

STATE OF RHODE ISLAND  
PUBLIC UTILITIES COMMISSION

SURREBUTTAL  
TESTIMONY  
of  
MICHAEL R. MAKER  
NEWGEN STRATEGIES AND SOLUTIONS, LLC  
ON BEHALF OF  
THE BRISTOL COUNTY WATER AUTHORITY

IN RE:  
PROVIDENCE WATER SUPPLY BOARD  
DOCKET 4994

JUNE 26, 2020

1 **I. INTRODUCTION**

2 **Q. Please state your name and business address.**

3 A. My name is Michael R. Maker. My business address is 911-A Commerce Road,  
4 Annapolis, Maryland 21401.

5

6 **Q. Are you the same Michael Maker who provided Direct Testimony on behalf of the**  
7 **Bristol County Water Authority in this Docket?**

8 A. Yes, I am.

9

10 **Q. After you filed your Direct Testimony, did you review the Direct Testimony**  
11 **submitted by any of the other parties in this Docket?**

12 A. Yes. I reviewed the direct testimonies submitted by the Division of Public Utilities and  
13 Carriers (“Division”) and the Kent County Water Authority (“KCWA”).

14

15 **Q. Did you also review the Rebuttal Testimony filed by the Providence Water Supply**  
16 **Board?**

17 A. I did.

18

19 **Q. Did you review any of the other filings in this Docket since you filed your Direct**  
20 **Testimony?**

21 A. Yes. I reviewed data requests and responses.

22

23 **II. SUMMARY**

24 **Q. Can you provide an overview of your surrebuttal testimony?**

25 A. Yes, I will address the cost of service and revenue requirement issues the BCWA first  
26 raised through my direct testimony and Pamela Marchand’s direct testimony. I will

1 also address issues raised on these topics by the Providence Water Supply Board  
2 (“Providence”), the Division and the KCWA.

3  
4 **Q. What are the cost of service issues you will address in your surrebuttal testimony?**

5 **A.** I will address the following cost of service issues:

- 6
- 7 • **Cost of Service Based Rates/Individual Wholesale Rates** – the BCWA continues  
8 to advocate for the adoption of true cost of service based rates, which includes  
9 individual rates for wholesale customers based on readily available and  
10 undisputed peaking factors.
  - 11
  - 12 • **Pumping Costs** – the BCWA continues to maintain that Providence should not  
13 allocate pumping costs to the BCWA.
  - 14
  - 15 • **Unidirectional Flushing Costs** – the BCWA continues to maintain that Providence  
16 should not allocate unidirectional flushing costs to the BCWA.
  - 17
  - 18 • **Transmission and Distribution Labor Costs** – the BCWA continues to oppose  
19 Providence’s assignment of Transmission and Labor Costs to wholesale  
20 customers.
  - 21
  - 22 • **Capital Fund, IFR Fund, and Vehicle/Equipment Fund Expenses** – the BCWA  
23 accepts Providence’s rationale for allocating these expenses based on “Net Plant  
24 In Service.”
  - 25

- 1           • **Central Operations Facility (“COF”) Allocation** – The Division argues that 10% of  
2           commercial services COF costs be assigned to wholesale customers, and the  
3           BCWA disagrees.  
4  
5           • **Allocation of Non-Revenue Water to Wholesale Customers** – Providence and the  
6           Division maintain that a portion of non-revenue water used for Water Quality and  
7           Other Testing should be assigned to the wholesale customers. The BCWA  
8           disagrees with this position.  
9  
10          • **Allocation of Lead Service Replacement Fund during Step Year Increases** – the  
11          KCWA takes the position that Lead Service Replacement Fund expenses are  
12          incorrectly assigned to wholesale customers in years two and three of the step  
13          increase. The BCWA agrees with this position.  
14

15 **Q.    What are the revenue requirement issues you will address in your surrebuttal**  
16 **testimony?**

17 **A.**    I will address the following revenue requirement issues:

- 18  
19          • **Providence’s Restricted IFR and Insurance Accounts** – the BCWA believes the  
20          Commission should reduce funding for Providence’s restricted Insurance and IFR  
21          Accounts as suggested by the Division.  
22  
23          • **Miscellaneous Revenue** – the BCWA accepts Providence’s adjustment to its  
24          miscellaneous revenues.  
25  
26          • **Rate Case Expense** – the BCWA notes that Providence agrees with the BCWA’s  
27          proposal to use actual rate case expense for its proposed three-year amortization.

- 1           • **City Services** – the BCWA agrees with Providence’s proposal to keep this expense  
2           at its current level.
- 3
- 4           • **RECs** – the BCWA continues to maintain that Providence should not eliminate the  
5           sale of RECs as an income source.
- 6
- 7           • **Chemical Expense** – the BCWA accepts Providence’s revised request for Chemical  
8           Expense.
- 9
- 10          • **Inflation Adjustments** – the BCWA continues to maintain that inflation  
11          adjustments should be eliminated for the second and third steps of the multi-year  
12          increase according to past Commission practice.
- 13

14    **III. COST OF SERVICE ISSUES**

15    **Overview**

16    **Q.     In your direct testimony, you stated that Providence should implement cost of**  
17           **service based rates, which would include individual rates for each wholesale**  
18           **customer. Is this still your position?**

19    A.     Yes, it is.

20

21    **Q.     Do any of the other parties agree with your position?**

22    A.     Presently, none of the other parties agree with my position. As of the date of my  
23           filing this surrebuttal testimony, the parties have taken the following positions:

24

25           **Providence** – in his rebuttal testimony, Harold Smith does not support the  
26           implementation of individual wholesale rates in this Docket.

27

1       **The Division** – Mr. Mierzwa filed his direct testimony on the same day I filed my  
2       direct testimony. Thus, he has not yet testified on the BCWA’s proposal to implement  
3       cost of service based rates, which would result in individual rates for wholesale  
4       customers. I expect Mr. Mierzwa to comment on the BCWA’s proposal in his  
5       surrebuttal testimony. However, Mr. Mierzwa did testify that “Rates for Wholesale  
6       customers should be based on the indicated cost of providing Wholesale service.”  
7       (See Mierzwa Direct, p. 4, ll. 18-19)

8  
9       **KCWA** – Mr. Bebyn also filed his direct testimony the same day I filed my direct  
10      testimony. In his testimony, he states that:

11      “While consumption is shared equally, there is little concern for the inequities  
12      between how the individual wholesale customers contribute to base costs. The same  
13      cannot be said in how the costs are allocated based upon wholesale maximum day  
14      and maximum hour demand rates. The individual factors presented in response to  
15      DIV 2-2 show that one of the wholesale customers [Warwick] is controlling the overall  
16      rate for the group.” (See Bebyn Direct, p. 6, ll. 25-29.)  
17

18      However, Mr. Bebyn stops short of recommending individual wholesale rates. He  
19      states “That solution would be a problem for KCWA” because the KCWA and Warwick  
20      wheel water to each other. (Bebyn Direct, p.7, l.3)

21  
22      **Q.     Why do you continue to advocate for cost of service based rates that result in**  
23      **individual rates for Providence’s wholesale customers?**

24      A.     Because the implementation of cost of service based rates results in equitable rates  
25      that are based on, and proportionate to, the costs incurred to serve different  
26      customers. I first addressed these issues in my direct testimony, which I incorporate  
27      herein. In my surrebuttal testimony, I will primarily focus on the importance of  
28      peaking factors and the inequitable subsidies that result from not incorporating these

1 factors in Providence’s cost of service model. However, at the outset, some issues  
2 should be reemphasized:

3  
4 • In 2017, the Commission ordered Providence to complete a cost of service study  
5 in its next general rate filing without applying previously used allocators, and  
6 Providence’s filing in this Docket contained a cost of service study and model  
7 prepared by Harold Smith.

8  
9 • A cost of service study is used to determine what cost differences exist between  
10 serving various customers and to develop rates and charges to recover costs in  
11 relation to the way each customer demands service or causes the utility to incur  
12 costs.

13  
14 • As set forth in Harold Smith’s direct testimony, he used the Base-Extra Capacity  
15 Method as outlined in AWWA’s Manual M-1, *Principles of Water Rates, Fees, and*  
16 *Charges* (7<sup>th</sup> Edition) (“AWWA M-1 Manual”).

17  
18 • Providence has previously acknowledged that its wholesale rates over the years  
19 did not reflect the true cost associated with providing wholesale service.

20  
21 • As Harold Smith previously acknowledged:

22  
23 “The disparity between the increases to wholesale rates and retail rates is  
24 most likely due to the fact that the wholesale rate increases that were agreed  
25 to by the parties to Providence Water’s recent abbreviated filings were not  
26 based on a complete cost of service study and did not reflect the true cost  
27 associated with providing wholesale service.” (See Maker Direct, Exhibit 2,  
28 Harold Smith Direct Testimony, Docket 3832, p. 8-9)

29  
30 • Mr. Smith also previously recognized that the standard base/extra capacity  
31 approach allocates certain costs to the wholesale customers based on their  
32 peaking characteristics:

33  
34 “It is important to note that the use of the standard approach would dictate  
35 the need for separate and different rates for each wholesale customer since it  
36 is likely the peaking characteristics of each individual wholesale customer are  
37 different than the peaking characteristics of the class as a whole.” (See Maker  
38 Direct, Exhibit 4, Docket 4618, Providence Response to Division 4-5)

- 1 • Providence has the necessary peaking factors to calculate separate rates for each  
2 wholesale customer.
- 3
- 4 • In fact, as Mr. Smith and Providence previously acknowledged, it had the “data  
5 needed to allocate extra capacity costs to wholesale customers based on their  
6 relative contributions to peak demand” since 2013. (See Maker Direct, Exhibit 3,  
7 Docket 4406, Providence Response to BCWA 1-26)
- 8
- 9 • The calculation of separate wholesale rates is consistent with the AWWA M-1  
10 Manual.
- 11
- 12 • The calculation of individual rates for Providence’s wholesale customers is also  
13 consistent with cost of service models prepared by Mr. Smith, and approved by  
14 the Commission, for the City of Newport, Utilities Department, Water Division.
- 15

16 **Peaking Factors**

17 **Q. You took the position in your direct testimony that Providence should update its**  
18 **cost of service model to include the peaking factors for each wholesale customer.**  
19 **Can you begin by defining a peaking factor and how it is calculated?**

20 A. Yes. AWWA M-1 Manual, p. 405, defines a peaking factor as “the ratio of the peak  
21 rate of demand over a specified period of time (hour, day, etc.) to the average annual  
22 rate of demand for a particular customer, customer class, or system”. For example,  
23 according to the Excel Spreadsheet provided by Providence called “ DIV 2-2 and 2-7  
24 Wholesale Dmd and Class Demand Factors”, the BCWA’s average-day demand in FY  
25 2019 was 3.07 MGD (average of all 365 daily usages from July 2018 through June  
26 2019), while the BCWA’s maximum-day demand in FY 2019 was 4.81 MGD (the  
27 highest daily usage of all 365 daily usages from July 2018 through June 2019). (See  
28 Exhibit A) This results in a FY 2019 maximum-day peaking factor of 1.57. In that same  
29 file, Warwick’s average-day demand in FY 2019 was 7.10 MGD while its maximum-  
30 day demand in FY 2019 was 18.47 MGD. (See Exhibit A) This results in an FY 2019  
31 maximum day peaking factor of 2.60.

