

PROVIDENCE WATER SUPPLY BOARD

Docket No. 3832

Response to
Data Request of the Division of Public Utilities & Carriers Set II

Question 1:

Please provide an electronic copy of Mr. Smith's Exhibits in Excel format with all formulas and links intact.

Response 1:

See the provided Excel file labeled "Response Div. 2-1 HJS Exhibits.xls".

Please note that during the preparation of responses to the Division's data requests a mistake was discovered on Schedule HJS-5. Under the allocation factor FP, the value "100%" was inadvertently entered in the column for Wholesale as opposed to the column for Public Fire Protection. This mistake impacts the allocation of costs between retail and wholesale customers. This mistake will be corrected and a revised version of the model will be provided to the service list.

Prepared by: Harold Smith

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Question 2:

With regard to Mr. Smith's proposal for the recover of fire protection costs through retail consumption charges, please identify the amount of such costs that would be recovered from tax-exempt utilities at the 50 percent level proposed in this case.

Response 2:

We have assumed that "tax-exempt utilities" was meant to refer to tax-exempt entities, i.e., retail customers of the Board. The Board does not currently classify its retail customers as tax-exempt in its billing system, so it is not possible to accurately determine the usage by only tax-exempt customers, and therefore identify the revenues that would be recovered from these customers. The City of Providence has indicated that there are over 2,600 tax-exempt parcels within their city limits alone (there would be additional tax-exempt properties served by the Board in North Providence, Cranston, Johnson, and Lincoln) comprising approximately 37% of the total assessed value of property within the city.

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Question 3:

Please explain how the fire demands on HJS Exhibit 7 were derived and provide supporting documentation for these amounts.

Response 3:

Fire demand was assumed to be the same as in the previous rate filing, with a 6,000 gallon per minute fire demand for a duration of 6 hours. For the maximum day demand this results in a total demand of 6,000 gallons per minute times 60 minutes per hour times 6 hours per day divided by 748.052 gallons per hundred cubic feet (ccf), or 2,887 ccf per day. This maximum day demand was then adjusted by the 50% factor used to allocate a portion of the demand related fire protection costs to the retail volume rate, so the amount of demand allocated to fire protection for maximum day is 2,887 ccf per day times the .50 allocation factor, or 1,444 ccf per day.

For the maximum hour demand this results in a total demand of 6,000 gallons per minute times 60 minutes per hour times 24 hours per day divided by 748.052 gallons per hundred cubic feet (ccf), or 11,550 ccf per day. This maximum hour demand was then adjusted by the 50% factor used to allocate a portion of the demand related fire protection costs to the retail volume rate, so the amount of demand allocated to fire protection for maximum hour is 11,550 ccf per day times the .50 allocation factor, or 5,775 ccf per day. The maximum hour increment of 4,331 ccf per day is determined by subtracting the maximum day rate of 1,444 ccf per day from the maximum hour rate of 5,775 ccf per day.

These calculations may also be found on worksheet "HJS-7 Units of Service" of the Excel file "Response Div. 2-1 HJS Exhibits.xls" provided in response to Question 1 in Set II.

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Question 4:

Please state whether Mr. Smith agrees that costs properly allocable to fire service are allocated to retail consumption because of the Commission's restriction requiring all IFR costs to be recovered through volumetric rates. If not, please explain in detail why not.

Response 4:

The Commission's requirement that all IFR be recovered through volume rates is one of the reasons that this change was made, but other factors were considered, including:

- The equity of recovering fire protection costs from all retail customers through the volume charge rather than passing it on to private fire customers and underlying jurisdictions, who would recover those costs primarily through ad valorem property taxes; and
- The desire of the Board to improve the stability of its revenue throughout the year to better match revenue with expenses.

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Question 5:

Please provide cost study results based on the method for allocating and recovering fire protection costs utilized in Providence Water's previous filing. Include a copy of all workpapers in electronic format with all formulas intact.

Response 5:

We are assuming that this question is seeking the results of the rate model if 100% of the demand related fire protection costs were allocated to private and public fire protections, as was done in the previous full rate filing. The cost study results if 100% of the demand related fire protection costs were allocated to private and public fire protections would be as presented in Exhibit 10 – ALTERNATE Fire Protection Allocation, as shown below. The associated electronic workpapers for this scenario are provided in Excel file "Response Div. 2-5 - HJS Exhibits ALT .xls".

