	$12.32	$90.25	$102.57	61.8%	3.6%	8.3%
	50	$7.62	$124.40	$132.02	$12.32	$131.32	$143.64	61.8%	5.6%	8.8%
	75	$7.62	$186.60	$194.22	$12.32	$199.77	$212.09	61.8%	7.1%	9.2%
	100	$7.62	$248.80	$256.42	$12.32	$268.22	$280.54	61.8%	7.8%	9.4%
	200	$7.62	$497.60	$505.22	$12.32	$542.02	$554.34	61.8%	8.9%	9.7%
	300	$7.62	$746.40	$754.02	$12.32	$815.82	$828.14	61.8%	9.3%	9.8%
	400	$7.62	$995.20	$1,002.82	$12.32	$1,089.62	$1,101.94	61.8%	9.5%	9.9%

Providence Water Supply Board
Conservation Rate Filing
Wholesale Monthly Block Calculations

Schedule HJS-5

Wholesale Rate Calculations				
Docket 4061 Rate	$	1.269514	per HCF	
Docket 4061 Usage		12,450,200	HCF	
Docket 4061 Revenues	$	15,805,703		
Block 2 Differential		120%		
Decrease in Consumption due to Conservation Rates				
Block 1		0.00%		
Block 2		-3.18%		
Block 1 Usage		10,596,007		
Block 2 Usage		1,913,119		
				% Change
Block 1 Volume Rate	$	1.226032	per HCF	-3.43%
Block 2 Volume Rate	$	1.471239	per HCF	15.89%
Revenue under Conservation Rates				
Block 1	$	12,991,049		
Block 2	$	2,814,655		
Total	$	15,805,703		

Providence Water Supply Board
Conservation Rate Filing
Bill Frequency Summary - Single Family Residential **Schedule HJS-A**

Average of 3 Years (FY 2009, FY 2010, and May 2010 - April 2011)

USAGE BLOCK (HCF)	Cumulative Usage %	Cumulative Percent of Bills
<= 0	(0)	1.87%
0-1	0%	5.47%
1-2	1%	10.88%
2-3	3%	18.90%
3-4	8%	28.60%
4-5	13%	38.93%
5-6	20%	48.73%
6-7	27%	57.37%
7-8	33%	64.58%
8-9	39%	70.50%
9-10	45%	75.37%
10-11	49%	79.20%
11-12	54%	82.25%
12-13	57%	84.69%
13-14	61%	86.71%
14-15	63%	88.38%
15-16	66%	89.78%
16-17	68%	90.95%
17-18	70%	91.92%
18-19	72%	92.77%
19-20	74%	93.53%
20-21	75%	94.15%
21-22	77%	94.69%
22-23	78%	95.17%
23-24	79%	95.59%
24-25	80%	95.98%
25-30	85%	97.34%
30-35	88%	98.17%
35-40	90%	98.70%
40-45	92%	99.05%
45-50	93%	99.29%
50-55	94%	99.46%
55-60	95%	99.58%
60-65	96%	99.67%
65-70	96%	99.73%
70-75	97%	99.79%
75-80	97%	99.83%
80-85	97%	99.86%
85-90	98%	99.88%
90-95	98%	99.89%
95-100	98%	99.91%
100-125	98%	99.95%
125-150	99%	99.96%
150-175	99%	99.98%
175-200	99%	99.98%
200-300	99%	99.99%
300-400	99%	99.99%
400-500	100%	100.00%
> 500	100%	100.00%

	Cut-off (HCF)	
Block 1	8	33.1%
Block 2	16	32.9%
Block 3		34.0%

Providence Water Supply Board
Conservation Rate Filing
Wholesale Monthly Consumption for Conservation Rates (all usage in hcf)

