



PROVIDENCE WATER

Tap Water Delivers

July 22, 2022

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

The Hon. Jorge O. Elorza
Mayor

Ricky Caruolo
General Manager

RE: Dk 4994; New Cost of Service Study Data Requests

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Legal Advisor

Dear Mrs. Massaro:

Enclosed, please find Providence Water's response to the second (2nd) set of data requests from the Public Utilities Commission.

Thank you for your attention to this matter.

Sincerely,

Nancy E. Parrillo
Senior Manager - Finance

cc: service list(via email)

MEMBER

Rhode Island Water Works Assn.
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PROVIDENCE WATER SUPPLY BOARD
RIPUC DK. 4994
Commission Set 2
NEW COST OF SERVICE STUDY

(Issued June 21, 2022)

- 2-1. Using the Rate Year Ending FY 2022 revenue requirement as set forth in Mr. Smith's Supplemental Rebuttal, please provide COSS schedules showing the impact of creating a high service wholesale class and low service wholesale class. Please provide with and without the 12% cap. Please provide an explanation of what Mr. Smith did to develop the two wholesale rates.

Mr. Smith defined these categories as follows:

"Customers that only use the gravity portion of the system are referred to as low service customers. Customers that use the gravity system and require pumping are referred to as high service customers. Bristol County, East Providence, Kent County and Warwick are low service customers and do not require additional pumping. Greenville, Lincoln and Smithfield are high service customers and are served by two pump stations...." (H. Smith Compliance Test, at 12).

Response:

Please find revised versions of the following schedules attached:

- HJS-16a-c: Customer Class Units of Service
- HJS-16d: Summary of Customer Class Units of Service
- HJS-17: Unit Cost of Service
- HJS-18: Customer Class Cost of Service
- HJS-19: Development of Volumetric Rates
- HJS-22: Proposed Rates 12% Cap
- HJS-23: Comparison of Revenues by Customer Class
- HJS-24: Revenue Proof

To generate the revised schedules, I combined the daily and hourly demands of the low service group (Bristol County, East Providence, Kent County and Warwick) and high service group (Greenville, Lincoln and Smithfield). I then re-calculated their peaking factors to represent the factors of each group, rather than the individual customers within the group. HJS-16a-c and HJS-16d (a summary version of HJS-16a-c), reflect this change. I modified the remaining cost of service and rate schedules (HJS-17, 18, and 19) as needed to reflect the two wholesale customer classes (high and low service), in place of the individual customers.

HJS-22 reflects the two options requested above. The "Cost of Service" option reflects the rates as calculated on HJS-19. The "12% Cap" option is a 12% cap on the increase in the average rate for each group. Under the "Cost of Service" option, the low service group would decrease by 14.5% and the high service group would increase by 20.3%. The "12% Cap" option caps the high service increase at 12% and distributes the shortfall to the low service group, reducing their decrease to 12.9%. While the high service group is capped, Lincoln's individual impact exceeds 12%. An alternative would be to cap the individual rates, but this would result in more than 2 wholesale rate classes. HJS-23 and 24 carry forward the comparison under the two options.

Schedule HJS-16a: Customer Class Units of Service

Providence Water Supply Board

Docket # 4994

Individual Wholesale Cost of Service Study

Per RIPUC Report and Order No. 23928

Test Year Ending June 30, 2019

Rate Year Ending June 30, 2022

Customer Class	Base Demand			Maximum Day Extra Capacity			Maximum Hour Extra Capacity			Billing			
	Rate Year Sales HCF	Plus NRW HCF	Base HCF	Average Day HCF/d	Peaking Factor	Maximum Day HCF/d	Average Day HCF/d	Peaking Factor	Maximum Hour HCF/h	Maximum Hour Extra HCF/h	Meters & Services 58" Eq	Monthly Bills	Direct Fire 6" Eq
Retail													
Residential - Low	4,394,853	1,212,576	5,607,430	12,041	1.47	17,751	12,041	2.85	35,503	17,751			
Commercial - Low	2,115,549	563,698	2,699,247	5,796	1.59	9,204	5,796	3.18	18,408	9,204			
Industrial - Low	97,960	27,033	125,013	268	1.36	366	268	2.72	731	366			
Residential - High	4,001,323	1,103,998	5,105,321	10,963	1.66	18,206	10,963	3.32	36,412	18,206			
Commercial - High	1,926,116	531,431	2,457,547	5,277	1.79	9,440	5,277	3.58	18,880	9,440			
Industrial - High	89,206	24,613	113,819	244	1.53	375	244	3.07	750	375			
Sub-total Retail	12,626,027	3,483,348	16,109,376	34,589	1.60	55,343	34,589	3.20	110,665	55,343	88,313	931,056	
Fire Protection													
Private						690			2,759	2,070	40,187	23,940	
Public (Providence)			69,188			1,085			4,338	3,254			3,232
Public (All Other)			71,029			1,113			4,453	3,340			3,318
Subtotal Fire Protection			140,217			2,888			11,551	8,663	40,187	23,940	6,550
Wholesale													
Low Service	9,511,408	449,995	9,961,405	26,059	1.72	44,804	26,059	2.15	56,129	11,325			
High Service	1,851,350	121,319	1,972,669	5,072	1.81	9,666	5,072	2.46	12,462	2,796			
Wholesale	11,362,760	571,315	11,934,074	31,131	1.75	54,470	31,131	2.20	68,591	14,121			
Grand Total	23,987,787	4,054,664	28,042,451	65,720	1.71	112,700	65,720	2.80	190,827	78,127	128,499	954,996	6,550