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HJS Exhibit 10 - ALTERNATE Fire Protection Scenario

Proposed Rates and Impacts
Rate Year Ending December 31, 2008

Billing Unit	Units of Service	Proposed Rates	Total Revenues	Current Rates	% Change
Total Service Charge Revenue			\$ 5,225,341	\$ 3,895,171	34.1%
Retail Consumption Charges					
Residential (HCF)	11,688,498	\$ 2.154	\$ 25,177,024	\$ 1.958	10.0%
Commercial (HCF)	2,852,053	\$ 2.050	\$ 5,846,708	\$ 1.882	8.9%
Industrial (HCF)	1,005,359	\$ 2.004	\$ 2,014,740	\$ 1.825	9.8%
Total	15,545,910		\$ 33,038,472	\$ 30,088,422	9.8%
Wholesale Charges					
Total Wholesale Charges			\$ 17,271,592	\$ 12,829,125	34.6%
Private Fire Service Charges					
3/4"	6	\$ 17.64	\$ 423	\$ 10.77	63.8%
1"	9	\$ 20.84	\$ 750	\$ 14.26	46.1%
1-1/2"	3	\$ 25.68	\$ 308	\$ 23.00	11.7%
2"	29	\$ 38.04	\$ 4,413	\$ 33.48	13.6%
4"	284	\$ 162.30	\$ 184,373	\$ 92.87	74.8%
6"	1,149	\$ 266.02	\$ 1,222,628	\$ 180.22	47.6%
8"	216	\$ 405.00	\$ 349,920	\$ 285.03	42.1%
10"	4	\$ 567.16	\$ 9,075	\$ 407.30	39.2%
12"	13	\$ 764.49	\$ 39,753	\$ 547.05	39.7%
16"	1	\$ 1,281.51	\$ 5,126	\$ 547.05	134.3%
Total	1,714		\$ 1,816,769	\$ 1,222,140	48.7%
Public Fire Service Charges					
Hydrants	6,082	\$ 313.49	\$ 1,906,646	\$ 250.99	24.9%
Total Rate Revenues			\$ 59,258,820	\$ 49,561,380	19.6%
Miscellaneous Revenues			1,245,739	\$ 1,245,739	0.0%
Total Revenues			\$ 60,504,559	\$ 50,807,119	19.1%

(Note: Details of the retail service charges and wholesale rates and charges are not shown for brevity. They are unaffected by the proposed change to recovery of fire protection costs and can be found in the Excel file "Response Div. 2-5 - HJS Exhibits ALT .xls", specifically on the worksheet "HJS-10 Proposed Rates & Impacts".)

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Question 6:

Please identify the amount of fire protection costs that will be recovered from each customer class based on Mr. Smith's proposal in this case. Include all supporting calculations, in electronic format, if applicable.

Response 6:

The costs recovered by customer class for fire protection under this rate proposal would be:

Fire Protection Cost Recovery Summary	
Residential	\$ 584,425
Commercial	\$ 119,786
Industrial	\$ 42,225
Private Fire Protection	\$ 1,644,507
Public Fire Protection	\$ 1,330,316
Total	<u>\$ 3,721,259</u>

The supporting calculations can be found on the worksheet "Response 6" in the Excel file "Response Div. 2-1 HJS Exhibits.xls" provided in response to Question 1 in Set II.

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Question 7:

Please explain the manner in which fire protection costs were allocated to the various retail classes. (For example, were they allocated on the basis of consumption, on the basis of relative peak demand, or some other measure?)

Response 7:

The methodology for performing this allocation was to reduce the assumed peak demand for fire protection. The effect of this was that a portion of the peak demand costs for fire protection are allocated to the retail customer classes on the basis of their relative peak demand.

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Question 8:

Please explain the basis or justification for utilizing the chosen procedure for allocating fire protection costs to the various classes.

Response 8:

There are several factors that form the basis of the decision to recover a portion of the demand related fire protection costs through the retail volume rate:

- The requirement to recover IFR costs through the volumetric rate;
- The equity of recovering fire protection costs from all retail customers through the volume charge rather than passing it on to private fire customers and underlying jurisdictions, who would recover those costs primarily through ad valorem property taxes; and
- The desire of the Board to improve the stability of its revenue throughout the year to better match revenue with expenses.

