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November 16, 2021

VIA E-MAIL AND FIRST CLASS MAIL

Luly E. Massaro, Commission Clerk
Rhode Island Public Utilities Commission
89 Jefferson Boulevard
Warwick, Rhode Island 02888

Re: *In Re: Providence Water Supply Board*, PUC Docket No. 4994

Dear Ms. Massaro:

On behalf of the Greenville Water District and the Lincoln Water Commission, enclosed please find an original plus nine copies of Greenville Water District and the Lincoln Water Commission's Responses to The Bristol County Water Authority's First Set of Data Requests, issued on October 26, 2021, which are to be filed in the above-entitled docket.

Thank you for your attention to this matter.

Very truly yours,

Adam M. Ramos

AMR:cw
Enclosures

cc: Docket No. 4994 Service List (via e-mail)

**Docket No. 4994 - Providence Water Supply Board – General Rate Filing
Service List updated 8/11/2021**

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IN RE: PROVIDENCE WATER SUPPLY BOARD
Docket No. 4994
Greenville Water District and Lincoln Water Commission's
Responses to Bristol County Water Authority's First Set of Data Requests
Issued on October 26, 2021

BCWA 1-1

Request:

Please provide a schedule (in the format of HJS-22) showing the rates that result from the adjustments suggested by Mr. Mumm and all necessary supporting schedules.

Response:

Greenville Water District ("Greenville") and Lincoln Water Commission ("Lincoln") requested that the Providence Water Board ("Providence Water") provide it with the working Excel model supporting the New COSS filing. In response, Providence Water provided a file called "DIV 8-3 New COSS Macro Free, No Links.xlsm" The values referred to in Mr. Mumm's testimony come from this workbook, which had been populated with values for Rate Year 3 instead of the Rate Year 2.

In response to these data requests, Mr. Mumm has prepared a revised analysis based on having received the Rate Year 2 model. Please see Attachment Greenville-Lincoln BCWA 1-1-1 for a schedule showing the rates that result from the adjustments suggested by Mr. Mumm and the supporting schedules.