Intraclass Distribution of Retail Max Day Based on Monthly Analysis

	Max Day	%
Residential	36,616	64.97%
Commercial	18,986	33.69%
Industrial	754	1.34%
	56,357	100.00%

Schedule HJS-16b: Customer Class Units of Service

Providence Water Supply Board
Docket # 4994

Individual Wholesale Cost of Service Study
Per RIPUC Report and Order No. 23928
Test Year Ending June 30, 2019
Rate Year Ending June 30, 2022

Customer Class	Base Demand <i>Inch-Miles</i>	Maximum Day <i>Inch-Miles</i>	Maximum Hour <i>Inch-Miles</i>	Base Demand <i>Inch-Miles <=12"</i>
Retail				
Residential	6,173.49	5,810.00	5,605.82	4,319.20
Commercial	2,971.73	3,012.55	2,906.68	2,079.13
Industrial	137.63	119.67	115.47	96.29
Sub-total Retail	9,282.86	8,942.23	8,627.97	6,494.63

Fire Protection				
Private	-	111.46	215.09	-
Public (Providence)	39.87	175.23	338.15	27.90
Public (All Other)	40.93	179.90	347.15	28.64
Subtotal Fire Protection	80.80	466.59	900.39	56.53

Wholesale				
Low Service	855.75	825.66	852.39	8.66
High Service	554.06	538.92	392.65	105.15
Wholesale	1,409.81	1,364.58	1,245.04	113.81

Grand Total	10,773.47	10,773.40	10,773.40	6,664.97
<i>Check</i>	-	-	-	-

Intraclass Distribution of Retail Inch-Miles Based on Demand from HJS-16a

Customer Class	Base	%	Max Day	Max Hour	%
Retail					
Residential	10,712,750	65.93%	35,958	71,915	58.83%
Commercial	5,156,794	31.74%	18,644	37,289	30.51%
Industrial	238,832	1.47%	741	1,481	1.21%
Subtotal Retail	16,108,376	99.14%	55,343	110,685	90.55%

Fire Protection					
Private	-	0.00%	690	2,759	2.26%
Public (Providence)	69,188	0.43%	1,085	4,338	3.55%
Public (All Other)	71,029	0.44%	1,113	4,453	3.64%
Subtotal Fire Protection	140,217	0.86%	2,888	11,551	9.45%

Schedule HJS-16c: Customer Class Units of Service

Providence Water Supply Board

Docket # 4994

Individual Wholesale Cost of Service Study

Per RIPUC Report and Order No. 23928

Test Year Ending June 30, 2019

Rate Year Ending June 30, 2022

6" Equivalent Connections

Fire Connection Size	Accounts	Demand Factor	6" Eq. Factor	6" Eq. Conn.
5/8"	-	0.0	0.000	0.00
3/4"	2	0.5	0.004	0.01
1"	9	1.0	0.009	0.08
1-1/2"	2	2.9	0.026	0.05
2"	68	6.2	0.056	3.78
3"	-	18.0	0.162	0.00
4"	391	38.3	0.344	134.60
6"	1,245	111.3	1.000	1,245.00
8"	256	237.2	2.131	545.54
10"	4	426.6	3.832	15.33
12"	18	689.0	6.190	111.42
16"	-	1,468.4	13.192	0.00
Subtotal Private	1,995			2,056

5/8" Equivalent Connections

Meter Size	Providence Accounts	All Accounts	Fire Accounts	5/8" Eq. M&S Factor	5/8" Eq. Prov FP
5/8"	25,954	57,812	-	1	1
3/4"	4,580	11,326	2	1.1	1.5
1"	2,091	5,335	9	1.4	3.75
1-1/2"	902	1,547	2	1.8	10
2"	792	1,357	68	2.9	24
3"	55	73	-	11	65
4"	20	35	391	14	110
6"	28	57	1,245	21	225
8"	15	42	256	29	340
10"	2	4	4	36.25	520
12"	-	-	18	43.5	860
16"	-	-	-	58	-
Subtotal Private	34,439	77,588	1,995		

Public Fire Hydrants (Providence Only) 3232

Public Fire Hydrants (All Other) 3318

Total Hydrants 6550

Equivalent 6" Connections	#	%
Private Firelines	2,056	23.89%
Providence Hydrants	3,232	37.56%
All Other Hydrants	3,318	38.56%
Total	8,606	100.00%