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Question 9:

Please provide a copy of any study or analysis that shows how the costs to be recovered from the various customer classes compares to the benefits that each customer class receives from fire protection services.

Response 9:

There is no quantitative analysis of the fire protection benefits received by each customer class that we are aware of. The decision to allocate costs based on relative peak demand was based on qualitative factors discussed by RFC Staff and Providence Water Staff during the rate design process. The primary factors influencing this decision were the equity of recovering the demand related costs through the volume rate rather than from the underlying jurisdictions and private fire customers and the recovery of capital costs through a volume rate rather than fixed private and public fire protection charges.

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Question 10:

Please explain the procedure utilized to calculate the private fire protection rates proposed in this case and explain whether the costs assigned to private fire service were affected by the procedure used to reduce demand costs for public fire service.

Response 10:

The procedure utilized in this rate filing to calculate private fire protection rates is similar to the procedure used in the previous rate filing with the exception of the adjustment that was made to the demand component of the fire protection cost of service, as discussed in Response 3.

The private fire protection rates are made up of four cost components, billing & collection, meters & services, maximum hour demand, and maximum day demand. The billing & collection and meters & services components are determined in the same manner for private fire protection as they are for retail customers. So, private fire connections, which are billed quarterly, pay the same for these two cost components as a retail customer using the same size service connections who is billed quarterly.

The maximum day and maximum hour demands of the private fire protection customers are based on their share of the total maximum day and maximum hour demands allocated to fire protection in total. The allocation of these costs between public and private fire connections is based on 6" equivalent fire connections, so a 6" private fire connection pays the same maximum day and maximum hour demand costs as a public fire hydrant, while smaller private fire connections would pay proportionally less and larger private fire connections would pay proportionally more.

To specifically address the last part of the question, "explain whether the costs assigned to private fire service were affected by the procedure used to reduce demand costs for public fire service.", there was no procedure used to reduce demand costs for public fire service specifically, rather the fire protection demand in total was reduced, which had a proportional affect on both private and public fire protection rates.

These calculations can be found in the Excel file "Response Div. 2-1 HJS Exhibits.xls" provided in response to Question 1 of Set II, in particular on worksheet "HJS-10 Proposed Rates & Impacts".

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Question 11:

Please explain why allocation factors HM, HMC, and HOC were not updated from Docket No. 3163 to reflect current breakdowns of T&D labor and contact (sic) services costs by type of activity.

Response 11:

These allocations should not vary greatly from year-to-year, so the allocations from the previous study were used to lend some consistency to the allocated cost of service. We will re-examine the relevant data to determine whether it is necessary to update these allocation factors. To the extent update is necessary, the information will be provided in rebuttal testimony.

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Question 12:

Please provide a detailed breakdown of T&D labor and contract services costs by activity for the test year comparable to that provided in Docket No. 3163 as utilized in developing allocation factors HM, HO, HMC and HOC.

Response 12:

We have attached calculations for allocation factors HO, HM, HOC, and HMC for FY 2006 that are consistent with the methodology used in the previous settlement. We believe that if these factors are to be updated that it may be more appropriate to use a multi-year average to assure that the allocation of costs accurately reflects the tasks undertaken in any given year and is not skewed by unusual activities in any single year. We will perform a similar analysis for FY 2004 and FY 2005 to determine if the use of such an average would be more appropriate.

Note that allocation factor HO is not used in our current filing and was not used in the previous settlement.