32



1 Comparing maximum-hour demand for the BCWA and Warwick provides additional  
2 context on peaking factors. The BCWA’s maximum-hour demand in FY 2019 was 5.76  
3 MGD (the highest hourly usage of all 8,760 hourly usages [24 hourly usages x 365  
4 days] from July 2018 through June 2019). (See Exhibit A) This results in a FY 2019  
5 maximum-hour peaking factor of 1.88. Warwick’s maximum-hour demand in FY 2019  
6 was 22.08 MGD. (See Exhibit A) This results in a FY 2019 maximum-hour peaking  
7 factor of 3.11.

8  
9 **Q. What role do peaking factors play in a cost of service study and why are they**  
10 **important?**

11 The predominant role of a cost of service study is to allocate the utility’s costs to the  
12 customers who cause those costs to be incurred. In order to meet peak demand, a  
13 utility must incur costs to expand its system beyond what it would need to just meet  
14 average demand. Peaking factors equitably allocate the costs of additional capacity to  
15 those customers with peak demand.

16  
17 P. 73 of AWWA’s M-1 Manual states that “Rate-making endeavors to assign costs to  
18 classes of customers in a nondiscriminatory, cost-responsive manner so that rates  
19 can be designed to closely meet the cost of providing service to such customer  
20 classes.” In order to equitably distribute the extra cost components related to peak  
21 demand to the utility’s various customers as part of a cost of service study, it is  
22 especially important to assign those costs using diverse peaking factors (such as those  
23 provided earlier for the BCWA and Warwick).

24  
25 As I pointed out in my direct testimony, each of Providence’s wholesale customers  
26 should be treated individually because each has different usage and peaking  
27 characteristics, like that of a retail customer class (e.g., residential, commercial,

1 industrial). In fact, each wholesale customer *is* a group of customer classes; that is,  
2 each wholesale customer is composed of a mixture of its own residential, commercial  
3 and industrial customers.

4  
5 **Q. What is the impact of peaking factors on rates?**

6 A. Peaking factors allocate units of service to the additional costs required to serve peak  
7 demands. Dividing calculated costs by units of service results in a volume rate. All  
8 things being equal, a customer with a higher peaking factor would equitably pay a  
9 higher rate than one with a lower peaking factor.

10  
11 **Q. Do all utilities have the type of data required to calculate peaking factors?**

12 A. No. As set forth in AWWA M-1 Manual, p. 365:

13  
14 “Customer class demand data are extremely beneficial to the rate practitioner in  
15 cost-of-service allocations and in designing rates. Very few water utilities have this  
16 type of information. To develop maximum-day and maximum-hour demand data on a  
17 customer or customer class basis can require significant financial resources.”

18  
19 Providence *does* have this data, and since it is available it should be used to calculate  
20 rates in a fair and equitable manner.

21  
22 **Q. Did you input each wholesale customer’s peaking factors into Harold Smith’s cost of  
23 service model?**

24 A. Yes, Exhibit 5 to my direct testimony showed the effect of using the peaking factors  
25 for each wholesale customer, which results in separate cost of service based rates for  
26 each wholesale customer. I updated these schedules to reflect Providence’s rebuttal  
27 revenue requirement. (See Exhibit B attached hereto that updates the schedules  
28 contained in Exhibit 5 to my direct testimony: Schedules HJS-16a (Amended By

1 Michael R. Maker, Surrebuttal), HJS-16c (Amended By Michael R. Maker,  
2 Surrebuttal), HJS-17 (Amended By Michael R. Maker, Surrebuttal), HJS-18 (Amended  
3 By Michael R. Maker, Surrebuttal), HJS-19 (Amended By Michael R. Maker,  
4 Surrebuttal) and HJS-22 (Amended By Michael R. Maker, Surrebuttal)).  
5

6 **Q. Did you develop these peaking factors?**

7 A. No, these peaking factors came directly from Providence. In response to DIV. 2-2 and  
8 2-7, Providence provided an Excel Spreadsheet labeled “DIV 2-2 and 2-7 Wholesale  
9 Dmd and Class Demand Factors.” This spreadsheet provides peaking factors for each  
10 of Providence’s wholesale customers, and the characteristics are vastly different for  
11 each wholesale customer.  
12

13 **Q. Can you explain the importance of these differences?**

14 A. Yes. I will use the example of the BCWA and Warwick referenced earlier. The BCWA  
15 and Warwick maximum-day peaking factors for FY 2019 were 1.57 and 2.60,  
16 respectively. To put this into context, on their highest day of usage in FY 2019, the  
17 BCWA required from Providence 157% of its average daily usage while Warwick  
18 required 260% of its average daily usage. This means Warwick placed a maximum-day  
19 demand on Providence of over 1.6 times that of the BCWA.  
20

21 Furthermore, the BCWA’s and Warwick’s maximum-hour peaking factors for FY 2019  
22 were 1.88 and 3.11, respectively. To put this into context, for their highest hour of  
23 usage in FY 2019, the BCWA required from Providence 188% of its average daily  
24 usage while Warwick required 311% of its average daily usage. This means Warwick  
25 placed a maximum-hour demand on Providence of over 1.6 times that of the BCWA.  
26

1 These additional demands are a major driver of the costs Providence must incur to  
2 provide capacity in its system beyond what it would need to just meet average daily  
3 demand. If individual wholesale customers are grouped into one class and charged  
4 the same rate, then the cost of service analysis fails the rate-making endeavor of  
5 assigning costs in a “nondiscriminatory, cost-responsive manner” and would not  
6 result in rates “designed to closely meet the cost of providing service.”  
7

8 **Q. Did you make any other changes to Harold Smith’s cost of service model to**  
9 **calculate individual rates for each wholesale customer?**

10 A. No. My schedules, which calculate individual rates for wholesale customers do not  
11 change Mr. Smith’s model at all. (See Exhibit B attached hereto) I did not change any  
12 of the allocations in his model, and the rates set forth in my schedules are the result  
13 of using Mr. Smith’s model. (Id.) The only change is the input of individual peaking  
14 factors provided by Providence.  
15

16 **Inequitable Rates and Inequitable Subsidies**

17 **Q. Does Providence’s cost of service study result in fair and equitable rates for the**  
18 **wholesale customers?**

19 A. No, it does not. Mr. Smith did not use the individual peaking factors for each  
20 wholesale customer. Rather, he used an average for the entire group. Thus, the rates  
21 Providence proposes are not true cost of service based rates. Furthermore, they are  
22 unfair and provide inequitable subsidies to certain wholesale customers, which are  
23 funded by other wholesale customers including the BCWA.  
24

25 Furthermore, in Mr. Smith’s rebuttal testimony, he states “Providence Water is not  
26 proposing separate rates for each wholesale customer at this time, primarily because  
27 doing so would result in a significant disparity in the impact on the bills of the

1 individual wholesale customers.” (See Harold Smith Rebuttal, p. 8) This “significant  
2 disparity” is precisely the reason that separate rates *should* be implemented for  
3 Providence’s wholesale customers. If the various wholesale customers had similar  
4 peaking factors and therefore similarly impacted Providence, then the idea of  
5 separate rates for each wholesale customer would be moot. However, that is not the  
6 case.

7  
8 **Q. What is the main goal of a cost of service study?**

9 A. The main goal is to develop rates and charges that recover costs from specific  
10 customers in relation to the way each customer demands service.

11  
12 **Q. Does Providence’s cost of service study meet this goal?**

13 A. No, not when it comes to individual wholesale customers. Providence’s cost of  
14 service study does not recover costs from each wholesale customer in relation to the  
15 way each customer demands service. Rather, the rates require certain wholesale  
16 customers to unfairly subsidize other wholesale customers.

17  
18 **Q. Can you explain further?**

19 A. Yes, based on their individual peaking factors, three wholesale customers (BCWA,  
20 East Providence and KCWA) should be paying lower rates than Providence proposes  
21 for the wholesale class, and four (Warwick, Smithfield, Lincoln and Greenville) should  
22 be paying higher rates. (See Exhibit B attached hereto) As Harold Smith acknowledges  
23 in his rebuttal testimony, “it is clear that the peaking characteristics of Warwick have  
24 a significant impact” on the peaking factor average he used in his cost of service  
25 model. (See Harold Smith Rebuttal, p.8, ll. 12-13) Thus, I will focus on the disparities  
26 between Warwick and the BCWA.

