Providence Water

552 Academy Avenue
Providence, RI 02908

401-521-6300
www.provwater.com

June 6, 2013

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

RE: Dk 4406 Division of Public Utilities & Carriers; Set 1

Dear Mrs. Massaro:

Enclosed is an original and seven copies of Providence Water's revised responses to data request numbers 1-5 and 1-27 from the Division of Public Utilities.

If you have any questions you can contact me at extension 7217.

Sincerely,

Jeanne Boudreault

Mary L. Deignan-White
Senior Manager of Regulatory

cc: service list

The Hon. Angel Taveras
Mayor

Boyce Spinelli
General Manager

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Data Requests of the
Division of Public Utilities and Carriers
Set 1

DIV 1-5. Please provide the number of general water service customers by meter size, private line service customers by meter size, and the number of public hydrants by municipality as of June 30, 2009; June 30, 2010; June 30, 2011; and at the end of each subsequent calendar quarter through the most recent quarter available Include a copy in Excel format.

Answer: Please see attached.

Div 1-5

Number of meters by size as of June 30, 2009, June 30, 2010 and June 30, 2011 and every subsequent quarter through March 31, 2013

Retail Meters

	June 30 2009	June 30 2010	June 30 2011	Sept. 30 2011	Dec 31 2011	March 31 2012	June 30 2012	Sept. 30 2012	Dec 31 2012	March 31 2013
5/8"	53,838	53,752	53,652	53,589	53,524	53,479	53,400	53,299	53,239	53,151
3/4"	10,458	10,523	10,575	10,588	10,594	10,612	10,622	10,615	10,620	10,645
1"	5,109	5,114	5,103	5,104	5,096	5,091	5,082	5,077	5,074	5,067
1.5"	1,503	1,491	1,496	1,497	1,502	1,503	1,505	1,503	1,497	1,493
2"	1,690	1,633	1,569	1,556	1,549	1,540	1,530	1,523	1,511	1,502
3"	88	91	91	89	84	82	89	97	97	93
4"	32	32	31	31	31	31	31	31	31	32
6"	65	62	60	60	59	59	59	58	58	59
8"	32	34	36	36	36	37	37	36	36	36
10"	2	2	2	2	2	2	2	2	2	2
12"	1	1	1	1	1	1	1	1	1	1
Total	**72,818**	**72,735**	**72,616**	**72,553**	**72,478**	**72,437**	**72,358**	**72,242**	**72,166**	**72,081**

Prepared By: Alicia Mignanelli

Div 1-5

Active Fire Supply accounts by size as of June 30, 2009, June 30, 2010 and June 30, 2011 and every subsequent quarter through March 31, 2013

	June 30 2009	June 30 2010	June 30 2011	Sept. 30 2011	Dec 31 2011	March 31 2012	June 30 2012	Sept. 30 2012	Dec 31 2012	March 31 2013
3/4"	4	4	3	3	3	3	3	3	3	3
1"	9	9	9	9	9	9	9	10	10	10
2"	38	40	42	45	44	44	45	46	53	50
4"	309	322	334	331	337	337	340	342	344	349
6"	1,194	1,208	1,229	1,237	1,229	1,231	1,234	1,246	1,253	1,272
8"	231	241	245	248	253	250	250	256	251	254
10"	4	4	4	4	4	4	4	4	4	4
12"	16	16	17	17	17	17	17	18	18	17
15"	3	3	3	3	3	3	3	3	3	3
16"	1	1	1	1	1	0	2	1	1	1
Total	1,805	1,844	1,884	1,895	1,897	1,895	1,904	1,926	1,937	1,960

Prepared by: Alicia Mignanelli

Div 1-5

Number of public hydrants by municipality as of June 30, 2009, June 30, 2010, June 30, 2011, and every subsequent quarter through March 3

	June 30 2009	June 30 2010	June 30 2011	Sept. 30 2011	Dec 31 2011	March 31 2012	June 30 2012	Sept. 30 2012	Dec 31 2012	March 31 2013
Providence	3,251	3,244	3,244	3,225	*	*	*	*	*	*
Johnston	453	447	449	465	457	458	458	460	460	460
Lincoln	9	9	8	9	9	9	9	9	9	9
Cranston	1,855	1,853	1,857	1,862	1,848	1,851	1,855	1,856	1,855	1,856
North Providence	507	504	497	507	507	507	507	505	506	507
Total	**6,075**	**6,057**	**6,055**	**6,068**	**2,821**	**2,825**	**2,829**	**2,830**	**2,830**	**2,832**

* Providence meters no longer billed to the City of Providence.