Prepared by: Harold Smith

Derivation of Allocation Factors HO, HM, HOC, and HMC
 Actual Costs for Fiscal Year ending June 30, 2006

Allocation Factor	Total	Base	Maximum Day	Maximum Hour	Meters & Services	Billing & Collection	Public Fire Protection	Wholesale
Transmission & Distribution - Salaries & Wages T&D (O)								
Unspecified	\$ 830,002	\$ 363,090	\$ 201,362	\$ 60,804	\$ -	\$ -	\$ 13,902	\$ 190,844
Vacation	\$ 4,717	\$ 2,064	\$ 1,144	\$ 346	\$ -	\$ -	\$ 79	\$ 1,085
Total (used for Allocation factor HO)	\$ 834,719	\$ 365,153	\$ 202,506	\$ 61,149	\$ -	\$ -	\$ 13,981	\$ 191,929
Calculated Factor HO		43.75%	24.26%	7.33%	0.00%	0.00%	1.67%	22.99%
Transmission & Distribution - Salaries & Wages T&D (M)								
Check Trench	\$ 5,336	\$ 1,966	\$ 1,315	\$ 947	\$ -	\$ -	\$ 107	\$ 1,001
Repair Trench	\$ 624	\$ 230	\$ 154	\$ 111	\$ -	\$ -	\$ 12	\$ 117
Exercise Valve (Scheduled)	\$ 5,754	\$ 2,120	\$ 1,418	\$ 1,021	\$ -	\$ -	\$ 115	\$ 1,079
Exercise Valve (Unscheduled)	\$ 8,553	\$ 3,152	\$ 2,108	\$ 1,518	\$ -	\$ -	\$ 171	\$ 1,605
Check Condition of Valve	\$ 7,674	\$ 2,828	\$ 1,891	\$ 1,362	\$ -	\$ -	\$ 153	\$ 1,440
Check Condition of Gate Box	\$ 937	\$ 345	\$ 231	\$ 166	\$ -	\$ -	\$ 19	\$ 176
Check for No/Rusty Water	\$ 12,172	\$ 5,661	\$ 3,785	\$ 2,726	\$ -	\$ -	\$ -	\$ -
Close Stop No-Payment	\$ 189	\$ -	\$ -	\$ -	\$ 189	\$ -	\$ -	\$ -
Close Stop Non-Use	\$ 1,002	\$ -	\$ -	\$ -	\$ 1,002	\$ -	\$ -	\$ -
Close Stop Repair	\$ 65,121	\$ -	\$ -	\$ -	\$ 65,121	\$ -	\$ -	\$ -
Close Stop Was Closed Non-Use	\$ 751	\$ -	\$ -	\$ -	\$ 751	\$ -	\$ -	\$ -
Open Stop Closed Repair	\$ 50,648	\$ -	\$ -	\$ -	\$ 50,648	\$ -	\$ -	\$ -
Open Stop Non-Payments	\$ 5,145	\$ -	\$ -	\$ -	\$ 5,145	\$ -	\$ -	\$ -
Mark Out	\$ 308,596	\$ 113,716	\$ 76,044	\$ 54,772	\$ -	\$ -	\$ 6,172	\$ 57,893
Open Stop (Seasonal)	\$ 5,604	\$ -	\$ -	\$ -	\$ 5,604	\$ -	\$ -	\$ -
Close Stop (Demolition)	\$ 143	\$ -	\$ -	\$ -	\$ 143	\$ -	\$ -	\$ -
Check Position & Condition of Stop	\$ 10,152	\$ -	\$ -	\$ -	\$ 10,152	\$ -	\$ -	\$ -
Check Condition Curb Box	\$ 3,490	\$ -	\$ -	\$ -	\$ 3,490	\$ -	\$ -	\$ -
Meter Maintenance	\$ 662	\$ -	\$ -	\$ -	\$ 662	\$ -	\$ -	\$ -
Meter Work - Set Jump Pipe	\$ 766	\$ -	\$ -	\$ -	\$ 766	\$ -	\$ -	\$ -
Check Condition of Hydrant	\$ 34,683	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 34,683	\$ -
Open/Close/Flush Hydrant	\$ 20,892	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 20,892	\$ -
Assist a Truck	\$ 41,213	\$ 12,377	\$ 8,277	\$ 5,962	\$ 10,464	\$ -	\$ 1,495	\$ 2,639
Replace Covers	\$ 7,910	\$ 2,915	\$ 1,949	\$ 1,404	\$ -	\$ -	\$ 158	\$ 1,484
Yard Work	\$ 172,905	\$ 80,407	\$ 53,770	\$ 38,728	\$ -	\$ -	\$ -	\$ -
Check Leak WMWS/HYDT/L/MTR	\$ 51,070	\$ 18,819	\$ 12,585	\$ 9,064	\$ -	\$ -	\$ 1,021	\$ 9,581
T&D Misc.	\$ 18,838	\$ 5,657	\$ 3,783	\$ 2,725	\$ 4,783	\$ -	\$ 683	\$ 1,206

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2-13. Please provide a breakdown of T&D pipe by diameter showing the feet or miles of each size.