27

1           Hereinbelow are tables that set forth the BCWA’s and Warwick’s contributions to the  
 2           overall wholesale revenues resulting from Providence’s proposed rates and the  
 3           BCWA’s proposed rates:

	<b><u>Fiscal Year 2021</u></b>
<b><u>Providence Rebuttal Filing</u></b>	
Total Wholesale Revenue	18,676,741
Warwick’s Share	\$5,698,054
BCWA’s Share	\$2,457,047
<b><u>BCWA Rebuttal Position</u></b>	
Total Wholesale Revenue	19,206,219
Warwick’s Share	\$6,889,078
BCWA’s Share	\$2,197,181
<b>Discount to Warwick</b>	
	\$1,191,025
<b>BCWA Contribution to Subsidy</b>	
	\$259,865

4

	<b><u>Fiscal Year 2022</u></b>
<b><u>Providence Rebuttal Filing</u></b>	
Total Wholesale Revenue	19,459,187
Warwick’s Share	\$5,936,769
BCWA’s Share	\$2,559,983
<b><u>BCWA Rebuttal Position</u></b>	
Total Wholesale Revenue	20,010,847
Warwick’s Share	\$7,177,691
BCWA’s Share	\$2,289,230
<b>Discount to Warwick</b>	
	\$1,240,922
<b>BCWA Contribution to Subsidy</b>	
	\$270,752

5

	<b><u>Fiscal Year 2023</u></b>
<b><u>Providence Rebuttal Filing</u></b>	
Total Wholesale Revenue	20,266,066
Warwick’s Share	\$6,182,938
BCWA’s Share	\$2,666,133

	<b><u>Fiscal Year 2023</u></b>
<b><u>BCWA Rebuttal Position</u></b>	
Total Wholesale Revenue	20,840,601
Warwick’s Share	\$7,475,315
BCWA’s Share	\$2,384,154
<b>Discount to Warwick</b>	<b>\$1,292,377</b>
<b>BCWA Contribution to Subsidy</b>	<b>\$281,979</b>

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As set forth in these tables, under Providence’s proposal, Warwick would receive a \$3,724,323 discount in the revenues it should contribute to Providence over the course of the multi-year rate plan, and the BCWA’s customers would contribute \$812,596 to subsidize this discount. The KCWA and East Providence would also contribute to this subsidization. In addition, Smithfield, Lincoln and Greenville would receive subsidies funded by the BCWA, KCWA and East Providence.

**Q. Do these subsidies violate generally accepted ratemaking principles?**

A. Yes, according to AWWA’s M-1 Manual, the main objective of a cost of service study is to recover a water utility’s revenue requirement in a fair and equitable manner. Two additional objectives are “Fairness in the apportionment of total costs of service among the different ratepayers” and the “Avoidance of undue discrimination (subsidies) within the rates.” (AWWA M-1 Manual, p. 4, citing Bonbright, Danielsen and Kamerschen 1988) By excluding the readily available individual peaking factors for its wholesale customers, Providence’s cost of service study violates these principles.

1 **Q. In addition to these subsidies, are Providence’s proposed rates unfair in any other**  
2 **ways?**

3 A. Yes. The use of a single peaking factor rather than individual peaking factors unfairly  
4 penalizes a utility such as the BCWA that makes investments and management  
5 decisions to curb its peak demands. As set forth in Pamela Marchand’s surrebuttal  
6 testimony, the BCWA has made investments and manages its system to reduce its  
7 reliance on Providence for peak demands. The use of an average peaking factor for all  
8 wholesale customers does not reward the BCWA for making these investments and  
9 management decisions. Instead, the customers of other wholesalers get the benefit  
10 of investments made by the BCWA’s customers and decisions made by the BCWA’s  
11 management. This is unfair.

12  
13 When a wholesale customer such as the BCWA makes investments and manages its  
14 systems to lower its peak demand, the cost to serve such a customer is lowered.  
15 These efforts should be acknowledged through a cost of service study that accounts  
16 for this lower peak demand and the lower cost to the wholesale provider (i.e.,  
17 Providence) to serve the wholesale customer (e.g., the BCWA). Providence’s  
18 proposed rates do the opposite.

19  
20 Furthermore, Providence’s proposed rates violate another ratemaking principle:  
21 “Promotion of efficient resource use (conservation and efficient use).” (AWWA M-1  
22 Manual, p. 4, citing Bonbright, Danielsens and Kamerschen 1988) If the BCWA’s  
23 investments and management efforts to reduce its peaking behavior are not  
24 recognized in rates, then there is no incentive for the BCWA (or any other wholesale  
25 customer) to make these efforts.

26



1 **Pumping and Unidirectional Flushing Costs**

2 **Q. Do you continue to maintain that Providence should not assign pumping costs to**  
3 **the BCWA?**

4 A. Yes, as stated in my direct testimony, the BCWA’s connection is gravity fed, as is the  
5 connection for East Providence, Warwick and the KCWA. Only Greenville, Lincoln and  
6 Smithfield require the use of pumps. Again, it is an issue of fairness. Since the BCWA  
7 does not cause Providence to incur these costs, it should not have to pay a portion of  
8 these costs.

9  
10 **Q. Do you continue to maintain that Providence should not assign unidirectional**  
11 **flushing costs to the BCWA?**

12 A. Yes. As set forth in my direct testimony, Providence allocates these costs to  
13 wholesale customers because it flushes all mains in the system that are 12 inches and  
14 below and some wholesale customers are fed by 8 inch and 12 inch mains. (See  
15 Providence’s response to Div. 5-1) The BCWA is not one of these customers and  
16 should not be allocated any of these costs. It should be noted that Mr. Bebyn made a  
17 similar argument on behalf of KCWA.

18  
19 Mr. Smith acknowledges that the BCWA’s and KCWA’s proposal “suggests that the  
20 level of benefit provided by this program varies by wholesale customer. Accordingly,  
21 while there may be merit to recognizing the difference in rates, it would be better to  
22 incorporate this change in conjunction with the development of individual wholesale  
23 rates...” (See Harold Smith Rebuttal, pp. 9-10) Since the BCWA maintains that  
24 individual wholesale rates should be implemented in this Docket, this change should  
25 be made as well.

26

1 **Q. Did you update your calculation of rates based on the elimination of pumping and**  
2 **unidirectional flushing costs to the BCWA?**

3 A. Yes. I updated the schedules that were originally attached to my direct testimony as  
4 Exhibit 6 based on Providence’s rebuttal revenue requirement. (See Exhibit C  
5 attached hereto that updates the schedules contained in Exhibit 6 to my direct  
6 testimony: Schedules HJS-17 (Amended By Michael R. Maker, V.2, Surrebuttal), HJS-  
7 18 (Amended By Michael R. Maker, V.2, Surrebuttal), HJS-19 (Amended By Michael R.  
8 Maker, V.2, Surrebuttal) and HJS-22 (Amended By Michael R. Maker, V.2,  
9 Surrebuttal)).

10

11 **Allocation of Transmission and Distribution Labor Costs**

12 **Q. Does the BCWA still have any concerns about the allocation of transmission and**  
13 **distribution labor costs to wholesale customers?**

14 A. Yes. Please see the surrebuttal testimony of Pamela Marchand.

15

16 **Capital Fund, IFR Fund and Vehicle/Equipment Fund**

17 **Q. Do you still have any concerns regarding the allocation of expenses related to the**  
18 **Capital Fund, IFR Fund and Vehicle/Equipment Fund?**

19 A. No. In my direct testimony, I raised a concern that Providence allocates the Capital  
20 Fund, IFR Fund and Vehicle/Equipment Fund expenses using “Net Plant In Service”  
21 (“Factor 21 - As Total Plant Excl. Land, COF”). This factor allocates expenses to  
22 Common to All and Retail Only based on the historical book value of assets and not  
23 prospective capital spending, such as that indicated in Providence’s IFR Expenditure  
24 Plan. Mr. Smith explained his rationale for this allocation method in response to  
25 BCWA 6-2, which the BCWA accepts.

26

1 **Central Operations Facility Allocation**

2 **Q. The Division argues that 10% of commercial services COF costs be assigned to**  
3 **wholesale customers. Does the BCWA oppose this allocation?**

4 **A. Yes, please see the surrebuttal testimony of Pamela Marchand.**  
5

6 **Allocation of Non-Revenue Water to Wholesale Customers**

7 **Q. The Division maintains that a portion of non-revenue water for Water Quality and**  
8 **Other Testing should be assigned to the wholesale customers. Does the BCWA**  
9 **agree?**

10 **A. No. Please see the surrebuttal testimony of Pamela Marchand.**  
11

12 **Allocation of Lead Service Replacement Fund During Step Year Increases**

13 **Q. The KCWA argues that costs for the Lead Service Replacement Fund are incorrectly**  
14 **assigned to wholesale customers in years two and three of the step increase. Does**  
15 **the BCWA agree?**

16 **A. Yes, it does. As Mr. Bebyn points out, the wholesale customers do not cause this**  
17 **expense, they do not benefit from it and they should not contribute to it.**  
18

19 **IV. REVENUE REQUIREMENT ISSUES**

20 **Providence's Restricted Accounts**

21 **Q. In your direct testimony, you indicated that the BCWA had concerns regarding the**  
22 **level of funding for Providence's restricted Insurance and IFR accounts. Do these**  
23 **concerns still exist?**

24 **A. Yes.**  
25  
26

1 **Q. What are the BCWA’s continuing concerns with Providence’s Insurance Fund?**

2 A. The BCWA originally took the position that although Providence did not seek an  
3 increase in funding, it should potentially be decreased because of the large balances  
4 in this restricted fund. In addition, the Division argued that annual funding should be  
5 reduced by \$500,000 (from \$2,302,113 to \$1,800,000) because the projected ending  
6 balances in this account were accumulating significantly. (See Ralph Smith Direct  
7 Testimony, pp. 22-23) The BCWA supports the Division’s position.

8

9 In my direct testimony, I indicated that Providence forecasted two expense increases  
10 that did not seem to be adequately supported. The first was the increase to Program  
11 Expense from \$5,000 in FY 2020 to \$255,000 in FY 2021 and FY 2022 and then back  
12 down to \$5,000 in FY 2023. Providence seemed to indicate this was the budgeted  
13 cost for a property assessment, but the BCWA wanted Providence to provide more  
14 definitive costs once they were known.

15

16 In her rebuttal testimony, Nancy Parrillo reduced the Program Expense by \$50,000 in  
17 FY 2021 and \$250,000 in FY 2022. (See Parrillo Rebuttal, p. 3) As a result, Providence  
18 proposes to reduce its annual funding for this account by \$100,000 (from \$2,302,113  
19 to \$2,202,113). However, this still leaves Providence with a \$2,700,599 balance at the  
20 end of FY 2023. (See Harold Smith Rebuttal Testimony, Schedule HJS-10f) Providence  
21 has not set forth a rationale for this large of a balance.

22

23 The combination of Providence’s cut in expenses and the Division’s proposed  
24 \$500,000 reduction in funding would still leave an approximate \$1.5 million balance  
25 at the end of FY 2023, which assumes that Providence’s claim of \$224,654 for Injuries  
26 and Damages expense in FY 2021 is accurate.