Prepared by: Alicia Mignanelli

Data Requests of the
Division of Public Utilities and Carriers
Set 1

DIV 1-27. Please provide a comparison of the actual quantities of chemicals used in FY 2013 to date with the expected or budgeted level to date based on the projected quantities shown on Schedule HJS-S8A and explain any variance.

Response: Attached is a table comparing the actual quantities of chemicals used in FY 2013, through to April 30, with the quantity that would have been used for the same volume of water treated, based on the chemical use projections upon which Schedule HJS-S8A was formulated. Also shown in the table is the variance between these two.

The following discusses the individual variances shown in the table:

1) Ferric Sulfate - Ferric sulfate projections prepared by plant personnel were made with the assumption of an average inflow of 70 million gallons per day into the plant (most recent 3-yr plant inflow averaged 67.8 mgd) dosed with ferric sulfate at a rate of 2.2 grains per gallon of water treated. Providence Water very recently had to treat the water at this relatively high dosing rate for a period of several months in order to achieve the required TOC (total organic carbon) removal requirements. Thus far in FY 2013, PW has been able to treat the water at a lower dosing rate, averaging 1.45 grains per gallon, which accounts for the variance shown in the attached table. Due, however, to the uncertainty of future raw water quality conditions and TOC removal

effectiveness, and to ensure that adequate funds would remain available in the restricted chemical fund for such a dosing rate, PW staff considered it prudent to base its chemical use projections on the 2.2 grains per gallon dosing rate.

2) Quicklime – Quicklime projections prepared by plant personnel were made with the assumption of an average inflow of 70 million gallons per day into the plant dosed with quicklime at a rate of 1.7 grains per gallon of water treated. Thus far in FY 2013, PW has been able to treat the water at a lower dosing rate, averaging 1.40 grains per gallon, which accounts for the variance shown in the attached table. The higher dosing rate of 1.7 grains per gallon used for the quicklime projections were based on the higher quicklime dosing requirements that are associated with the higher 2.2 grains per gallon ferric sulfate dosing rate.

3) Chlorine - Chlorine use thus far in FY 2013 is consistent with projections.

4) Fluoride - A review of the chemical projections uncovered that an error had been inadvertently made in the computing the quantity of fluoride needed. The chemical projections were based on a fluoride dosing rate of 0.6 parts per million (ppm) applied to an average daily plant influent flow of 70 million gallons per day. Fluoride, however, is applied as the last step in the treatment process, to the plant effluent flow only, and the chemical computations should have been based on a lower 61 mgd projected average effluent flow. This miscomputation accounts for the fluoride use variance shown in the attached table. Based on an average plant effluent of 61 mgd, the projected annual

fluoride requirement should be reduced to 60,000 gallons. This correction will be addressed in rebuttal testimony.

5) Carbon Dioxide – With the recent decision to change the treatment process to increase the pH of the finished water to its pre-2006 level of 10.2, PW began incrementally lowering the carbon dioxide dose beginning in February of this year, and has now fully discontinued its use. Barring an unexpected return to carbon dioxide treatment, carbon dioxide should no longer be required as a treatment chemical.

Div 1-27

Comparison of FY 2013 Chemical Usage through April 2013 - Projected vs. Used

Chemical		Quantity Projected FY 2013[1]	Quantity Projected thru 4/30/13[2]	**Actual Used thru 4/30/13**	Variance (Used vs. Projected)	% of Projected
Ferric Sulfate	Gallons	1,460,000	1,132,230.00	**713,846.00**	**(418,384.00)**	63%
Quicklime	Tons	3,139	2,434.29	**1,962.16**	**(472.13)**	81%
Chlorine	Tons	200	155.10	**163.19**	**8.09**	105%
Fluoride	Gallons	70,000	54,285.00	**41,198.00**	**(13,087.00)**	76%
CO_2	Tons	1,000	775.50	**353.17**	**(422.33)**	46%

(1) Annual chemical usage projections were based on average of 70 MGD influent water into plant (70 mgd x 365 days = 25,550 mg)

(2) Chemical usage projections thru April 2013 are based on recorded influent water into plant from July 1, 2012 thru April 30, 2013 = 19,814 mg (19,814/25,550 = 77.55% of full year)