Answer: Please see the attached Table 20-Public Water Mains in Use for year ending June 30, 2006 from our annual report.

TABLE 20
PUBLIC WATER MAINS IN USE
 YEAR ENDING JUNE 30, 2006

PIPE SIZE (IN)	PROVIDENCE (MI)		CRANSTON (MI)		JOHNSTON (MI)		NORTH PROVIDENCE (MI)		TOTAL* (MI)		HIGH PRESSURE FIRE SERVICE PROVIDENCE (MI)	
	(FT)	(MI)	(FT)	(MI)	(FT)	(MI)	(FT)	(MI)	(FT)	(MI)	(FT)	(MI)
6-INCH	1,449,148.56	274.46	652,867.63	123.65	139,368.37	26.40	233,038.16	44.14	2,474,422.72	468.64	82.06	0.02
8-INCH	376,224.66	71.25	683,728.32	129.49	274,686.12	52.02	201,443.21	38.15	1,536,082.31	290.92	1,230.08	0.23
10-INCH	8,287.36	1.57	0.00	0.00	0.00	0.00	250.00	0.05	8,537.36	1.62	0.00	0.00
12-INCH	257,213.84	48.71	137,597.30	26.06	13,556.11	2.57	40,350.79	7.64	448,718.04	84.98	7,458.17	1.41
16-INCH	148,814.55	28.18	23,015.05	4.36	6,471.63	1.23	10,705.38	2.03	189,006.61	35.80	55,735.19	10.56
20-INCH	20,295.24	3.84	17,727.00	3.36	0.00	0.00	0.00	0.00	38,022.24	7.20	0.00	0.00
24-INCH	63,466.44	12.02	18,867.83	3.57	38,971.83	7.38	17,200.16	3.26	138,506.26	26.23	4,164.47	0.79
30-INCH	50,181.19	9.50	31,894.62	6.04	0.00	0.00	4,009.29	0.76	86,085.10	16.30	0.00	0.00
36-INCH	4,555.68	0.86	5,511.13	1.04	0.00	0.00	0.00	0.00	10,066.81	1.91	0.00	0.00
42-INCH	2,893.25	0.55	22,669.49	4.29	0.00	0.00	0.00	0.00	25,562.74	4.84	0.00	0.00
48-INCH	14,918.00	2.83	1,648.97	0.31	394.00	0.07	0.00	0.00	16,960.97	3.21	0.00	0.00
60-INCH	5,559.00	1.05	12,910.89	2.45	4,340.00	0.82	0.00	0.00	22,809.89	4.32	0.00	0.00
66-INCH	0.00	0.00	8,448.00	1.60	0.00	0.00	0.00	0.00	8,448.00	1.60	0.00	0.00
TOTALS	2,401,557.77	454.84	1,616,886.23	306.23	477,788.06	90.49	506,996.99	96.02	5,003,229.05	947.58	68,669.97	13.01

*Special High Service Fire Service Included.

The length of 6-inch mains tabulated for Providence includes 691.45 feet in Pawtucket.
 The length of 12-inch mains tabulated for Providence includes 44.47 feet in Pawtucket.
 The length of 12-inch mains tabulated for Johnston includes 146.00 feet in Smithfield.
 The length of 6-inch mains tabulated for North Providence includes 179.30 feet in Pawtucket.

78" 4.4 MILES
 90" 4.5 MILES
 102" 5.4 MILES

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2-14. Please provide the average, maximum day and maximum day system-wide demands in each of the last five years.

Answer: Please see the attached Table 25-Capacity and Demand from our Annual Report which was provided from our Engineering Department.