27

1 As set forth in my direct testimony, the Injuries and Damages line item increases from  
2 \$85,000 in FY 2020 to \$224,654 in FY 2021. When asked to support the FY 2021  
3 expense, Providence provided a document entitled “Claims, Losses and Lawsuits  
4 through 2020.” (See Providence Responses to BCWA 1-15) This only shows payments  
5 of \$57,676 “As of 1/31/20”, but it is difficult to tell over what period these payments  
6 were made and how many were paid in the Test Year of FY 2019. Providence did not  
7 address this issue in its rebuttal testimony.

8  
9 **Q. Does the BCWA still believe the Commission should address the balance of the IFR**  
10 **Fund?**

11 A. Yes. Providence’s original filing showed that the IFR Fund had a balance of \$8,312,576  
12 at the end of FY 2019. (See Schedule HJS-10c) This schedule also reflected  
13 Providence’s request for \$12 million of additional funding over the next three years  
14 (\$2 million in FY 2021, \$4 million in FY 2022 and \$6 million in FY 2023). With this  
15 additional funding, Providence estimated it would have a balance of \$6,634,750 at  
16 the end of FY 2023. The BCWA expressed concern with a balance of this magnitude.

17  
18 In its rebuttal testimony, Providence revised Schedule HJS-10 to reflect updated  
19 borrowing estimates. With these updates, Providence shows a balance of \$6,527,654  
20 at the end of FY 2023. Furthermore, this balance assumes Providence actually spends  
21 the amount it forecasts on Cash Funded Projects for FY 2020, 2021, 2022 and 2023.  
22 As pointed out in my direct testimony, Providence has not typically spent the  
23 budgeted amounts on projects funded by the IFR Account.

24  
25 The Division recommends that funding for this account be reduced by \$2 million in FY  
26 2023 to mitigate the rate increase rather than allowing Providence to accumulate  
27 funds in this account. Reducing funding by this amount will still leave Providence with

1 a \$4,527,654 balance. The BCWA supports this position. In addition, the BCWA  
2 believes funding for this account should be reexamined when Providence submits its  
3 compliance filing for FY 2023. This will allow the parties to determine how much  
4 Providence actually spends from this account in FY 2021 and FY 2022.

5  
6 **Miscellaneous Revenue**

7 **Q. Does the BCWA still have any concerns regarding Providence’s test year adjustment**  
8 **to Miscellaneous Revenues?**

9 A. Yes, but Providence has agreed to increase its miscellaneous revenue based on a  
10 three-year average of actual miscellaneous revenue, and the BCWA accepts this  
11 adjustment.

12  
13 **Rate Case Expense**

14 **Q. Did Providence accept the BCWA’s request regarding rate case expense?**

15 A. Yes. Rate case costs in this Docket will be based on actual costs amortized over three  
16 years.

17  
18 **City Services**

19 **Q. Does the BCWA have any concerns regarding Providence’s City Services payments**  
20 **to the City of Providence?**

21 A. Yes. Initially, Providence sought a \$651,527 increase in payments to the City of  
22 Providence from \$839,167 to \$1,490,693 per year. Providence has withdrawn its  
23 request because it was unable to answer many data requests on this issue. As such,  
24 funding will remain at its current level. However, it should be noted that there is no  
25 basis for this expense. In fact, Providence cannot even provide a breakdown of  
26 expenses by department. (See Providence response to BCWA 4-3)

1 **RECs**

2 **Q. Does the BCWA still maintain that Providence should continue selling its RECs?**

3 A. Yes. Providence acknowledges it can produce enough renewable energy to offset  
4 electricity use at all of its facilities *and* sell its RECs. (See Providence response to  
5 BCWA 2-24) Furthermore, Providence has learned that the REC program could be  
6 eliminated in the future. Thus, the issue may become moot at some point. However,  
7 for the time being, the annual value of these RECs is \$101,750 to \$370,000. (See  
8 Providence response to BCWA 1-40) Thus, over the course of Providence’s three-year  
9 rate plan, it could receive \$305,250 to \$1,110,000 to offset the increase in its  
10 customers’ rates and should continue to do so.

11

12 **Chemical Expense**

13 **Q. Does the BCWA still have any concerns about Providence’s chemical expense?**

14 A. Providence reduced its proposed increase in annual funding from \$1,000,000 to  
15 \$800,000. (See Gregg Giasson Rebuttal Testimony, pp. 3-4) As set forth in Ms.  
16 Marchand’s testimony, the BCWA accepts this reduction.

17

18 **Inflation Adjustments**

19 **Q Does the BCWA continue to maintain that the Commission should disallow the  
20 inflationary adjustments proposed by Providence for the second and third steps of  
21 its multi-year increase?**

22 A. Yes, based on my understanding of the Commission’s previous ruling on this issue as  
23 referenced in my direct testimony.

24

25

26

1 **V. CONCLUSION**

2 **Q. Do you have any additional issues you would like to address?**

3 A. Not currently, but I reserve the right to address any further changes Providence  
4 makes or issues the Division or other intervenors raise in this filing. Also, to the  
5 extent that any further issues are raised through ongoing data requests, I reserve the  
6 right to address these issues as well. Finally, if I discover or otherwise learn of  
7 additional issues that could impact the wholesale rates charged to BCWA, I reserve  
8 the right to address those issues.

9

10 **Q. With these exceptions, does this conclude your surrebuttal testimony?**

11 A. Yes, It does.



***EXHIBIT A***



***EXHIBIT B***

**Schedule HJS-16a: Customer Class Units of Service**

AMENDED BY MICHAEL R. MAKER, SURREBUTTAL

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Rebuttal Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Customer Class	Base Demand			Maximum Day Extra Capacity				Maximum Hour Extra Capacity				Billing		Direct Fire
	Rate Year Sales	Plus NRW	Base	Average Day	Peaking Factor	Maximum Day	Maximum Day Extra	Average Day	Peaking Factor	Maximum Hour	Maximum Hour Extra	Meters & Services	Monthly Bills	
	HCF	HCF	HCF	HCF/d		HCF/d	HCF/d	HCF/d		HCF/d	HCF/d	5/8" Eq.	6" Eq.	
<b>Retail</b>														
Residential	8,396,176	2,260,036	10,656,212	23,003	1.56	35,958	12,954	23,003	3.13	71,915	35,958			
Commercial	4,041,665	1,087,913	5,129,578	11,073	1.68	18,644	7,571	11,073	3.37	37,289	18,644			
Industrial	187,186	50,386	237,572	513	1.44	741	228	513	2.89	1,481	741			
Sub-total Retail	12,625,027	3,398,335	16,023,362	34,589	1.60	55,343	20,753	34,589	3.20	110,685	55,343	88,313	931,056	
<b>Fire Protection</b>														
Private						690	690			2,759	2,070	40,187	23,940	
Public (Providence)			69,188			1,085	1,085			4,338	3,254			3,232
Public (All Other)			71,029			1,113	1,113			4,453	3,340			3,318
Subtotal Fire Protection			140,217			2,888	2,888			11,551	8,663	40,187	23,940	6,550
Bristol County	1,494,845	86,344	1,581,189	4,095	1.51	6,191	2,096	4,095	1.81	7,429	1,238			
East Providence	1,822,773	105,286	1,928,059	4,994	1.67	8,317	3,323	4,994	2.76	13,797	5,480			
East Smithfield	-	-	-	-	0.00	-	-	-	0.00	-	-			
Greenville	421,521	24,348	445,869	1,155	2.01	2,323	1,168	1,155	3.05	3,525	1,202			
Johnston	-	-	-	-	0.00	-	-	-	0.00	-	-			
Kent County	2,727,147	157,524	2,884,671	7,472	1.42	10,638	3,166	7,472	2.18	16,260	5,622			
Lincoln	1,038,229	59,970	1,098,198	2,844	1.90	5,402	2,557	2,844	2.23	6,354	952			
Smithfield	391,600	22,619	414,220	1,073	2.17	2,328	1,255	1,073	2.56	2,747	419			
Warwick	3,466,644	200,238	3,666,883	9,498	2.40	22,752	13,254	9,498	2.81	26,693	3,941			
<b>Wholesale</b>	11,362,760	656,329	12,019,088	31,131	1.86	57,951	26,821	31,131	2.47	76,806	18,855			
<b>Grand Total</b>	<b>23,987,787</b>	<b>4,054,664</b>	<b>28,182,668</b>	<b>65,720</b>	<b>1.77</b>	<b>116,182</b>	<b>50,462</b>	<b>65,720</b>	<b>3.03</b>	<b>199,042</b>	<b>82,860</b>	<b>128,499</b>	<b>954,996</b>	<b>6,550</b>

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-16c: Customer Class Units of Service

Providence Water Supply Board

AMENDED BY MICHAEL R. MAKER, SURREBUTTAL

Docket # 4994

Request for General Rate Relief

Rebuttal Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Customer Class	Base	Extra Capacity		Billing		Direct Fire
		Maximum Day Extra	Maximum Hour Extra	Meters & Services	Monthly Bills	
	HCF	HCF/d	HCF/d	5/8" Eq.	Bills	6" Eq.
<b>Retail</b>						
Residential	10,656,212	12,954	35,958			
Commercial	5,129,578	7,571	18,644			
Industrial	237,572	228	741			
Sub-total Retail	16,023,362	20,753	55,343	88,313	931,056	
<b>Fire Protection</b>						
Private		690	2,070	40,187	23,940	
Public (Providence)	69,188	1,085	3,254			3,232
Public (All Other)	71,029	1,113	3,340			3,318
Subtotal Fire Protection	140,217	2,888	8,663	40,187	23,940	6,550
Bristol County	1,581,189	2,096	1,238			
East Providence	1,928,059	3,323	5,480			
East Smithfield	-	-	-			
Greenville	445,869	1,168	1,202			
Johnston	-	-	-			
Kent County	2,884,671	3,166	5,622			
Lincoln	1,098,198	2,557	952			
Smithfield	414,220	1,255	419			
Warwick	3,666,883	13,254	3,941			
Wholesale	12,019,088	26,821	18,855			
Wholesale	12,019,088	26,821	18,855			
<b>Grand Total</b>	<b>28,182,668</b>	<b>50,462</b>	<b>82,860</b>	<b>128,499</b>	<b>954,996</b>	<b>6,550</b>
	16,163,579	23,641	64,006	128,499	954,996	6,550

**Schedule HJS-17: Unit Cost of Service**

AMENDED BY MICHAEL R. MAKER, SURREBUTTAL

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Rebuttal Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