Exhibit 5 - Restated Schedule HJS-22 with Revised Peaking Factors

Testimony of Jason Mumm
Docket #4994

Description	Units	FY 2022 - Compliance		FY 2023 - Cost of Service			FY 2023 - 1/3rd Phase-In		
		Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue
Service Charges									
5/8"	57,812	\$ 10.47	\$ 7,260,244	1.38%	\$ 10.61	\$ 7,360,624	1.38%	\$ 10.61	\$ 7,360,624
3/4"	11,326	\$ 11.15	\$ 1,515,560	1.34%	\$ 11.30	\$ 1,535,806	1.34%	\$ 11.30	\$ 1,535,806
1"	5,335	\$ 13.16	\$ 842,214	1.33%	\$ 13.33	\$ 853,387	1.33%	\$ 13.33	\$ 853,387
1.5"	1,547	\$ 15.82	\$ 293,767	1.30%	\$ 16.03	\$ 297,581	1.30%	\$ 16.03	\$ 297,581
2"	1,357	\$ 23.20	\$ 377,769	1.30%	\$ 23.50	\$ 382,674	1.30%	\$ 23.50	\$ 382,674
3"	73	\$ 77.53	\$ 67,916	1.30%	\$ 78.54	\$ 68,801	1.30%	\$ 78.54	\$ 68,801
4"	35	\$ 97.66	\$ 41,017	1.30%	\$ 98.93	\$ 41,551	1.30%	\$ 98.93	\$ 41,551
6"	57	\$ 144.60	\$ 98,910	1.30%	\$ 146.48	\$ 100,192	1.30%	\$ 146.48	\$ 100,192
8"	42	\$ 198.25	\$ 99,918	1.30%	\$ 200.82	\$ 101,213	1.30%	\$ 200.82	\$ 101,213
10"	4	\$ 246.87	\$ 11,850	1.29%	\$ 250.07	\$ 12,003	1.29%	\$ 250.07	\$ 12,003
12"	-	\$ 295.50	\$ -	1.29%	\$ 299.32	\$ -	1.29%	\$ 299.32	\$ -
Total Service Charge	77,588		\$ 10,609,165	1.36%		\$ 10,753,832	1.36%		\$ 10,753,832
Retail Fire Protection Service Charges (Providence Only)									
5/8"	25,954	\$ 1.92	\$ 597,995	1.56%	\$ 1.95	\$ 607,324	1.56%	\$ 1.95	\$ 607,324
3/4"	4,580	\$ 2.87	\$ 157,709	1.41%	\$ 2.91	\$ 159,934	1.41%	\$ 2.91	\$ 159,934
1"	2,091	\$ 7.13	\$ 178,946	1.38%	\$ 7.23	\$ 181,415	1.38%	\$ 7.23	\$ 181,415
1.5"	902	\$ 19.02	\$ 205,885	1.31%	\$ 19.27	\$ 208,578	1.31%	\$ 19.27	\$ 208,578
2"	792	\$ 45.63	\$ 433,644	1.30%	\$ 46.22	\$ 439,275	1.30%	\$ 46.22	\$ 439,275
3"	55	\$ 123.55	\$ 81,541	1.30%	\$ 125.15	\$ 82,599	1.30%	\$ 125.15	\$ 82,599
4"	20	\$ 209.07	\$ 50,178	1.29%	\$ 211.78	\$ 50,827	1.29%	\$ 211.78	\$ 50,827
6"	28	\$ 427.65	\$ 143,692	1.29%	\$ 433.19	\$ 145,552	1.29%	\$ 433.19	\$ 145,552
8"	15	\$ 646.23	\$ 116,322	1.29%	\$ 654.59	\$ 117,826	1.29%	\$ 654.59	\$ 117,826
10"	2	\$ 988.36	\$ 23,721	1.29%	\$ 1,001.14	\$ 24,027	1.29%	\$ 1,001.14	\$ 24,027
12"	-	\$ 1,634.58	\$ -	1.29%	\$ 1,655.72	\$ -	1.29%	\$ 1,655.72	\$ -
Total Retail FPSC (Providence Only)	34,439		\$ 1,989,631	1.39%		\$ 2,017,357	1.39%		\$ 2,017,357
Total Retail Service Charge Revenue			\$ 12,598,796	1.37%		\$ 12,771,189	1.37%		\$ 12,771,189

Description	Units	FY 2022 - Compliance			FY 2023 - Cost of Service			FY 2023 - 1/3rd Phase-In		
		Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	
Retail Consumption Charges										
Residential	8,396,176	\$ 3.873	\$ 32,516,684	5.84%	\$ 4.099	\$ 34,415,925	1.86%	\$ 3.945	\$ 33,120,672	
Commercial	4,041,665	\$ 4.058	\$ 16,402,983	4.77%	\$ 4.252	\$ 17,185,160	0.83%	\$ 4.092	\$ 16,538,391	
Industrial	187,186	\$ 3.690	\$ 690,770	6.98%	\$ 3.948	\$ 739,010	2.96%	\$ 3.799	\$ 711,197	
Total Retail Consumption Charge	12,625,027		\$ 49,610,436	5.50%		\$ 52,340,095	1.53%		\$ 50,370,261	
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			\$ 49,692,888	5%		\$ 52,422,547			\$ 50,452,713	
Total Retail Revenue			\$ 62,291,684	5%		\$ 65,193,736	1%		\$ 63,223,901	