Providence **5/8" M&S** 39,820 **5/8" FP** 86,908 **Bills** 413,268

All 88,313 n/a 931,056

Fire 40,187 n/a 23,940

Schedule HJS-16d: Summary of Customer Class Units of Service

Providence Water Supply Board

Docket # 4994

Individual Wholesale Cost of Service Study

Per RIPUC Report and Order No. 23928

Test Year Ending June 30, 2019

Rate Year Ending June 30, 2022

Customer Class	Inch-Miles			Inch-Miles <=12"			Base HCF	Demand			Billing		Direct Fire 6" Eq.
	Base Inch-Miles	Maximum Day Inch-Miles	Maximum Hour Inch-Miles	Base Inch-Miles <=12"	Maximum Day Extra HCF/d	Maximum Hour Extra HCF/d		Meters & Services 5/8" Eq.	Monthly Bills				
Retail													
Residential - Low	6,173.49	5,810.00	5,605.82	4,319.20	5,607.430	17,751	5,711						
Commercial - Low	2,971.73	3,012.55	2,906.68	2,079.13	2,699,247	9,204	3,408						
Industrial - Low	137.63	119.67	115.47	96.29	125,013	366	97						
Residential - High					5,105,321	18,206	7,244						
Commercial - High					2,457,547	9,440	4,163						
Industrial - High					113,819	375	131						
Sub-total Retail	9,282.86	8,942.23	8,627.97	6,494.63	16,108,376	55,343	20,753	88,313	931,056				
Fire Protection													
Private	-	111.46	215.09	-	690	2,070	690	40,187	23,940				
Public (Providence)	39.87	175.23	338.15	27.90	69,188	3,254	1,085						3,232
Public (All Other)	40.93	179.90	347.15	28.64	71,029	3,340	1,113						3,318
Subtotal Fire Protection	80.80	466.59	900.39	56.53	140,217	8,663	2,888	40,187	23,940				6,550
Wholesale													
Low Service	855.75	825.66	852.39	8.66	9,961,405	11,325	18,745						
High Service	554.06	538.92	392.65	105.15	1,972,669	2,796	4,594						
Wholesale	1,409.81	1,364.58	1,245.04	113.81	11,934,074	14,120.92	23,339.01	40,187	23,940				
Grand Total	10,773.47	10,773.40	10,773.40	6,664.97	28,182,668	78,127	46,980	128,499	954,996				6,550

Schedule HJS-17: Unit Cost of Service

Providence Water Supply Board
 Docket # 4694
 Individual Wholesale Cost of Service Study
 Per RIPLIC Report and Order No. 23928
 Test Year Ending June 30, 2019
 Rate Year Ending June 30, 2022

Description	Inch-Miles			Inch-Miles			Inch-Miles			Retail Only			High Service & Retail			Retail Only			Direct Fire ¢/GAL	
	Base	Max Day	Max Hour	Base	Max Day	Max Hour	Base	Max Day	Max Hour	Base	Max Day	Max Hour	Base	Max Day	Max Hour	Max Hour	Services	Billing & Collection		
Total Units of Service																				
Retail	9,283	8,942	8,628	6,495	16,108,376	20,753	55,343	7,676,686	11,557	28,021	18,108,376	20,753	55,343	88,313	631,056					
Fire Protection	81	487	900	57	140,217	2,888	8,663	140,217	2,888	8,663	140,217	2,888	8,663	40,187	23,940					
Low Service Wholesale	856	826	852	9	9,961,405	18,745	11,325	1,972,669	4,594	2,796	1,972,669	4,594	2,796							
High Service Wholesale	554	539	533	105	1,972,669	4,594	2,788	8,769,573	19,019	39,481	16,248,593	23,641	64,006	128,499	954,996					
Total	10,773	10,773	10,773	6,665	28,182,668	45,980	76,127	19,769,573	19,019	39,481	16,248,593	23,641	64,006	128,499	954,996					6,660
<i>Chick</i>																				
Unit Cost of Service																				
O&M Expense	\$ 38,256,980	\$ 1,428,460	\$ 1,021,148	\$ 2,281,317	\$ 15,892,184	\$ 1,637,019	\$ (12,654)	\$ 206,730	\$ 147,782	\$ 245,757	\$ 123,216	\$ 86,093	\$ 146,496	\$ 4,173,121	\$ 7,681,683	\$ 1,718,490				
Unit Cost (\$/Unit)	\$ 132.59	\$ 94.78	\$ 151.82	\$ 339.28	\$ 0.66	\$ 34.94	\$ (0.16)	\$ 0.02	\$ 7.77	\$ 6.22	\$ 0.01	\$ 3.73	\$ 2.29	\$ 32.48	\$ 8.04	\$ 262.36				
Capital Expense	\$ 37,967,000	\$ 7,064,865	\$ 5,030,642	\$ 8,865,804	\$ 5,027,423	\$ 1,025,291	\$ 226,346	\$ 64,277	\$ 46,949	\$ 76,411	\$ 45,990	\$ 28,903	\$ 48,065	\$ 8,099,390	\$ 2,008,372	\$ 819,312				
Unit Cost (\$/Unit)	\$ 654.84	\$ 486.85	\$ 776.52	\$ -	\$ 0.18	\$ 21.82	\$ 2.90	\$ 0.01	\$ 2.42	\$ 1.94	\$ 0.00	\$ 1.22	\$ 0.75	\$ 63.03	\$ 2.10	\$ 125.09				
City Services Expense	\$ 638,187	\$ 37,079	\$ 26,506	\$ 44,079	\$ 308,721	\$ 18,229	\$ -	\$ 3,534	\$ 2,526	\$ 4,201	\$ 2,159	\$ 1,542	\$ 2,665	\$ 115,859	\$ 180,522	\$ 41,234				
Unit Cost (\$/Unit)	\$ 3.44	\$ 2.48	\$ 4.06	\$ 7.86	\$ 0.01	\$ 0.39	\$ -	\$ 0.00	\$ 0.13	\$ 0.11	\$ 0.00	\$ 0.07	\$ 0.04	\$ 0.90	\$ 0.19	\$ 6.30				
Property Tax Expense	\$ 7,834,311	\$ -	\$ -	\$ -	\$ 4,570,786	\$ 2,974,032	\$ 71,663	\$ 108,730	\$ 77,726	\$ 129,256	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,082				
Unit Cost (\$/Unit)	\$ -	\$ -	\$ -	\$ -	\$ 0.16	\$ 63.31	\$ 0.92	\$ 0.01	\$ 4.09	\$ 3.27	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2.82				
Net Op Rev Allowance	\$ 1,669,949	\$ 170,408	\$ 121,566	\$ 46,275	\$ 511,942	\$ 113,092	\$ 5,707	\$ 7,665	\$ 5,480	\$ 9,113	\$ 3,427	\$ 2,371	\$ 3,843	\$ 247,767	\$ 197,412	\$ 51,622				
Unit Cost (\$/Unit)	\$ 15.82	\$ 11.28	\$ 18.78	\$ 6.94	\$ 0.02	\$ 2.41	\$ 0.07	\$ 0.00	\$ 0.29	\$ 0.23	\$ 0.00	\$ 0.10	\$ 0.06	\$ 1.93	\$ 0.21	\$ 7.88				
Total Cost of Service	\$ 86,697,407	\$ 8,690,813	\$ 6,189,892	\$ 2,360,001	\$ 26,109,057	\$ 5,767,863	\$ 291,086	\$ 390,936	\$ 279,462	\$ 464,738	\$ 174,782	\$ 120,909	\$ 201,069	\$ 12,696,136	\$ 10,067,989	\$ 2,632,720				
Unit Cost (\$/Unit)	\$ 806.69	\$ 575.48	\$ 957.00	\$ 354.09	\$ 0.93	\$ 122.77	\$ 3.73	\$ 0.04	\$ 14.69	\$ 11.77	\$ 0.01	\$ 5.11	\$ 3.14	\$ 98.34	\$ 10.54	\$ 401.94				