	Common To All			Retail Only						
	Total	Base	Max Day	Max Hour	Base	Max Day	Max Hour	Meters & Services	Billing & Collection	Direct Fire
		HCF	HCF/d	HCF/d	HCF	HCF/d	HCF/d	Eq. 5/8" Mtrs.	Bills	Eq. 6" Conn.
<b>Total Units of Service</b>										
Retail	16,023,362	20,753	55,343	16,023,362	20,753	55,343	88,313	931,056	-	
Fire Protection	140,217	2,888	8,663	140,217	2,888	8,663	40,187	23,940	6,550	
Bristol County	1,581,189	2,096	1,238							
East Providence	1,928,059	3,323	5,480							
East Smithfield	-	-	-							
Greenville	445,869	1,168	1,202							
Johnston	-	-	-							
Kent County	2,884,671	3,166	5,622							
Lincoln	1,098,198	2,557	952							
Smithfield	414,220	1,255	419							
Warwick	3,666,883	13,254	3,941							
Wholesale	12,019,088	26,821	18,855							
<b>Total</b>	<b>28,182,668</b>	<b>50,462</b>	<b>82,860</b>	<b>16,163,579</b>	<b>23,641</b>	<b>64,006</b>	<b>128,499</b>	<b>954,996</b>	<b>6,550</b>	
<b>Unit Cost of Service</b>										
O&M Expense	\$ 38,568,776	\$ 13,189,332	\$ 5,909,340	\$ 1,447,161	\$ 1,047,415	\$ 804,243	\$ 1,320,601	\$ 5,186,294	\$ 7,632,619	\$ 2,031,772
Unit Cost (\$/Unit)	\$ 0.47	\$ 117.11	\$ 17.47	\$ 0.06	\$ 34.02	\$ 20.63	\$ 40.36	\$ 7.99	\$ 310.19	
Capital Expense	\$ 35,067,000	\$ 9,165,780	\$ 4,404,969	\$ 318,089	\$ 3,857,715	\$ 2,957,811	\$ 4,856,849	\$ 7,718,309	\$ 1,013,064	\$ 774,414
Unit Cost (\$/Unit)	\$ 0.33	\$ 87.29	\$ 3.84	\$ 0.24	\$ 125.11	\$ 75.88	\$ 60.07	\$ 1.06	\$ 118.23	
City Services Expense	\$ 839,167	\$ 247,503	\$ 117,947	\$ 28,414	\$ 27,070	\$ 20,784	\$ 34,128	\$ 137,745	\$ 177,270	\$ 48,305
Unit Cost (\$/Unit)	\$ 0.01	\$ 2.34	\$ 0.34	\$ 0.00	\$ 0.88	\$ 0.53	\$ 1.07	\$ 0.19	\$ 7.37	
Property Tax Expense	\$ 7,629,145	\$ 7,591,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 38,146
Unit Cost (\$/Unit)	\$ 0.27	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5.82	
Net Operating Revenue Allowance	\$ 1,642,082	\$ 603,872	\$ 208,645	\$ 35,873	\$ 98,644	\$ 75,657	\$ 124,232	\$ 260,847	\$ 176,459	\$ 57,853
Unit Cost (\$/Unit)	\$ 0.02	\$ 4.13	\$ 0.43	\$ 0.01	\$ 3.20	\$ 1.94	\$ 2.03	\$ 0.18	\$ 8.83	
<b>Total Cost of Service</b>	<b>\$ 83,746,170</b>	<b>\$ 30,797,488</b>	<b>\$ 10,640,901</b>	<b>\$ 1,829,537</b>	<b>\$ 5,030,844</b>	<b>\$ 3,858,495</b>	<b>\$ 6,335,810</b>	<b>\$ 13,303,196</b>	<b>\$ 8,999,412</b>	<b>\$ 2,950,489</b>
Unit Cost (\$/Unit)	\$ 1.09	\$ 210.87	\$ 22.08	\$ 0.31	\$ 163.21	\$ 98.99	\$ 103.53	\$ 9.42	\$ 450.46	

**Schedule HJS-18: Customer Class Cost of Service**

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Rebuttal Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

AMENDED BY MICHAEL R. MAKER, SURREBUTTAL

	Common To All			Retail Only						
	Total	Base	Max Day	Max Hour	Base	Max Day	Max Hour	Meters & Services	Billing & Collection	Direct Fire
Unit Cost of Service (\$/Unit)		\$1.09	\$210.87	\$22.08	\$0.31	\$163.21	\$98.99	\$103.53	\$9.42	\$450.46
<b>Retail Service:</b>										
Residential Volume										
Units of Service		10,656,212	12,954	35,958	10,656,212	12,954	35,958	-	-	-
Cost of Service	\$24,160,895	\$11,644,908	\$ 2,731,688	\$ 793,934	\$3,316,700	\$2,114,289	\$3,559,376	\$ -	\$ -	\$ -
Commercial Volume										
Units of Service		5,129,578	7,571	18,644	5,129,578	7,571	18,644	-	-	-
Cost of Service	\$12,291,589	\$ 5,605,506	\$ 1,596,567	\$ 411,663	\$1,596,559	\$1,235,720	\$1,845,573	\$ -	\$ -	\$ -
Industrial Volume Charge										
Units of Service		237,572	228	741	237,572	228	741	-	-	-
Cost of Service	\$ 508,447	\$ 259,614	\$ 48,039	\$ 16,353	\$ 73,943	\$ 37,182	\$ 73,316	\$ -	\$ -	\$ -
Meter Service Charge										
Units of Service		-	-	-	-	-	-	88,313	931,056	-
Cost of Service	\$17,916,589	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,142,776	\$8,773,813	\$ -
<b>Fire Protection:</b>										
Private Fire Lines										
Units of Service		-	690	2,070	-	690	2,070	40,187	23,940	-
Cost of Service	\$ 4,894,624	\$ -	\$ 145,466	\$ 45,694	\$ -	\$ 112,589	\$ 204,857	\$ 4,160,420	\$ 225,599	\$ -
Public Fire (Providence)										
Units of Service		69,188	1,085	3,254	69,188	1,085	3,254	-	-	3,232
Cost of Service	\$ 2,352,605	\$ 75,607	\$ 228,690	\$ 71,837	\$ 21,534	\$ 177,003	\$ 322,059	\$ -	\$ -	\$1,455,875
Public Fire (All Other)										
Units of Service		71,029	1,113	3,340	71,029	1,113	3,340	-	-	3,318
Cost of Service	\$ 2,415,205	\$ 77,619	\$ 234,775	\$ 73,748	\$ 22,107	\$ 181,713	\$ 330,629	\$ -	\$ -	\$1,494,614
East Smithfield Surcharge										
Units of Service		-	-	-	-	-	-	-	-	-
Cost of Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Wholesale Service:</b>										
Bristol County		1,581,189	2,096	1,238						
East Providence		1,928,059	3,323	5,480						
East Smithfield		-	-	-						
Greenville		445,869	1,168	1,202						
Johnston		-	-	-						
Kent County		2,884,671	3,166	5,622						
Lincoln		1,098,198	2,557	952						
Smithfield		414,220	1,255	419						
Warwick		3,666,883	13,254	3,941						
Units of Service		12,019,088	26,821	18,855						
Bristol County	\$ 2,197,181	\$ 1,727,894	\$ 441,958	\$ 27,328						
East Providence	\$ 2,928,733	\$ 2,106,946	\$ 700,799	\$ 120,988						
East Smithfield	\$ -	\$ -	\$ -	\$ -						
Greenville	\$ 760,113	\$ 487,237	\$ 246,330	\$ 26,545						
Johnston	\$ -	\$ -	\$ -	\$ -						
Kent County	\$ 3,944,133	\$ 3,152,314	\$ 667,678	\$ 124,141						
Lincoln	\$ 1,760,398	\$ 1,200,090	\$ 539,282	\$ 21,026						
Smithfield	\$ 726,580	\$ 452,651	\$ 264,676	\$ 9,253						
Warwick	\$ 6,889,078	\$ 4,007,100	\$ 2,794,952	\$ 87,026						
Cost of Service	\$19,206,215	\$13,134,233	\$ 5,655,675	\$ 416,306						
Total Allocated Cost of Service	\$83,746,170	\$30,797,488	\$10,640,901	\$1,829,537	\$5,030,844	\$3,858,495	\$6,335,810	\$13,303,196	\$8,999,412	\$2,950,489

**Schedule HJS-19: Development of Volumetric Rates**

AMENDED BY MICHAEL R. MAKER, SURREBUTTAL

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Rebuttal Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