Description	Units	FY 2022 - Compliance			FY 2023 - Cost of Service			FY 2023 - 1/3rd Phase-In		
		Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	
Wholesale Charges										
Bristol County	1,494,845	\$ 1.637161	\$ 2,447,301	6%	\$ 1.735881	\$ 2,594,873	2%	\$ 1.670067	\$ 2,496,492	
East Providence	1,822,773	\$ 1.673692	\$ 3,050,760	-18%	\$ 1.364628	\$ 2,487,407	-6%	\$ 1.570671	\$ 2,862,976	
Greenville	421,521	\$ 1.718264	\$ 724,285	5%	\$ 1.805857	\$ 761,207	2%	\$ 1.747461	\$ 736,592	
Kent County	2,727,147	\$ 1.634723	\$ 4,458,129	-33%	\$ 1.100610	\$ 3,001,526	-11%	\$ 1.456685	\$ 3,972,595	
Lincoln	1,038,229	\$ 1.688999	\$ 1,753,567	5%	\$ 1.768559	\$ 1,836,169	2%	\$ 1.715519	\$ 1,781,101	
Smithfield	391,600	\$ 1.725918	\$ 675,870	29%	\$ 2.230237	\$ 873,361	10%	\$ 1.894025	\$ 741,701	
Warwick	3,466,644	\$ 1.756228	\$ 6,088,219	-23%	\$ 1.352558	\$ 4,688,837	-8%	\$ 1.621671	\$ 5,621,758	
Total Wholesale Revenue	11,362,760		\$ 19,198,131	-15%		\$ 16,243,380	-5%		\$ 18,213,214	

Wholesale Charges										
Bristol County	1,118	\$ 2,188.72	\$ 2,447,301	6%	\$ 2,320.70	\$ 2,594,873	2%	\$ 2,232.71	\$ 2,496,492	
East Providence	1,363	\$ 2,237.56	\$ 3,050,760	-18%	\$ 1,824.37	\$ 2,487,407	-6%	\$ 2,099.83	\$ 2,862,976	
Greenville	315	\$ 2,297.14	\$ 724,285	5%	\$ 2,414.25	\$ 761,207	2%	\$ 2,336.18	\$ 736,592	
Kent County	2,040	\$ 2,185.46	\$ 4,458,129	-33%	\$ 1,471.40	\$ 3,001,526	-11%	\$ 1,947.44	\$ 3,972,595	
Lincoln	777	\$ 2,258.02	\$ 1,753,567	5%	\$ 2,364.38	\$ 1,836,169	2%	\$ 2,293.47	\$ 1,781,101	
Smithfield	293	\$ 2,307.38	\$ 675,870	29%	\$ 2,981.60	\$ 873,361	10%	\$ 2,532.12	\$ 741,701	
Warwick	2,593	\$ 2,347.90	\$ 6,088,219	-23%	\$ 1,808.23	\$ 4,688,837	-8%	\$ 2,168.01	\$ 5,621,758	
Wholesale (per million gallons)	8,499		\$ 19,198,131	-15%		\$ 16,243,380	-5%		\$ 18,213,214	