Schedule HJS-B

	East Providence		Greenville		East Smithfield		Smithfield		Warwick		Johnston		Bristol County		KCWA		Lincoln	
	Usage	Days	Usage	Days	Usage	Days	Usage	Days	Usage	Days	Usage	Days	Usage	Days	Usage	Days	Usage	Days
May-10	171,901	29	33,618	29	29,760	28.8	34,564	29	393,769	29.0	18,828	29.0	104,320	30	213,707	30.0	90,901	29
Jun-10	200,689	29	43,315	29	26,239	31.0	36,810	29	519,607	29.6	28,986	28.0	124,850	29	225,019	29.0	108,447	29
Jul-10	264,054	33	65,922	33	36,700	31.8	56,591	33	700,951	32.3	63,959	34.6	167,681	33	278,900	33.1	159,377	33
Aug-10	225,694	29	54,837	29	30,259	27.5	48,584	29	619,819	29.0	56,810	36.4	153,209	28	234,956	28.0	135,531	29
Sep-10	229,586	33	52,186	33	36,260	35.4	49,849	33	558,650	33.0	25,334	26.5	149,019	34	248,443	34.0	124,568	33
Oct-10	158,367	28	29,717	28	20,647	27.7	32,989	28	302,682	28.0	17,803	27.0	135,680	30	199,979	28.0	82,167	32
Nov-10	149,635	28	26,593	28	19,863	27.3	28,035	28	223,110	28.0	15,739	28.0	95,765	26	194,933	28.0	54,566	24
Dec-10	156,608	28	26,145	28	20,638	26.5	24,598	28	261,991	28.4	13,387	27.1	100,239	28	197,933	26.9	62,219	28
Jan-11	184,783	36	27,658	39	24,574	35.3	25,787	35	263,216	34.5	16,368	36.1	110,266	36	254,959	36.1	80,162	37
Feb-11	152,046	28	31,732	25	21,516	29.0	27,550	29	246,476	29.0	14,634	29.0	105,716	28	202,063	28.0	61,929	28
Mar-11	177,117	34	28,054	31	24,849	32.9	28,342	31	248,683	30.0	15,087	30.0	91,956	29	202,410	29.0	64,164	30
Apr-11	147,241	28	27,487	31	22,073	30.5	30,850	31	274,542	32.0	16,810	31.9	96,015	33	234,582	33.0	67,172	31
Wholesale Conservation Structure																		
AWC (HCF per day)	5,315.55		921.27		735.75		907.48		8,345.03		505.46		3,333.09		7,108.29		2,192.20	
AWC Factor	120%																	
Block 1 - Up to AWC Factor																		
May-10	171,901		32,060		25,407		31,580		290,407		17,590		104,320		213,707		76,288	
Jun-10	184,981		32,060		26,239		31,580		296,911		16,983		115,992		225,019		76,288	
Jul-10	210,496		36,482		28,071		35,936		323,836		20,959		131,991		278,900		86,811	
Aug-10	184,981		32,060		24,317		31,580		290,407		22,100		111,992		234,956		76,288	
Sep-10	210,496		36,482		31,278		35,936		330,463		16,059		135,990		248,443		86,811	
Oct-10	158,367		29,717		20,647		30,491		280,393		16,396		119,991		199,979		82,167	
Nov-10	149,635		26,593		19,863		28,035		223,110		15,739		95,765		194,933		54,566	
Dec-10	156,608		26,145		20,638		24,598		261,991		13,387		100,239		197,933		62,219	
Jan-11	184,783		27,658		24,574		25,787		263,216		16,368		110,266		254,959		80,162	
Feb-11	152,046		27,638		21,516		27,550		246,476		14,634		105,716		202,063		61,929	
Mar-11	177,117		28,054		24,849		28,342		248,683		15,087		91,956		202,410		64,164	
Apr-11	147,241		27,487		22,073		30,850		274,542		16,810		96,015		234,582		67,172	
Block 2 - Over AWC Factor																		
May-10	-		1,558		4,352		2,983		103,362		1,238		-		-		14,613	
Jun-10	15,708		11,255		-		5,230		222,696		12,002		8,858		-		32,159	
Jul-10	53,558		29,440		8,629		20,654		377,116		43,000		35,690		-		72,566	
Aug-10	40,713		22,777		5,942		17,004		329,412		34,710		41,217		-		59,242	
Sep-10	19,090		15,703		4,982		13,913		228,186		9,275		13,029		-		37,757	
Oct-10	-		-		-		2,498		22,289		1,406		15,689		-		-	
Nov-10	-		-		-		-		-		-		-		-		-	
Dec-10	-		-		-		-		-		-		-		-		-	
Jan-11	-		-		-		-		-		-		-		-		-	
Feb-11	-		4,094		-		-		-		-		-		-		-	
Mar-11	-		-		-		-		-		-		-		-		-	
Apr-11	-		-		-		-		-		-		-		-		-	
Block 1 - % of Usage	85.11%																	
Block 2 - % of Usage	14.89%																	
Wholesale Customer Impacts																		
Revenue under Current Rates	$ 2,815,429		$567,810		$397,834		$538,972		$5,856,900		$385,604		$1,821,392		$3,412,307		$1,385,295	
Proposed Rates																		
Block 1	$ 2,560,756		$444,361		$354,900		$444,152		$4,083,223		$247,795		$1,618,649		$3,295,433		$1,072,613	
Block 2	$ 189,892		$124,802		$ 35,169		$ 91,632		$1,887,689		$149,523		$ 168,431		$ -		$ 318,282	
Total under Proposed Rates	$ 2,750,647		$569,163		$390,070		$535,784		$5,970,913		$397,318		$1,787,080		$3,295,433		$1,390,895	
% Change	-2.30%		0.24%		-1.95%		-0.59%		1.95%		3.04%		-1.88%		-3.43%		0.40%	

Average Winter Consumption Period is bills for November through April