TABLE 25
CAPACITY AND DEMAND
YEAR ENDING JUNE 30, 2006

YEAR	PLANT CAPACITY (MGD)	TOTAL DEMAND (MG)	AVG DAY (MGD)	MAXIMUM DAY		MAXIMUM HOUR			
				RATE (MGD)	PCT OF PLANT CAPACITY	PCT OF AVG DAY	RATE (MGD)	PCT OF PLANT CAPACITY	PCT OF AVG DAY
2002	144.0	25,068	68.7	119.5	83	174	154.8	108	225
2003	144.0	25,898	71.0	128.0	89	180	163.2	113	230
2004	144.0	25,721	70.3	108.0	75	154	137.4	95	195
2005	144.0	25,288	69.3	119.1	83	172	161.2	112	233
2006	144.0	25,777	70.6	118.1	82	167	142.5	99	202
2007*	144.0			113.5	79		157.4	109	

NOTE:

1941 to 1969 reporting year ends September 30.

1970 to 2006 reporting year ends June 30.

* FY 2007 figures are YTD over July 2006 through February 2007 period.

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Question 15:

Please provide a detailed breakdown of plant investment by account and show the derivation of factors K1 and K2.

Response 15:

The breakdown of plant investment and the derivation of allocation factors K1 and K2 based on this data is shown in the table below. This data and supporting calculations can also be found on worksheet "HJS-3 Capital Allocation" of the Excel file "Response Div. 2-1 HJS Exhibits.xls" provided in response to Question 1 of Set II.