	Units	Residential	Commercial	Industrial	Bristol County	East Providence	East Smithfield	Greenville	Johnston	Kent County	Lincoln	Smithfield	Warwick	Wholesale
<b>Unit Cost</b>														
CTA Base	\$/HCF	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
CTA Maximum Day	\$/HCF/d	210.87	210.87	210.87	210.87	210.87	210.87	210.87	210.87	210.87	210.87	210.87	210.87	210.87
CTA Maximum Hour	\$/HCF/d	22.08	22.08	22.08	22.08	22.08	22.08	22.08	22.08	22.08	22.08	22.08	22.08	22.08
Retail Only Base	\$/HCF	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Retail Only Maximum Day	\$/HCF/d	163.21	163.21	163.21	163.21	163.21	163.21	163.21	163.21	163.21	163.21	163.21	163.21	163.21
Retail Only Maximum Hour	\$/HCF/d	98.99	98.99	98.99	98.99	98.99	98.99	98.99	98.99	98.99	98.99	98.99	98.99	98.99
<b>Units</b>														
Base	HCF	10,656,212	5,129,578	237,572	1,581,189	1,928,059	0	445,869	0	2,884,671	1,098,198	414,220	3,666,883	12,019,088
Maximum Day	HCF/d	12,954	7,571	228	2,096	3,323	0	1,168	0	3,166	2,557	1,255	13,254	26,821
Maximum Hour	HCF/d	35,958	18,644	741	1,238	5,480	0	1,202	0	5,622	952	419	3,941	18,855
<b>Total Cost</b>														
CTA Base		\$11,644,908	\$ 5,605,506	\$ 259,614	\$ 1,727,894	\$ 2,106,946	\$ -	\$ 487,237	\$ -	\$ 3,152,314	\$ 1,200,090	\$ 452,651	\$ 4,007,100	\$ 13,134,233
CTA Maximum Day		\$ 2,731,688	\$ 1,596,567	\$ 48,039	\$ 441,958	\$ 700,799	\$ -	\$ 246,330	\$ -	\$ 667,678	\$ 539,282	\$ 264,676	\$ 2,794,952	\$ 5,655,675
CTA Maximum Hour		\$ 793,934	\$ 411,663	\$ 16,353	\$ 27,328	\$ 120,988	\$ -	\$ 26,545	\$ -	\$ 124,141	\$ 21,026	\$ 9,253	\$ 87,026	\$ 416,306
Retail Only Base		\$ 3,316,700	\$ 1,596,559	\$ 73,943	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retail Only Maximum Day		\$ 2,114,289	\$ 1,235,720	\$ 37,182	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retail Only Maximum Hour		\$ 3,559,376	\$ 1,845,573	\$ 73,316	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
PLUS:														
Retail Service Charge Costs		\$ 5,099,700	\$ 2,594,416	\$ 107,319	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retail Fire Protection Costs		\$ 299,724	\$ 152,481	\$ 6,307	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Private Fire Line Costs		\$ 586,612	\$ 298,432	\$ 12,345	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Public Fire Costs		\$ 278,925	\$ 141,900	\$ 5,870	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Rate Year Revenue Requirement</b>		<b>\$30,425,857</b>	<b>\$15,478,819</b>	<b>\$ 640,289</b>	<b>\$2,197,181</b>	<b>\$2,928,733</b>	<b>\$ -</b>	<b>\$ 760,113</b>	<b>\$ -</b>	<b>\$3,944,133</b>	<b>\$1,760,398</b>	<b>\$ 726,580</b>	<b>\$6,889,078</b>	<b>\$19,206,215</b>
<b>Rate Year Sales</b>	HCF	8,396,176	4,041,665	187,186	1,494,845	1,822,773	0	421,521	0	2,727,147	1,038,229	391,600	3,466,644	11,362,760
<b>Volumetric Rate Build-Up</b>														
Base	\$/HCF	\$ 1.781955	\$ 1.781955	\$1.781955	\$ 1.155902	\$ 1.155902	\$ -	\$ 1.155902	\$ -	\$ 1.155902	\$ 1.155902	\$ 1.155902	\$ 1.155902	\$ 1.155902
Maximum Day	\$/HCF	\$ 0.577165	\$ 0.700772	\$0.455275	\$ 0.295655	\$ 0.384468	\$ -	\$ 0.584384	\$ -	\$ 0.244826	\$ 0.519425	\$ 0.675883	\$ 0.806241	\$ 0.497738
Maximum Hour	\$/HCF	\$ 0.518487	\$ 0.558492	\$0.479039	\$ 0.018282	\$ 0.066376	\$ -	\$ 0.062975	\$ -	\$ 0.045520	\$ 0.020252	\$ 0.023628	\$ 0.025104	\$ 0.036638
Service Charge	\$/HCF	\$ 0.607384	\$ 0.641918	\$0.573330	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retail Fire	\$/HCF	\$ 0.035698	\$ 0.037727	\$0.033696	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Private Fire	\$/HCF	\$ 0.069867	\$ 0.073839	\$0.065949	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Public Fire	\$/HCF	\$ 0.033220	\$ 0.035109	\$0.031358	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$/HCF	\$ 3.623775	\$ 3.829812	\$3.420602	\$ 1.469839	\$ 1.606746	\$ -	\$ 1.803260	\$ -	\$ 1.446249	\$ 1.695578	\$ 1.855413	\$ 1.987247	\$ 1.690277
Rounded	\$/HCF	\$ 3.624000	\$ 3.830000	\$3.421000	\$ 1.469839	\$ 1.606746	\$ -	\$ 1.803261	\$ -	\$ 1.446249	\$ 1.695579	\$ 1.855413	\$ 1.987247	\$ 1.690278
Revenues		\$30,427,742	\$15,479,577	\$ 640,363	\$2,197,181	\$2,928,733	\$ -	\$ 760,113	\$ -	\$3,944,134	\$1,760,399	\$ 726,580	\$6,889,078	\$19,206,222
COS		\$30,425,857	\$15,478,819	\$ 640,289	\$2,197,181	\$2,928,733	\$ -	\$ 760,113	\$ -	\$3,944,133	\$1,760,398	\$ 726,580	\$6,889,078	\$19,206,215
Variance due to Rounding		\$ 1,885	\$ 758	\$ 75	\$ 1	\$ 0	\$ -	\$ 0	\$ -	\$ 1	\$ 1	\$ 0	\$ 0	\$ 7



**Schedule HJS-22: Proposed Rates**

AMENDED BY MICHAEL R. MAKER, SURREBUTTAL

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Rebuttal Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Description	Existing Rates			Proposed FY 2021				Proposed FY 2022				Proposed FY 2023		
	Units	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue		
<b>Service Charges</b>														
5/8"	57,812	\$ 7.56	\$ 5,244,705	32.01%	\$ 9.98	\$ 6,923,565	5.67%	\$ 10.55	\$ 7,316,404	5.49%	\$ 11.13	\$ 7,718,159		
3/4"	11,326	\$ 8.05	\$ 1,094,092	32.05%	\$ 10.63	\$ 1,444,745	5.67%	\$ 11.23	\$ 1,526,718	5.49%	\$ 11.85	\$ 1,610,553		
1"	5,335	\$ 9.50	\$ 608,190	32.00%	\$ 12.54	\$ 802,811	5.67%	\$ 13.25	\$ 848,362	5.49%	\$ 13.98	\$ 894,947		
1.5"	1,547	\$ 11.43	\$ 212,187	32.02%	\$ 15.09	\$ 280,131	5.67%	\$ 15.95	\$ 296,025	5.49%	\$ 16.82	\$ 312,280		
2"	1,357	\$ 16.76	\$ 272,920	32.04%	\$ 22.13	\$ 360,365	5.67%	\$ 23.39	\$ 380,812	5.49%	\$ 24.67	\$ 401,723		
3"	73	\$ 56.01	\$ 49,065	32.01%	\$ 73.94	\$ 64,771	5.67%	\$ 78.14	\$ 68,447	5.49%	\$ 82.43	\$ 72,205		
4"	35	\$ 70.55	\$ 29,631	32.01%	\$ 93.13	\$ 39,115	5.67%	\$ 98.41	\$ 41,334	5.49%	\$ 103.82	\$ 43,604		
6"	57	\$ 104.47	\$ 71,457	32.01%	\$ 137.91	\$ 94,330	5.67%	\$ 145.73	\$ 99,683	5.49%	\$ 153.74	\$ 105,156		
8"	42	\$ 143.23	\$ 72,188	32.00%	\$ 189.07	\$ 95,291	5.67%	\$ 199.80	\$ 100,698	5.49%	\$ 210.77	\$ 106,228		
10"	4	\$ 178.36	\$ 8,561	32.00%	\$ 235.44	\$ 11,301	5.67%	\$ 248.80	\$ 11,942	5.49%	\$ 262.46	\$ 12,598		
12"	-	\$ 213.49	\$ -	32.00%	\$ 281.81	\$ -	5.67%	\$ 297.80	\$ -	5.49%	\$ 314.15	\$ -		
Total Service Charge	77,588		\$ 7,662,995	32.02%		\$ 10,116,425	5.67%		\$ 10,690,424	5.49%		\$ 11,277,452		
						\$ -								
<b>Retail Fire Protection Service Charges (Providence Only)</b>														
5/8"	25,954	\$ 1.38	\$ 429,798	32.61%	\$ 1.83	\$ 569,950	5.67%	\$ 1.93	\$ 602,288	5.49%	\$ 2.04	\$ 635,361		
3/4"	4,580	\$ 2.07	\$ 113,767	32.37%	\$ 2.74	\$ 150,590	5.67%	\$ 2.90	\$ 159,135	5.49%	\$ 3.05	\$ 167,873		
1"	2,091	\$ 5.15	\$ 129,224	32.04%	\$ 6.80	\$ 170,626	5.67%	\$ 7.19	\$ 180,307	5.49%	\$ 7.58	\$ 190,208		
1.5"	902	\$ 13.74	\$ 148,722	32.02%	\$ 18.14	\$ 196,347	5.67%	\$ 19.17	\$ 207,488	5.49%	\$ 20.22	\$ 218,881		
2"	792	\$ 32.96	\$ 313,252	32.01%	\$ 43.51	\$ 413,519	5.67%	\$ 45.98	\$ 436,982	5.49%	\$ 48.50	\$ 460,977		
3"	55	\$ 89.26	\$ 58,912	32.01%	\$ 117.83	\$ 77,768	5.67%	\$ 124.52	\$ 82,180	5.49%	\$ 131.35	\$ 86,693		
4"	20	\$ 151.05	\$ 36,252	32.00%	\$ 199.39	\$ 47,854	5.67%	\$ 210.70	\$ 50,569	5.49%	\$ 222.27	\$ 53,346		
6"	28	\$ 308.97	\$ 103,814	32.00%	\$ 407.85	\$ 137,038	5.67%	\$ 430.99	\$ 144,813	5.49%	\$ 454.66	\$ 152,765		
8"	15	\$ 466.89	\$ 84,040	32.00%	\$ 616.30	\$ 110,934	5.67%	\$ 651.27	\$ 117,228	5.49%	\$ 687.03	\$ 123,666		
10"	2	\$ 714.07	\$ 17,138	32.00%	\$ 942.58	\$ 22,622	5.67%	\$ 996.06	\$ 23,905	5.49%	\$ 1,050.76	\$ 25,218		
12"	-	\$ 1,180.95	\$ -	32.00%	\$ 1,558.85	\$ -	5.67%	\$ 1,647.30	\$ -	5.49%	\$ 1,737.75	\$ -		
Total Retail FPSC (Providence Only)	34,439		\$ 1,434,918	32.22%		\$ 1,897,247	5.67%		\$ 2,004,896	5.49%		\$ 2,114,988		
Total Retail Service Charge Revenue			\$ 9,097,913	32.05%		\$ 12,013,672	5.67%		\$ 12,695,320	5.49%		\$ 13,392,440		
<b>Retail Consumption Charges</b>														
Residential	8,396,176	\$ 3.403	\$ 28,572,187	6.49%	\$ 3.624	\$ 30,427,742	5.67%	\$ 3.830	\$ 32,154,192	5.49%	\$ 4.040	\$ 33,919,829		
Commercial	4,041,665	\$ 3.223	\$ 13,026,286	18.83%	\$ 3.830	\$ 15,479,577	5.67%	\$ 4.047	\$ 16,357,878	5.49%	\$ 4.270	\$ 17,256,115		
Industrial	187,186	\$ 3.169	\$ 593,192	7.95%	\$ 3.421	\$ 640,363	5.67%	\$ 3.615	\$ 676,697	5.49%	\$ 3.814	\$ 713,856		
Total Retail Consumption Charge	12,625,027		\$ 42,191,666	10.32%		\$ 46,547,682	5.67%		\$ 49,188,767	5.49%		\$ 51,889,800		
East Smithfield Debt Surcharge	235,576	\$ 0.35	\$ 82,451	0.00%	\$ 0.350	\$ 82,451	0.00%	\$ 0.350	\$ 82,451	0.00%	\$ 0.350	\$ 82,451		
Total Retail Volume Charge Revenue			\$ 42,274,117	10.30%		\$ 46,630,134	5.66%		\$ 49,271,218	5.48%		\$ 51,972,251		
<b>Total Retail Revenue</b>			<b>\$ 51,372,030</b>	<b>14.16%</b>		<b>\$ 58,643,806</b>	<b>5.67%</b>		<b>\$ 61,966,538</b>	<b>5.48%</b>		<b>\$ 65,364,692</b>		