Schedule HJS-19: Development of Volumetric Rates

Providence Water Supply Board
 Docket # 4994
 Individual Wholesale Cost of Service Study
 Per RIPUC Report and Order No. 23928
 Test Year Ending June 30, 2019
 Rate Year Ending June 30, 2022

Description	Units	Residential	Commercial	Industrial	Low Service	High Service
Unit Cost						
CTA Base - T&D	\$/Inch-Mile	806.69	806.69	806.69	806.69	806.69
CTA Max Day - T&D	\$/Inch-Mile	575.48	575.48	575.48	575.48	575.48
CTA Max Hour - T&D	\$/Inch-Mile	957.00	957.00	957.00	957.00	957.00
CTA Base - T&D <=12"	\$/Inch-Mile	354.09	354.09	354.09	354.09	354.09
CTA Base - SOS, WTP, LS	\$/HCF	0.93	0.93	0.93	0.93	0.93
CTA Max Day - SOS, WTP, LS	\$/HCF/d	122.77	122.77	122.77	122.77	122.77
CTA Max Hour - SOS, WTP, LS	\$/HCF/d	3.73	3.73	3.73	3.73	3.73
HSR Base	\$/HCF	0.04	0.04	0.04	0.04	0.04
HSR Max Day	\$/HCF/d	14.69	14.69	14.69	14.69	14.69
HSR Max Hour	\$/HCF/d	11.77	11.77	11.77	11.77	11.77
Retail Only Base	\$/HCF	0.01	0.01	0.01	0.01	0.01
Retail Only Max Day	\$/HCF/d	5.11	5.11	5.11	5.11	5.11
Retail Only Max Hour	\$/HCF/d	3.14	3.14	3.14	3.14	3.14
Units						
Base	Inch-Miles	6,173	2,972	138	856	554
Maximum Day	Inch-Miles	5,810	3,013	120	826	539
Maximum Hour	Inch-Miles	5,606	2,907	115	852	393
Base	Inch-Miles <=12"	4,319	2,079	96	9	105
Base	HCF	10,712,750	5,156,794	238,832	9,961,405	1,972,669
Maximum Day	HCF/d	12,954	7,571	228	18,745	4,594
Maximum Hour	HCF/d	35,958	18,644	741	11,325	2,796

Schedule HJS-19: Development of Volumetric Rates

Providence Water Supply Board
 Docket # 4994
 Individual Wholesale Cost of Service Study
 Per RIPUC Report and Order No. 23928
 Test Year Ending June 30, 2019
 Rate Year Ending June 30, 2022