Plant Investment
Test Year Ending June 30, 2006

Allocation Factor	Plant in Service	Accumulated Depreciation	Net Book Value	Base	Maximum Day	Maximum Hour	Meters	Billing & Collection	Public Fire Protection
Source of Supply & Pumping									
A	\$ 6,246,099	\$ -	\$ 6,246,099	\$ 3,267,257	\$ -	\$ -	\$ -	\$ -	\$ 62,461
A	\$ 7,066,935	\$ 6,154,024	\$ 912,911	\$ 477,532	\$ -	\$ -	\$ -	\$ -	\$ 9,129
A	\$ 14,731,696	\$ 5,644,572	\$ 9,087,124	\$ 4,753,363	\$ -	\$ -	\$ -	\$ -	\$ 90,871
N	\$ 22,321,197	\$ 4,125,069	\$ 18,196,128	\$ 8,381,960	\$ 1,598,152	\$ 330,855	\$ -	\$ -	\$ -
N	\$ 399,766	\$ 259,779	\$ 139,987	\$ 64,484	\$ 12,295	\$ 2,545	\$ -	\$ -	\$ -
N	\$ 459,317	\$ 398,101	\$ 61,216	\$ 28,199	\$ 5,377	\$ 1,113	\$ -	\$ -	\$ -
N	\$ 929,495	\$ 606,586	\$ 322,909	\$ 148,747	\$ 28,361	\$ 5,871	\$ -	\$ -	\$ -
N	\$ 107,721	\$ 70,298	\$ 37,423	\$ 17,239	\$ 3,287	\$ 680	\$ -	\$ -	\$ -
	\$ 52,262,226	\$ 17,258,429	\$ 35,003,797	\$ 17,138,781	\$ 1,647,471	\$ 341,066	\$ -	\$ -	\$ 162,461
Water Treatment Plant									
AA	\$ 29,994	\$ -	\$ 29,994	\$ 9,402	\$ 6,287	\$ -	\$ -	\$ -	\$ 300
AA	\$ 13,592,842	\$ 9,947,986	\$ 3,644,856	\$ 1,142,540	\$ 764,039	\$ -	\$ -	\$ -	\$ 36,449
AA	\$ 12,482,818	\$ 7,715,567	\$ 4,767,251	\$ 1,494,373	\$ 999,317	\$ -	\$ -	\$ -	\$ 47,673
AA	\$ 17,588,361	\$ 7,649,556	\$ 9,938,805	\$ 3,115,482	\$ 2,083,385	\$ -	\$ -	\$ -	\$ 99,388
	\$ 43,694,015	\$ 25,313,109	\$ 18,380,906	\$ 5,761,797	\$ 3,853,028	\$ -	\$ -	\$ -	\$ 183,809
Transmission & Distribution Plant									
L	\$ 614,902	\$ -	\$ 614,902	\$ 238,211	\$ 159,296	\$ 105,785	\$ -	\$ -	\$ 593
L	\$ 218,134	\$ 158,712	\$ 59,422	\$ 23,020	\$ 15,394	\$ 10,223	\$ -	\$ -	\$ 57
AA	\$ 11,468,806	\$ 9,848,529	\$ 1,620,277	\$ 507,902	\$ 339,644	\$ -	\$ -	\$ -	\$ 16,203
TD	\$ 41,945,519	\$ 17,807,089	\$ 24,138,430	\$ 11,225,224	\$ 7,506,531	\$ 5,406,674	\$ -	\$ -	\$ -
C	\$ 19,605,233	\$ 5,173,981	\$ 14,431,252	\$ -	\$ -	\$ -	\$ 14,431,252	\$ -	\$ -
FP	\$ 6,570,821	\$ 2,311,349	\$ 4,259,472	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AA	\$ 6,951,384	\$ 5,541,834	\$ 1,409,550	\$ 441,847	\$ 295,472	\$ -	\$ -	\$ -	\$ 14,096
	\$ 87,374,799	\$ 40,841,494	\$ 46,533,305	\$ 12,436,204	\$ 8,316,337	\$ 5,522,682	\$ 14,431,252	\$ -	\$ 30,948
General Plant									
T	\$ 23,380	\$ -	\$ 23,380	\$ 8,269	\$ 3,233	\$ 1,372	\$ 3,377	\$ -	\$ 88
T	\$ 4,066,977	\$ 2,252,966	\$ 1,814,011	\$ 641,539	\$ 250,845	\$ 106,456	\$ 261,999	\$ -	\$ 6,848
T	\$ 407,857	\$ 351,799	\$ 56,058	\$ 19,825	\$ 7,752	\$ 3,290	\$ 8,097	\$ -	\$ 212
T	\$ 4,648,009	\$ 3,811,303	\$ 836,706	\$ 295,908	\$ 115,701	\$ 49,103	\$ 120,846	\$ -	\$ 3,159
T	\$ 2,983,121	\$ 2,930,658	\$ 52,463	\$ 18,554	\$ 7,255	\$ 3,079	\$ 7,577	\$ -	\$ 198
T	\$ 322,908	\$ 276,922	\$ 45,986	\$ 16,263	\$ 6,359	\$ 2,699	\$ 6,642	\$ -	\$ 174
A	\$ 198,137	\$ 189,346	\$ 8,791	\$ 4,598	\$ -	\$ -	\$ -	\$ -	\$ 88
T	\$ 295,804	\$ 291,234	\$ 4,570	\$ 1,616	\$ 632	\$ 268	\$ 660	\$ -	\$ 17
T	\$ 857,101	\$ 857,099	\$ 2	\$ 1	\$ 0	\$ 0	\$ 0	\$ -	\$ 0
T	\$ 458,045	\$ 458,374	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
T	\$ 139,200	\$ 40,817	\$ 98,383	\$ 34,794	\$ 13,605	\$ 5,774	\$ 14,210	\$ -	\$ 371
	\$ 14,400,539	\$ 11,460,518	\$ 2,940,350	\$ 1,041,367	\$ 405,381	\$ 172,040	\$ 423,408	\$ -	\$ 11,155
Total Plant									
	\$ 197,731,579	\$ 94,873,550	\$ 102,858,358	\$ 36,378,149	\$ 14,222,218	\$ 6,035,788	\$ 14,854,660	\$ -	\$ 388,374
Construction Work in Progress									
T			\$ 23,150,055	\$ 8,187,197	\$ 3,201,230	\$ 1,358,575	\$ 3,343,584	\$ -	\$ 87,398
Assets under Capital Lease									
T			\$ 14,728,150	\$ 5,208,725	\$ 2,036,634	\$ 864,330	\$ 2,127,201	\$ -	\$ 55,603
Total Plant Investment									
			\$ 140,736,563	\$ 49,774,071	\$ 19,460,082	\$ 8,258,692	\$ 20,325,445	\$ -	\$ 531,375
Totals used to determine Allocation Factors:									
Total Plant less Land			\$ 133,852,182	\$ 46,260,335	\$ 19,297,553	\$ 8,151,536	\$ 20,322,068	\$ -	\$ 468,233
Allocation factor K2				34.56%	14.42%	6.09%	15.18%	0.00%	0.35%
Reallocated Meters and Fire Protection				\$ 13,048,078	\$ 5,443,021	\$ 2,299,202	\$ (20,322,068)	\$ (468,233)	\$ -
Total Plant less Land with Reallocated Meters and Fire Protection			\$ 133,852,182	\$ 59,308,413	\$ 24,740,574	\$ 10,450,738	\$ -	\$ -	\$ -
Allocation factor K1				44.31%	18.48%	7.81%	0.00%	0.00%	0.00%