**Schedule HJS-22: Proposed Rates**

**AMENDED BY MICHAEL R. MAKER, SURREBUTTAL**

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Rebuttal Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Description	Existing Rates			Proposed FY 2021				Proposed FY 2022			Proposed FY 2023		
	Units	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	
<b>Wholesale Charges</b>													
Bristol County	1,494,845	\$ 1.350858	\$ 2,019,323	8.81%	\$ 1.469839	\$ 2,197,181	4.19%	\$ 1.531417	\$ 2,289,230	4.15%	\$ 1.594917	\$ 2,384,154	
East Providence	1,822,773	\$ 1.350858	\$ 2,462,307	18.94%	\$ 1.606746	\$ 2,928,733	4.19%	\$ 1.674059	\$ 3,051,430	4.15%	\$ 1.743474	\$ 3,177,958	
Greenville	421,521	\$ 1.350858	\$ 569,415	33.49%	\$ 1.803261	\$ 760,113	4.19%	\$ 1.878807	\$ 791,957	4.15%	\$ 1.956712	\$ 824,796	
Kent County	2,727,147	\$ 1.350858	\$ 3,683,989	7.06%	\$ 1.446249	\$ 3,944,134	4.19%	\$ 1.506838	\$ 4,109,371	4.15%	\$ 1.569320	\$ 4,279,766	
Lincoln	1,038,229	\$ 1.350858	\$ 1,402,499	25.52%	\$ 1.695579	\$ 1,760,399	4.19%	\$ 1.766614	\$ 1,834,149	4.15%	\$ 1.839867	\$ 1,910,202	
Smithfield	391,600	\$ 1.350858	\$ 528,996	37.35%	\$ 1.855413	\$ 726,580	4.19%	\$ 1.933144	\$ 757,020	4.15%	\$ 2.013302	\$ 788,410	
Warwick	3,466,644	\$ 1.350858	\$ 4,682,944	47.11%	\$ 1.987247	\$ 6,889,078	4.19%	\$ 2.070501	\$ 7,177,691	4.15%	\$ 2.156355	\$ 7,475,315	
<b>Total Wholesale Revenue</b>	<b>11,362,760</b>		<b>15,349,475</b>	<b>25.13%</b>	<b>\$ 1.690278</b>	<b>19,206,219</b>	<b>4.19%</b>	<b>\$ 1.761090</b>	<b>20,010,847</b>	<b>4.15%</b>	<b>\$ 1.834114</b>	<b>20,840,601</b>	

Wholesale (per million gallons) 8,499 \$ 1,805.96 \$ 15,349,475 25.13% \$ 2,259.73 \$ 19,206,219 \$ 2,354.40 \$ 20,010,847 \$ 2,452.02 \$ 20,840,601

Description	Existing Rates			Proposed FY 2021				Proposed FY 2022			Proposed FY 2023		
	Units	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	
<b>Private Fire Service Charges</b>													
3/4"	2	\$ 8.64	\$ 207	32.06%	\$ 11.41	\$ 274	5.67%	\$ 12.06	\$ 289	5.49%	\$ 12.72	\$ 305	
1"	9	\$ 10.21	\$ 1,103	32.03%	\$ 13.48	\$ 1,456	5.67%	\$ 14.24	\$ 1,538	5.49%	\$ 15.03	\$ 1,623	
1-1/2"	2	\$ 12.57	\$ 302	32.06%	\$ 16.60	\$ 398	5.67%	\$ 17.54	\$ 421	5.49%	\$ 18.51	\$ 444	
2"	68	\$ 18.64	\$ 15,210	32.03%	\$ 24.61	\$ 20,082	5.67%	\$ 26.01	\$ 21,221	5.49%	\$ 27.43	\$ 22,386	
4"	391	\$ 79.67	\$ 373,812	32.01%	\$ 105.17	\$ 493,458	5.67%	\$ 111.14	\$ 521,456	5.49%	\$ 117.24	\$ 550,090	
6"	1,245	\$ 129.89	\$ 1,940,557	32.00%	\$ 171.46	\$ 2,561,612	5.67%	\$ 181.19	\$ 2,706,957	5.49%	\$ 191.14	\$ 2,855,600	
8"	256	\$ 196.73	\$ 604,355	32.00%	\$ 259.69	\$ 797,768	5.67%	\$ 274.42	\$ 843,032	5.49%	\$ 289.49	\$ 889,325	
10"	4	\$ 274.06	\$ 13,155	32.00%	\$ 361.76	\$ 17,364	5.67%	\$ 382.29	\$ 18,350	5.49%	\$ 403.28	\$ 19,357	
12"	18	\$ 367.64	\$ 79,410	32.00%	\$ 485.29	\$ 104,823	5.67%	\$ 512.83	\$ 110,770	5.49%	\$ 540.99	\$ 116,853	
16"	-	\$ 611.43	\$ -	27.86%	\$ 781.78	\$ -	5.67%	\$ 826.14	\$ -	5.49%	\$ 871.50	\$ -	
Total		\$ 3,028,110	\$ 3,028,110	32.00%		\$ 3,997,235	5.67%		\$ 4,224,035	5.49%		\$ 4,455,984	
Hydrants (Excluding Providence)	3,318	\$ 454.02	\$ 1,506,438	32.00%	\$ 599.31	\$ 1,988,511	5.67%	\$ 633.31	\$ 2,101,337	5.49%	\$ 668.09	\$ 2,216,725	
<b>Total Fire Protection Charge Revenue</b>			<b>\$4,534,548.24</b>			<b>\$5,985,745.26</b>			<b>\$6,325,372.51</b>			<b>\$6,672,708.72</b>	

<b>Total Rate Revenues</b>		\$ 71,256,053			\$ 83,835,770			\$ 88,302,758			\$ 92,878,001
Miscellaneous Revenues		\$ 1,493,163			\$ 1,493,163			\$ 1,493,163			\$ 1,493,163
<b>Total Revenues</b>		\$ 72,749,216	17.29%		\$ 85,328,933	5.24%		\$ 89,795,921	5.10%		\$ 94,371,164
		-			7,148			7,554			7,968

***EXHIBIT C***

**Schedule HJS-17: Unit Cost of Service**

AMENDED BY MICHAEL R. MAKER, SURREBUTTAL

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Rebuttal Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

	Common To All			Retail Only						
	Total	Base	Max Day	Max Hour	Base	Max Day	Max Hour	Meters & Services	Billing & Collection	Direct Fire
	HCF	HCF/d	HCF/d	HCF	HCF/d	HCF/d	Eq. 5/8" Mtrs.	Bills	Eq. 6" Conn.	
<b>Total Units of Service</b>										
Retail	16,023,362	20,753	55,343	16,023,362	20,753	55,343	88,313	931,056	-	
Fire Protection	140,217	2,888	8,663	140,217	2,888	8,663	40,187	23,940	6,550	
<b>Bristol County</b>	1,581,189	2,096	1,238							
East Providence	1,928,059	3,323	5,480							
East Smithfield	-	-	-							
Greenville	445,869	1,168	1,202							
Johnston	-	-	-							
Kent County	2,884,671	3,166	5,622							
Lincoln	1,098,198	2,557	952							
Smithfield	414,220	1,255	419							
Warwick	3,666,883	13,254	3,941							
Wholesale	12,019,088	26,821	18,855							
Total	28,182,668	50,462	82,860	16,163,579	23,641	64,006	128,499	954,996	6,550	
All but Bristol County	26,601,478	48,366	81,623	16,163,579	23,641	64,006	128,499	954,996	6,550	