Description	Units	Residential	Commercial	Industrial	Low Service	High Service
Total Cost						
CTA Base - T&D		\$ 4,980,075	\$ 2,397,257	\$ 111,027	\$ 690,322	\$ 446,949
CTA Max Day - T&D		\$ 3,343,534	\$ 1,733,657	\$ 68,870	\$ 475,150	\$ 310,137
CTA Max Hour - T&D		\$ 5,364,793	\$ 2,781,701	\$ 110,504	\$ 815,740	\$ 375,766
CTA Base - T&D <=12"		\$ 1,529,387	\$ 736,201	\$ 34,096	\$ 3,066	\$ 37,233
CTA Base - SOS, WTP, LS		\$ 9,924,533	\$ 4,777,370	\$ 221,259	\$ 9,228,469	\$ 1,827,525
CTA Max Day - SOS, WTP, LS		\$ 1,590,384	\$ 929,518	\$ 27,968	\$ 2,301,353	\$ 563,941
CTA Max Hour - SOS, WTP, LS		\$ 133,963	\$ 69,461	\$ 2,759	\$ 42,191	\$ 10,418
HSR Base		\$ 203,876	\$ 98,140	\$ 4,545	\$ -	\$ 78,776
HSR Maximum Day		\$ 106,440	\$ 61,173	\$ 1,919	\$ -	\$ 67,498
HSR Maximum Hour		\$ 214,310	\$ 111,122	\$ 4,414	\$ -	\$ 32,915
Retail Only Base		\$ 115,234	\$ 56,470	\$ 2,569	\$ -	\$ -
Retail Only Max Day		\$ 66,253	\$ 38,722	\$ 1,165	\$ -	\$ -
Retail Only Max Hour		\$ 112,958	\$ 58,570	\$ 2,327	\$ -	\$ -
PLUS:						
Retail Service Charge Costs		\$ 5,262,469	\$ 2,632,278	\$ 112,797	\$ -	\$ -
Retail Fire Protection Costs		\$ 52,719	\$ 26,370	\$ 1,130	\$ -	\$ -
Private Fire Line Costs		\$ 306,592	\$ 153,357	\$ 6,572	\$ -	\$ -
Public Fire Costs		\$ 27,017	\$ 13,514	\$ 579	\$ -	\$ -
Total Rate Year Revenue Requirement		\$ 33,334,537	\$ 16,673,881	\$ 714,502	\$ 13,556,292	\$ 3,751,158
Rate Year Sales	HCF	8,396,176	4,041,665	187,186	9,511,409	1,851,350
Volumetric Rate Build-Up						
Base	\$/HCF	\$ 1,995326	\$ 1,995326	\$ 1,995326	\$ 1,043153	\$ 1,291211
Maximum Day	\$/HCF	\$ 0,608207	\$ 0,683647	\$ 0,533815	\$ 0,291913	\$ 0,508588
Maximum Hour	\$/HCF	\$ 0,693890	\$ 0,747428	\$ 0,641096	\$ 0,090200	\$ 0,226375
Service Charge	\$/HCF	\$ 0,626770	\$ 0,651286	\$ 0,602594	\$ -	\$ -
Retail Fire	\$/HCF	\$ 0,006279	\$ 0,006525	\$ 0,006037	\$ -	\$ -
Private Fire	\$/HCF	\$ 0,036516	\$ 0,037944	\$ 0,035107	\$ -	\$ -
Public Fire	\$/HCF	\$ 0,003218	\$ 0,003344	\$ 0,003094	\$ -	\$ -
Total	\$/HCF	\$ 3,970205	\$ 4,125498	\$ 3,817069	\$ 1,425266	\$ 2,026174
Rounded	\$/HCF	\$ 3,971000	\$ 4,126000	\$ 3,818000	\$ 1,425267	\$ 2,026175
Revenues		\$ 33,341,215	\$ 16,675,910	\$ 714,676	\$ 13,556,298	\$ 3,751,159
COS		\$ 33,334,537	\$ 16,673,881	\$ 714,502	\$ 13,556,292	\$ 3,751,158
Variance due to Rounding		\$ 6,678	\$ 2,028	\$ 174	\$ 6	\$ 1

Schedule HJS-22a: Proposed Rates - 12% Cap

Providence Water Supply Board
 Docket # 4994
 Individual Wholesale Cost of Service Study
 Per RIPUC Report and Order No. 23928
 Test Year Ending June 30, 2019
 Rate Year Ending June 30, 2022

Description	Units	FY 2022 - Existing		FY 2022 - Cost of Service			FY 2022 - 12% Cap		
		Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue
Service Charges									
5/8"	57,812	\$ 10.35	\$ 7,180,250	0.00%	\$ 10.35	\$ 7,180,250	0.00%	\$ 10.35	\$ 7,180,250
3/4"	11,326	\$ 11.03	\$ 1,499,109	0.00%	\$ 11.03	\$ 1,499,109	0.00%	\$ 11.03	\$ 1,499,109
1"	5,335	\$ 13.01	\$ 832,900	0.00%	\$ 13.01	\$ 832,900	0.00%	\$ 13.01	\$ 832,900
1.5"	1,547	\$ 15.65	\$ 290,527	0.00%	\$ 15.65	\$ 290,527	0.00%	\$ 15.65	\$ 290,527
2"	1,357	\$ 22.94	\$ 373,555	0.00%	\$ 22.94	\$ 373,555	0.00%	\$ 22.94	\$ 373,555
3"	73	\$ 76.67	\$ 67,163	0.00%	\$ 76.67	\$ 67,163	0.00%	\$ 76.67	\$ 67,163
4"	35	\$ 96.57	\$ 40,559	0.00%	\$ 96.57	\$ 40,559	0.00%	\$ 96.57	\$ 40,559
6"	57	\$ 142.99	\$ 97,805	0.00%	\$ 142.99	\$ 97,805	0.00%	\$ 142.99	\$ 97,805
8"	42	\$ 196.04	\$ 98,804	0.00%	\$ 196.04	\$ 98,804	0.00%	\$ 196.04	\$ 98,804
10"	4	\$ 244.12	\$ 11,718	0.00%	\$ 244.12	\$ 11,718	0.00%	\$ 244.12	\$ 11,718
12"	-	\$ 292.20	\$ -	0.00%	\$ 292.20	\$ -	0.00%	\$ 292.20	\$ -
Total Service Charge	77,588		\$ 10,492,391	0.00%		\$ 10,492,391	0.00%		\$ 10,492,391

Retail Fire Protection Service Charges (Providence Only)