Description	Units	FY 2022 - Compliance			FY 2023 - Cost of Service			FY 2023 - 1/3rd Phase-In		
		Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	
Private Fire Service Charges										
3/4"	2	\$ 11.96	\$ 287	1.31%	\$ 12.12	\$ 291	1.31%	\$ 12.12	\$ 291	
1"	9	\$ 14.14	\$ 1,527	1.30%	\$ 14.32	\$ 1,547	1.30%	\$ 14.32	\$ 1,547	
1-1/2"	2	\$ 17.41	\$ 418	1.34%	\$ 17.64	\$ 423	1.34%	\$ 17.64	\$ 423	
2"	68	\$ 25.80	\$ 21,057	1.30%	\$ 26.14	\$ 21,330	1.30%	\$ 26.14	\$ 21,330	
4"	391	\$ 110.28	\$ 517,415	1.30%	\$ 111.71	\$ 524,143	1.30%	\$ 111.71	\$ 524,143	
6"	1,245	\$ 179.79	\$ 2,686,034	1.30%	\$ 182.12	\$ 2,720,873	1.30%	\$ 182.12	\$ 2,720,873	
8"	256	\$ 272.30	\$ 836,501	1.29%	\$ 275.82	\$ 847,319	1.29%	\$ 275.82	\$ 847,319	
10"	4	\$ 379.34	\$ 18,208	-2.43%	\$ 370.10	\$ 17,765	-2.43%	\$ 370.10	\$ 17,765	
12"	18	\$ 508.87	\$ 109,915	-8.35%	\$ 466.37	\$ 100,736	-8.35%	\$ 466.37	\$ 100,736	
16"	-	\$ 794.62	\$ -	-12.67%	\$ 693.94	\$ -	-12.67%	\$ 693.94	\$ -	
Total			\$ 4,191,361	1.03%		\$ 4,234,427	1.03%		\$ 4,234,427	
Hydrants (Excluding Providence)	3,318	\$ 628.42	\$ 2,085,114	0.39%	\$ 630.86	\$ 2,093,193	0.39%	\$ 630.86	\$ 2,093,193	
Total Fire Protection Charge Revenue			\$ 6,276,475			\$ 6,327,620			\$ 6,327,620	
Total Rate Revenues			\$ 87,766,290			\$ 87,764,736			\$ 87,764,736	
Miscellaneous Revenues			1,543,163			1,543,163			1,543,163	
Total Revenues			\$ 89,309,453	0%		\$ 89,307,899	0%		\$ 89,307,899	

IN RE: PROVIDENCE WATER SUPPLY BOARD
Docket No. 4994
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BCWA 1-2

Request:

In Providence's filing, Harold Smith testified (on page 3, ll. 16-17) that "The revenue requirement for the new COSS is based on Rate Year 2 from the ASA and has not changed." In Providence's new COSS the Total Rate Revenue for FY22 is \$87,761,795 (see HJS-22). Exhibit 4 to Mr. Mumm's testimony indicates that "Providence's filing includes a total cost of service of \$90,944,148." Please identify the source of this figure in Providence's filing.

Response:

Greenville Water District ("Greenville") and Lincoln Water Commission ("Lincoln") requested that the Providence Water Board ("Providence Water") provide it with the working Excel model supporting the New COSS filing. In response, Providence Water provided a file called "DIV 8-3 New COSS Macro Free, No Links.xlsx" The values referred to in Mr. Mumm's testimony come from this workbook, which had been populated with values for Rate Year 3 instead of Rate Year 2. The total cost of service of \$90,944,148 was in reference to Rate Year 3.

Having received the rate model from Providence Water with values for Rate Year 2, Mr. Mumm has revised his testimony to reflect a total cost of service of \$87,667,393. The figure cited refers to the total revenue requirement as shown at HJS-18, among other schedules. The figure reconciles with Mr. Smith's testimony. However, the revised figure results in minor modifications to the calculations reflected in Mr. Mumm's testimony as follows:

- Mr. Mumm asserted that the New COSS created a shift in costs from the retail and fire protection classes to the group of seven wholesale customers in an amount estimated at \$645,000. He determined that the cost shifting cited was approximately \$600,000 based on Providence Water's initial filing in this case, which had a total revenue requirement of \$84.5 million. Then, comparing the revenue requirement from Rate Year 3 to that of the initial filing, he determined the increase between the two periods at 7.6% resulting in his estimate of \$645,000. However, the difference in revenue requirements between Rate Year 2 and the initial filing is only 3.7% resulting in a revised impact of \$622,000.
- Mr. Mumm revised Exhibit 4 of his testimony to reflect the Rate Year 2 calculations. Please find the corrected version attached as Greenville-Lincoln BCWA 1-2-1.