Prepared by: Harold Smith

PROVIDENCE WATER SUPPLY BOARD

Docket No. 3832

Response to

Data Request of the Division of Public Utilities & Carriers Set II

Question 16:

Please provide the calculation of number of equivalent meters and services shown on HJS Exhibit 7.

Response 16:

The calculation of number of equivalent meters is shown below. These calculations can also be found on worksheet "HJS-1 Rev. under Existing Rates" of the Excel file "Response Div. 2-1 HJS Exhibits.xls" provided in response to Question 1 of Set II.

Equivalent Meter Calculations
Rate Year Ending December 31, 2008

	Number of Customers	Equivalent Meter Factor	Equivalent Meters
Retail Customers			
5/8"	54,074	1.0	54,074
3/4"	10,281	1.1	11,309
1"	5,071	1.4	7,099
1.5"	1,476	1.8	2,657
2"	1,779	2.9	5,159
3"	42	11.0	462
4"	33	14.0	462
6"	74	21.0	1,554
8"	32	29.0	928
10"	3	36.3	109
12"	1	43.5	44
Total	72,866		83,857
Private Fire Connections			
3/4"	6	1.1	7
1"	9	1.4	13
1.5"	3	1.8	5
2"	29	2.9	84
4"	284	14.0	3,976
6"	1,149	21.0	24,129
8"	216	29.0	6,264
10"	4	36.3	145
12"	13	43.5	566
16"	1	58.0	58
Total	1,714		35,246
Total Equivalent Meters			119,103

Prepared by: Harold Smith

PROVIDENCE WATER SUPPLY BOARD
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Response to
Data Request of the Division of Public Utilities & Carriers Set II

Question 17:

Please explain how the class demand factors on Exhibit HJS 7 were determined and provide any supporting documentation and workpapers

Response 17:

The class demand factors, as shown on Exhibit HJS 7, were estimated based on the factors used in the previous rate filing and the typical relationship between the peaking factors for the three primary customer classes (residential, commercial and industrial). The factors for each class were estimated in such a manner so that the total system maximum day and maximum hour demands for the Rate Year ending December 31, 2008 would be equal to the average maximum day and maximum hour demands for the previous four years (Fiscal Years 2003 through 2006). A summary of these calculations is shown below. The supporting calculations can be found in the Excel file "Response Div. 2-1 HJS Exhibits.xls" provided in response to Question 1 of Set II, in particular on the worksheet "Peaking Factors".

Peaking Factor Calculations and Allocations
Rate Year Ending December 31, 2008

	Average Day (HCF)	Maximum Day	Maximum Day Increment (HCF)	Maximum Hour	Maximum Hour Increment (HCF)
Residential	32,023	1.70	22,416	2.20	16,012
Commercial	7,814	1.60	4,688	2.00	3,126
Industrial	2,754	1.50	1,377	2.00	1,377
Wholesale	38,018	1.70	26,612	2.15	17,108
	80,609	1.68	55,094	2.15	37,622
Actual System Wide (4 year average)		1.68		2.15	

Prepared by: Harold Smith

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Set II

2-18. Please provide the number of public fire hydrants by municipality.

Answer: The following is a list of the most recent billed public fire hydrants by municipality as of April 3, 2007.

City of Providence	3,255
City of Cranston	1,839
Town of Johnston	442
Town of No. Prov	499
Town of Lincoln	<u>9</u>
	6,044

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2-19. Please explain whether private fire services are normally serviced by service lines similar to water services. If not, please explain the service connection arrangements.

Answer: Yes, private fire service lines are similar to general water services in the type of pipe that is used and therefore are generally serviced in the same manner.

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2-20. Please explain the nature of the metering arrangements for private fire services.

Answer: Private fire services are straight piped, and are not metered because the rate is not based on consumption. Private fire services are billed quarterly a flat rate based on the size of the service line.