5/8"	25,954	\$ 1.90	\$ 591,751	0.00%	\$ 1.90	\$ 591,751	0.00%	\$ 1.90	\$ 591,751
3/4"	4,580	\$ 2.84	\$ 156,086	0.00%	\$ 2.84	\$ 156,086	0.00%	\$ 2.84	\$ 156,086
1"	2,091	\$ 7.06	\$ 177,150	0.00%	\$ 7.06	\$ 177,150	0.00%	\$ 7.06	\$ 177,150
1.5"	902	\$ 18.81	\$ 203,599	0.00%	\$ 18.81	\$ 203,599	0.00%	\$ 18.81	\$ 203,599
2"	792	\$ 45.12	\$ 428,820	0.00%	\$ 45.12	\$ 428,820	0.00%	\$ 45.12	\$ 428,820
3"	55	\$ 122.17	\$ 80,632	0.00%	\$ 122.17	\$ 80,632	0.00%	\$ 122.17	\$ 80,632
4"	20	\$ 206.74	\$ 49,618	0.00%	\$ 206.74	\$ 49,618	0.00%	\$ 206.74	\$ 49,618
6"	28	\$ 422.88	\$ 142,088	0.00%	\$ 422.88	\$ 142,088	0.00%	\$ 422.88	\$ 142,088
8"	15	\$ 639.01	\$ 115,022	0.00%	\$ 639.01	\$ 115,022	0.00%	\$ 639.01	\$ 115,022
10"	2	\$ 977.32	\$ 23,456	0.00%	\$ 977.32	\$ 23,456	0.00%	\$ 977.32	\$ 23,456
12"	-	\$ 1,616.32	\$ -	0.00%	\$ 1,616.32	\$ -	0.00%	\$ 1,616.32	\$ -
Total Retail FPSC (Providence Only)	34,439		\$ 1,968,222	0.00%		\$ 1,968,222	0.00%		\$ 1,968,222

Total Retail Service Charge Revenue \$ 12,460,613 0.00% \$ 12,460,613 0.00% \$ 12,460,613

Description	Units	FY 2022 - Existing		FY 2022 - Cost of Service			FY 2022 - 12% Cap		
		Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue
Retail Consumption Charges									
Residential	8,396,178	\$ 3.830	\$ 32,157,354	3.68%	\$ 3.971	\$ 33,341,215	3.68%	\$ 3.971	\$ 33,341,215
Commercial	4,041,665	\$ 4.014	\$ 16,223,243	2.79%	\$ 4.126	\$ 16,675,910	2.79%	\$ 4.126	\$ 16,675,910
Industrial	187,186	\$ 3.650	\$ 683,229	4.60%	\$ 3.818	\$ 714,676	4.60%	\$ 3.818	\$ 714,676
Total Retail Consumption Charge	12,625,027		\$ 49,063,826	3.40%		\$ 50,731,801	3.40%		\$ 50,731,801
East Smithfield Debt Surcharge	235,576	\$ 0.350	\$ 82,451	0.00%	\$ 0.350	\$ 82,451	0.00%	\$ 0.350	\$ 82,451
Total Retail Volume Charge Revenue			\$ 49,146,278	3.39%		\$ 50,814,252	2.71%		\$ 50,814,252
Total Retail Revenue			\$ 61,806,891	2.71%		\$ 63,274,866	2.71%		\$ 63,274,866

Schedule HJS-22a: Proposed Rates - 12% Cap

Providence Water Supply Board
 Docket # 4994
 Individual Wholesale Cost of Service Study
 Per RIPUC Report and Order No. 23928
 Test Year Ending June 30, 2019
 Rate Year Ending June 30, 2022

Description	Units	FY 2022 - Existing		FY 2022 - Cost of Service			FY 2022 - 12% Cap		
		Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue
Wholesale Charges									
Low Service									
Bristol County	1,494,845	\$ 1.618318	\$ 2,419,134	-11.93%	\$ 1.425267	\$ 2,130,553	-10.24%	\$ 1.452565	\$ 2,171,360
East Providence	1,822,773	\$ 1.654429	\$ 3,015,648	-13.85%	\$ 1.425267	\$ 2,597,938	-12.20%	\$ 1.452565	\$ 2,647,896
Kent County	2,727,147	\$ 1.615908	\$ 4,406,819	-11.80%	\$ 1.425267	\$ 3,886,913	-10.11%	\$ 1.452565	\$ 3,961,359
Warwick	3,486,644	\$ 1.738015	\$ 6,018,147	-17.90%	\$ 1.425267	\$ 4,940,894	-16.33%	\$ 1.452565	\$ 5,035,527
Subtotal - Low Service	9,511,409	\$ 1.667445	\$ 15,859,748	-14.52%	\$ 1.425267	\$ 13,556,298	-12.89%	\$ 1.452565	\$ 13,815,942
High Service									
Greenville	421,521	\$ 1.698487	\$ 715,948	19.29%	\$ 2.026175	\$ 854,076	11.04%	\$ 1.885929	\$ 794,959
Lincoln	1,038,229	\$ 1.669560	\$ 1,733,385	21.36%	\$ 2.026175	\$ 2,103,633	12.96%	\$ 1.885929	\$ 1,958,026
Smithfield	391,600	\$ 1.706054	\$ 668,091	18.76%	\$ 2.026175	\$ 793,451	10.54%	\$ 1.885929	\$ 738,530
Subtotal - High Service	1,851,350	\$ 1.683865	\$ 3,117,425	20.33%	\$ 2.026175	\$ 3,751,159	12.00%	\$ 1.885929	\$ 3,491,515
Total Wholesale Revenue	11,362,760		\$ 18,977,173	-8.80%		\$ 17,307,457	-8.80%		\$ 17,307,457