Exhibit 4 - Summary of Interclass Cost-Shifting

Testimony of Jason Mumm

Docket #4994

Customer Class	Total Cost of Service from New COSS / HJS-18	Total Cost of Service with Revised Peaking Factors	Variance	Interclass Cost Shift
Bristol County	\$2,465,525	\$2,594,872	\$129,347	
East Providence	2,856,241	2,487,406	(368,835)	
Greenville	807,254	761,207	(46,047)	
Kent County	3,116,495	3,001,526	(114,970)	(\$1,405,385)
Lincoln	1,941,987	1,836,168	(105,819)	
Smithfield	978,586	873,361	(105,225)	
Warwick	5,482,673	4,688,836	(793,836)	
Retail	61,175,960	62,657,810	1,481,850	1,405,385
Fire Protection	8,842,672	8,766,207	(76,465)	
Total	\$87,667,393	\$87,667,393	\$0	\$0

IN RE: PROVIDENCE WATER SUPPLY BOARD
Docket No. 4994
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BCWA 1-3

Request:

Exhibit 4 to Mr. Mumm's testimony includes a column entitled "Total Cost of Service from New COSS/HJS-18." However, the numbers in the column do not appear to match the numbers in HJS-18. For instance, Mr. Mumm's revenue from the BCWA is \$2,535,089 and the number in HJS-18 is \$2,465,525. Please identify the source of Mr. Mumm's numbers in the "Total Cost of Service from New COSS/HJS-18" column.

Response:

Greenville Water District and Lincoln Water Commission refer to their response to data request BCWA 1-2.

IN RE: PROVIDENCE WATER SUPPLY BOARD
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BCWA 1-4

Request:

On pages 7 through 10 of Mr. Mumm's testimony, he points out that Providence used two different peaking factors – one to allocate T&D costs and another to allocate all other costs. Mr. Mumm refers to the coincidental peaking factors for the wholesale customers derived from the hydraulic study as “more precise” than the non-coincidental peaking factors. Please fully explain why the peaking factors from the hydraulic study are more precise than the non-coincidental peaking factors for the wholesale customers.

Response:

Mr. Mumm described the coincidental peaking factors for the wholesale customers derived from the hydraulic study performed by Pare Engineering (“Pare”) as “more precise” because that is how Pare and the Providence Water Supply Board (“Providence Water”) described the analysis. Pare stated that they used the draw rate, which equates to the average and peak demands measured from their hydraulic analysis, because “draw rate provides a more accurate assessment of how each wholesale customer utilizes Providence Water's infrastructure.” (*See* PUC Technical Session, “Providence Water Supply Board Wholesale Cost of Service Study, Transmission and Distribution Piping Evaluation,” May 4, 2021, Slide 13). Assuming Providence Water believed the Pare analysis to be more precise, it should follow that Providence Water would have relied on these values over less precise ones. Relying on two totally different measures of demand, however, is not a reasonable approach for the reasons already described in Mr. Mumm's testimony.

IN RE: PROVIDENCE WATER SUPPLY BOARD
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BCWA 1-5

Request:

On pages 8 though [sic] 9 of Mr. Mumm's testimony, he states that "Providence's decision to use coincidental peaks to allocate some costs and noncoincidental to allocate others is both irrational and inconsistent" and that "Providence could address these issues by choosing one method of calculating peak demand and then applying it the same way throughout the cost allocation process, much like it had done in its original filing." Mr. Mumm then suggests that Providence should align all peaking factors with the Pare analysis. Yet, on page 13 of his testimony, Mr. Mumm states that the "Pare analysis almost certainly misallocates the costs of the T&D network." Please fully explain why costs should be allocated using the peaking factors from Pare's hydraulic model if that same model almost certainly misallocates costs.

Response:

There is a difference between the peaking factors determined by the Pare Engineering ("Pare") analysis and the use of thousands of line segments as the basis for allocating the transmission and distribution ("T&D") system. The Pare analysis combines both elements, and Mr. Mumm's concern, noted on page 13 of his testimony, refers to the latter. The hydraulic modeling should result in more precise measurements of peak demands, which is one reason why using them for all customers would have been a more reasonable approach. The "inch mile" allocation used to apportion costs in the T&D system likely results in a misallocation of those costs, not because of the use of Pare's peaking factors, but because breaking the network into thousands of segments ignores important benefits that the network provides, all of which is described in Mr. Mumm's testimony.