Wholesale Charges									
Low Service									
Bristol County	1,118	\$ 2,163.53	\$ 2,419,134	-11.93%	\$ 1,905.44	\$ 2,130,553	-10.24%	\$ 1,941.93	\$ 2,171,360
East Providence	1,363	\$ 2,211.80	\$ 3,015,648	-13.85%	\$ 1,905.44	\$ 2,597,938	-12.20%	\$ 1,941.93	\$ 2,647,896
Kent County	2,040	\$ 2,160.30	\$ 4,406,819	-11.80%	\$ 1,905.44	\$ 3,886,913	-10.11%	\$ 1,941.93	\$ 3,961,359
Warwick	2,593	\$ 2,320.88	\$ 6,018,147	-17.90%	\$ 1,905.44	\$ 4,940,894	-16.33%	\$ 1,941.93	\$ 5,035,527
Subtotal - Low Service	7,115	\$ 2,229.20	\$ 15,859,748	-14.52%	\$ 1,905.44	\$ 13,556,298	-12.89%	\$ 1,941.93	\$ 13,815,942
High Service									
Greenville	315	\$ 2,270.70	\$ 715,948	19.29%	\$ 2,708.79	\$ 854,076	11.04%	\$ 2,521.30	\$ 794,959
Lincoln	777	\$ 2,232.03	\$ 1,733,385	21.36%	\$ 2,708.79	\$ 2,103,633	12.96%	\$ 2,521.30	\$ 1,958,026
Smithfield	293	\$ 2,280.82	\$ 668,091	18.76%	\$ 2,708.79	\$ 793,451	10.54%	\$ 2,521.30	\$ 738,530
Subtotal - High Service	1,385	\$ 2,251.16	\$ 3,117,425	20.33%	\$ 2,708.79	\$ 3,751,159	12.00%	\$ 2,521.30	\$ 3,491,515
Wholesale (per million gallons)	8,499		\$ 18,977,173	-8.80%		\$ 17,307,457	-8.80%		\$ 17,307,457

Description	Units	FY 2022 - Existing		FY 2022 - Cost of Service			FY 2022 - 12% Cap		
		Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue
Private Fire Service Charges									
3/4"	2	\$ 11.83	\$ 284	0.00%	\$ 11.83	\$ 284	0.00%	\$ 11.83	\$ 284
1"	9	\$ 13.98	\$ 1,510	0.00%	\$ 13.98	\$ 1,510	0.00%	\$ 13.98	\$ 1,510
1-1/2"	2	\$ 17.22	\$ 413	0.00%	\$ 17.22	\$ 413	0.00%	\$ 17.22	\$ 413
2"	68	\$ 25.52	\$ 20,824	0.00%	\$ 25.52	\$ 20,824	0.00%	\$ 25.52	\$ 20,824
4"	391	\$ 109.05	\$ 511,663	0.00%	\$ 109.05	\$ 511,663	0.00%	\$ 109.05	\$ 511,663
6"	1,245	\$ 177.78	\$ 2,656,033	0.00%	\$ 177.78	\$ 2,656,033	0.00%	\$ 177.78	\$ 2,656,033
8"	256	\$ 269.26	\$ 827,167	0.00%	\$ 269.26	\$ 827,167	0.00%	\$ 269.26	\$ 827,167
10"	4	\$ 375.10	\$ 18,005	0.00%	\$ 375.10	\$ 18,005	0.00%	\$ 375.10	\$ 18,005
12"	18	\$ 503.18	\$ 108,687	0.00%	\$ 503.18	\$ 108,687	0.00%	\$ 503.18	\$ 108,687
16"	-	\$ 785.75	\$ -	0.00%	\$ 785.75	\$ -	0.00%	\$ 785.75	\$ -
Total			\$ 4,144,586	0.00%		\$ 4,144,586	0.00%		\$ 4,144,586
Hydrants (Excluding Providence)	3,318	\$ 621.41	\$ 2,061,838	0.00%	\$ 621.41	\$ 2,061,838	0.00%	\$ 621.41	\$ 2,061,838
Total Fire Protection Charge Revenue			\$ 6,206,424			\$ 6,206,424			\$ 6,206,424
Total Rate Revenues			\$ 86,790,488			\$ 86,788,746			\$ 86,788,746
Miscellaneous Revenues			1,543,163			1,543,163			1,543,163
Total Revenues			\$ 88,333,651	0.00%		\$ 88,331,909	0.00%		\$ 88,331,909

Schedule HJS-23: Comparison of Revenues by Customer Class

Providence Water Supply Board
Docket # 4994
Individual Wholesale Cost of Service Study
Per RIPUC Report and Order No. 23928
Test Year Ending June 30, 2019
Rate Year Ending June 30, 2022

	FY 2022 - Cost of Service			FY 2022 - 12% Cap		
	Existing Rates	Proposed Rates	% Change	Existing Rates	Proposed Rates	% Change
Retail						
Monthly Service Charge	\$ 10,492,391	\$ 10,492,391	0.0%	\$ 10,492,391	\$ 10,492,391	0.0%
East Smithfield Debt Surcharge	\$ 82,451	\$ 82,451	0.0%	\$ 82,451	\$ 82,451	0.0%
Periodic FPSC	\$ 1,968,222	\$ 1,968,222	0.0%	\$ 1,968,222	\$ 1,968,222	0.0%
Volume Charge						
Residential	\$ 32,157,354	\$ 33,341,215	3.7%	\$ 32,157,354	\$ 33,341,215	3.7%
Commercial	\$ 16,223,243	\$ 16,675,910	2.8%	\$ 16,223,243	\$ 16,675,910	2.8%
Industrial	\$ 683,229	\$ 714,676	4.6%	\$ 683,229	\$ 714,676	4.6%
Total Retail	\$ 61,606,891	\$ 63,274,865	2.7%	\$ 61,606,891	\$ 63,274,865	2.7%
Wholesale						
Low Service						
Bristol County	\$ 2,419,134	\$ 2,130,553	-11.9%	\$ 2,419,134	\$ 2,171,360	-10.2%
East Providence	\$ 3,015,648	\$ 2,597,938	-13.9%	\$ 3,015,648	\$ 2,647,696	-12.2%
Kent County	\$ 4,406,819	\$ 3,886,913	-11.8%	\$ 4,406,819	\$ 3,961,359	-10.1%
Warwick	\$ 6,018,147	\$ 4,940,894	-17.9%	\$ 6,018,147	\$ 5,035,527	-16.3%
Subtotal - Low Service	\$ 15,859,748	\$ 13,556,298	-14.5%	\$ 15,859,748	\$ 13,815,942	-12.9%
High Service						
Greenville	\$ 715,948	\$ 854,076	19.3%	\$ 715,948	\$ 794,959	11.0%
Lincoln	\$ 1,733,385	\$ 2,103,633	21.4%	\$ 1,733,385	\$ 1,958,026	13.0%
Smithfield	\$ 668,091	\$ 793,451	18.8%	\$ 668,091	\$ 738,530	10.5%
Subtotal - High Service	\$ 3,117,425	\$ 3,751,159	20.3%	\$ 3,117,425	\$ 3,491,515	12.0%
Total Wholesale	\$ 18,977,173	\$ 17,307,457	-8.8%	\$ 18,977,173	\$ 17,307,457	-8.8%
Fire Protection						
Private Fire Protection	\$ 4,144,586	\$ 4,144,586	0.0%	\$ 4,144,586	\$ 4,144,586	0.0%
Public Fire Protection	\$ 2,061,838	\$ 2,061,838	0.0%	\$ 2,061,838	\$ 2,061,838	0.0%
Total Fire Protection	\$ 6,206,424	\$ 6,206,424	0.0%	\$ 6,206,424	\$ 6,206,424	0.0%
Total Rate Revenues	\$ 86,790,488	\$ 86,788,746	0.0%	\$ 86,790,488	\$ 86,788,746	0.0%
Miscellaneous Revenues	\$ 1,543,163	\$ 1,543,163		\$ 1,543,163	\$ 1,543,163	
Total Revenues	\$ 88,333,651	\$ 88,331,909	0.0%	\$ 88,333,651	\$ 88,331,909	0.0%

Schedule HJS-24: Revenue Proof

Providence Water Supply Board
 Docket # 4994
 Individual Wholesale Cost of Service Study
 Per RIPUC Report and Order No. 23928
 Test Year Ending June 30, 2019
 Rate Year Ending June 30, 2022

	FY 2022 - COS		FY 2022 - 12% Cap	
Net Operations & Maintenance Expense	\$	39,800,143	\$	39,800,143
Capital Expense	\$	37,967,000	\$	37,967,000
City Services Expense	\$	839,167	\$	839,167
Property Taxes Expense	\$	7,934,311	\$	7,934,311
Total Expenses Allocated	\$	86,540,621	\$	86,540,621
plus: Net Operating Revenue	\$	1,699,949	\$	1,699,949
Net Revenue Requirement	\$	88,240,570	\$	88,240,570
Retail				
Monthly Service Charge	\$	10,492,391	\$	10,492,391
East Smithfield Debt Surcharge	\$	82,451	\$	82,451
Retail FPSC	\$	1,968,222	\$	1,968,222
Volume Charge				
Residential	\$	33,341,215	\$	33,341,215
Commercial	\$	16,675,910	\$	16,675,910
Industrial	\$	714,676	\$	714,676
Total Retail	\$	63,274,865	\$	63,274,865
Wholesale				
Low Service				
Bristol County	\$	2,130,553	\$	2,171,360
East Providence	\$	2,597,938	\$	2,647,696
Kent County	\$	3,886,913	\$	3,961,359
Warwick	\$	4,940,894	\$	5,035,527
Subtotal - Low Service	\$	13,556,298	\$	13,815,942
High Service				
Greenville	\$	854,076	\$	794,959
Lincoln	\$	2,103,633	\$	1,958,026
Smithfield	\$	793,451	\$	738,530
Subtotal - High Service	\$	3,751,159	\$	3,491,515
Total Wholesale	\$	17,307,457	\$	17,307,457
Fire Protection				
Private Fire Protection	\$	4,144,586	\$	4,144,586
Public Fire Protection	\$	2,061,838	\$	\$2,061,838
Total Fire Protection	\$	6,206,424	\$	6,206,424
Total Rate Revenues	\$	86,788,746	\$	86,788,746
Miscellaneous Revenues	\$	1,543,163	\$	1,543,163
Total Revenues	\$	88,331,909	\$	88,331,909
Variance Due to Rounding	\$	8,888	\$	8,888