**Unit Cost of Service**

O&M Expense	\$ 36,760,904	\$ 12,977,445	\$ 5,746,646	\$ 1,180,010	\$ 929,197	\$ 713,472	\$ 1,171,551	\$ 4,590,168	\$ 7,632,557	\$ 1,819,857
All but Bristol County	\$ 1,807,873	\$ 211,888	\$ 162,694	\$ 267,150	\$ 118,218	\$ 90,771	\$ 149,050	\$ 596,126	\$ 61	\$ 211,914
Unit Cost (\$/Unit)		\$ 0.46	\$ 113.88	\$ 14.24	\$ 0.06	\$ 30.18	\$ 18.30	\$ 35.72	\$ 7.99	\$ 277.84
All but Bristol County		\$ 0.01	\$ 3.36	\$ 3.27	\$ 0.01	\$ 3.84	\$ 2.33	\$ 4.64	\$ 0.00	\$ 32.35
Capital Expense	\$ 35,067,000	\$ 9,165,780	\$ 4,404,969	\$ 318,089	\$ 3,857,715	\$ 2,957,811	\$ 4,856,849	\$ 7,718,309	\$ 1,013,064	\$ 774,414
All but Bristol County	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Unit Cost (\$/Unit)		\$ 0.33	\$ 87.29	\$ 3.84	\$ 0.24	\$ 125.11	\$ 75.88	\$ 60.07	\$ 1.06	\$ 118.23
All but Bristol County		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
City Services Expense	\$ 839,167	\$ 247,503	\$ 117,947	\$ 28,414	\$ 27,070	\$ 20,784	\$ 34,128	\$ 137,745	\$ 177,270	\$ 48,305
All but Bristol County	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Unit Cost (\$/Unit)		\$ 0.01	\$ 2.34	\$ 0.34	\$ 0.00	\$ 0.88	\$ 0.53	\$ 1.07	\$ 0.19	\$ 7.37
All but Bristol County		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Property Tax Expense	\$ 7,629,145	\$ 7,591,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 38,146
All but Bristol County	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Unit Cost (\$/Unit)		\$ 0.27	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5.82
All but Bristol County		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Operating Revenue Allowance	\$ 1,642,082	\$ 603,872	\$ 208,645	\$ 35,873	\$ 98,644	\$ 75,657	\$ 124,232	\$ 260,847	\$ 176,459	\$ 57,853
All but Bristol County	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Unit Cost (\$/Unit)		\$ 0.02	\$ 4.13	\$ 0.43	\$ 0.01	\$ 3.20	\$ 1.94	\$ 2.03	\$ 0.18	\$ 8.83
All but Bristol County		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Cost of Service	\$ 81,938,298	\$ 30,585,600	\$ 10,478,207	\$ 1,562,387	\$ 4,912,626	\$ 3,767,724	\$ 6,186,759	\$ 12,707,070	\$ 8,999,351	\$ 2,738,575
All but Bristol County	\$ 1,807,873	\$ 211,888	\$ 162,694	\$ 267,150	\$ 118,218	\$ 90,771	\$ 149,050	\$ 596,126	\$ 61	\$ 211,914
Unit Cost (\$/Unit)		\$ 1.09	\$ 207.65	\$ 18.86	\$ 0.30	\$ 159.37	\$ 96.66	\$ 98.89	\$ 9.42	\$ 418.10
All but Bristol County		\$ 0.01	\$ 3.36	\$ 3.27	\$ 0.01	\$ 3.84	\$ 2.33	\$ 4.64	\$ 0.00	\$ 32.35

Total Pumping Expenses	\$ 151,744	\$ 116,513	\$ 191,320	\$ 26,899	\$ 20,654	\$ 33,915	\$ -	\$ -	\$ -	\$ -
13 UDF Allocated on Factor 13 - Salaries, Ben	\$ 1,186,315	\$ 50,421	\$ 38,715	\$ 63,571	\$ 76,638	\$ 58,845	\$ 96,626	\$ 589,524	\$ 61	\$ 211,914
14 UDF Allocated on Factor 14 - Police Detail:	\$ 80,512	\$ 9,723	\$ 7,466	\$ 12,259	\$ 14,681	\$ 11,272	\$ 18,509	\$ 6,602	\$ -	\$ -
Total O&M Expense (All but Bristol County)	\$ 211,888	\$ 162,694	\$ 267,150	\$ 118,218	\$ 90,771	\$ 149,050	\$ 596,126	\$ 61	\$ 211,914	

**Schedule HJS-18: Customer Class Cost of Service**

Providence Water Supply Board

Docket # 4994

AMENDED BY MICHAEL R. MAKER, SURREBUTTAL

Request for General Rate Relief

Rebuttal Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

	Common To All			Retail Only						
	Total	Base	Max Day	Max Hour	Base	Max Day	Max Hour	Meters & Services	Billing & Collection	Direct Fire
Unit Cost of Service (\$/Unit)		\$1.09	\$207.65	\$18.86	\$0.30	\$159.37	\$96.66	\$98.89	\$9.42	\$418.10
All but Bristol County		\$ 0.01	\$ 3.36	\$ 3.27	\$ 0.01	\$ 3.84	\$ 2.33	\$ 4.64	\$ 0.00	\$ 32.35
<b>Retail Service:</b>										
Residential Volume										
Units of Service		10,656,212	12,954	35,958	10,656,212	12,954	35,958	-	-	-
Cost of Service	\$24,169,225	\$11,649,670	\$ 2,733,498	\$ 795,692	\$3,316,700	\$2,114,289	\$3,559,376	\$ -	\$ -	\$ -
Commercial Volume										
Units of Service		5,129,578	7,571	18,644	5,129,578	7,571	18,644	-	-	-
Cost of Service	\$12,295,850	\$ 5,607,799	\$ 1,597,625	\$ 412,575	\$1,596,559	\$1,235,720	\$1,845,573	\$ -	\$ -	\$ -
Industrial Volume Charge										
Units of Service		237,572	228	741	237,572	228	741	-	-	-
Cost of Service	\$ 508,622	\$ 259,720	\$ 48,071	\$ 16,390	\$ 73,943	\$ 37,182	\$ 73,316	\$ -	\$ -	\$ -
Meter Service Charge										
Units of Service		-	-	-	-	-	-	88,313	931,056	-
Cost of Service	\$17,916,589	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,142,776	\$8,773,813	\$ -
<b>Fire Protection:</b>										
Private Fire Lines										
Units of Service		-	690	2,070	-	690	2,070	40,187	23,940	-
Cost of Service	\$ 4,894,822	\$ -	\$ 145,562	\$ 45,795	\$ -	\$ 112,589	\$ 204,857	\$ 4,160,420	\$ 225,599	\$ -
Public Fire (Providence)										
Units of Service		69,188	1,085	3,254	69,188	1,085	3,254	-	-	3,232
Cost of Service	\$ 2,352,947	\$ 75,638	\$ 228,841	\$ 71,996	\$ 21,534	\$ 177,003	\$ 322,059	\$ -	\$ -	\$1,455,875
Public Fire (All Other)										
Units of Service		71,029	1,113	3,340	71,029	1,113	3,340	-	-	3,318
Cost of Service	\$ 2,415,556	\$ 77,651	\$ 234,931	\$ 73,912	\$ 22,107	\$ 181,713	\$ 330,629	\$ -	\$ -	\$1,494,614
East Smithfield Surcharge										
Units of Service		-	-	-	-	-	-	-	-	-
Cost of Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Wholesale Service:</b>										
Bristol County		1,581,189	2,096	1,238						
East Providence		1,928,059	3,323	5,480						
East Smithfield		-	-	-						
Greenville		445,869	1,168	1,202						
Johnston		-	-	-						
Kent County		2,884,671	3,166	5,622						
Lincoln		1,098,198	2,557	952						
Smithfield		414,220	1,255	419						
Warwick		3,666,883	13,254	3,941						
Units of Service		12,019,088	26,821	18,855						
Bristol County	\$ 2,174,545	\$ 1,716,006	\$ 435,201	\$ 23,338						
East Providence	\$ 2,930,327	\$ 2,107,808	\$ 701,263	\$ 121,256						
East Smithfield	\$ -	\$ -	\$ -	\$ -						
Greenville	\$ 760,534	\$ 487,436	\$ 246,493	\$ 26,604						
Johnston	\$ -	\$ -	\$ -	\$ -						
Kent County	\$ 3,946,140	\$ 3,153,604	\$ 668,120	\$ 124,416						
Lincoln	\$ 1,761,292	\$ 1,200,581	\$ 539,639	\$ 21,072						
Smithfield	\$ 726,961	\$ 452,837	\$ 264,851	\$ 9,273						
Warwick	\$ 6,892,761	\$ 4,008,739	\$ 2,796,804	\$ 87,219						
Cost of Service	\$19,192,560	\$13,127,010	\$ 5,652,372	\$ 413,177						
Total Allocated Cost of Service	\$83,746,170	\$30,797,488	\$10,640,901	\$1,829,537	\$5,030,844	\$3,858,495	\$6,335,810	\$13,303,196	\$8,999,412	\$2,950,489

**Schedule HJS-19: Development of Volumetric Rates**

AMENDED BY MICHAEL R. MAKER, SURREBUTTAL

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Rebuttal Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

	Units	Residential	Commercial	Industrial	Bristol County	East Providence	East Smithfield	Greenville	Johnston	Kent County	Lincoln	Smithfield	Warwick	Wholesale
<b>Unit Cost</b>														
CTA Base	\$/HCF	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	
CTA Maximum Day	\$/HCF/d	211.01	211.01	211.01	207.65	211.01	211.01	211.01	211.01	211.01	211.01	211.01	211.01	
CTA Maximum Hour	\$/HCF/d	22.13	22.13	22.13	18.86	22.13	22.13	22.13	22.13	22.13	22.13	22.13	22.13	
Retail Only Base	\$/HCF	0.31	0.31	0.31	0.30	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	
Retail Only Maximum Day	\$/HCF/d	163.21	163.21	163.21	159.37	163.21	163.21	163.21	163.21	163.21	163.21	163.21	163.21	
Retail Only Maximum Hour	\$/HCF/d	98.99	98.99	98.99	96.66	98.99	98.99	98.99	98.99	98.99	98.99	98.99	98.99	
<b>Units</b>														
Base	HCF	10,656,212	5,129,578	237,572	1,581,189	1,928,059	0	445,869	0	2,884,671	1,098,198	414,220	3,666,883	12,019,088
Maximum Day	HCF/d	12,954	7,571	228	2,096	3,323	0	1,168	0	3,166	2,557	1,255	13,254	26,821
Maximum Hour	HCF/d	35,958	18,644	741	1,238	5,480	0	1,202	0	5,622	952	419	3,941	18,855
<b>Total Cost</b>														
CTA Base		\$11,649,670	\$ 5,607,799	\$ 259,720	\$ 1,716,006	\$ 2,107,808	\$ -	\$ 487,436	\$ -	\$ 3,153,604	\$ 1,200,581	\$ 452,837	\$ 4,008,739	\$ 13,127,010
CTA Maximum Day		\$ 2,733,498	\$ 1,597,625	\$ 48,071	\$ 435,201	\$ 701,263	\$ -	\$ 246,493	\$ -	\$ 668,120	\$ 539,639	\$ 264,851	\$ 2,796,804	\$ 5,652,372
CTA Maximum Hour		\$ 795,692	\$ 412,575	\$ 16,390	\$ 23,338	\$ 121,256	\$ -	\$ 26,604	\$ -	\$ 124,416	\$ 21,072	\$ 9,273	\$ 87,219	\$ 413,177
Retail Only Base		\$ 3,316,700	\$ 1,596,559	\$ 73,943	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retail Only Maximum Day		\$ 2,114,289	\$ 1,235,720	\$ 37,182	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retail Only Maximum Hour		\$ 3,559,376	\$ 1,845,573	\$ 73,316	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
PLUS:														
Retail Service Charge Costs		\$ 5,099,697	\$ 2,594,420	\$ 107,319	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retail Fire Protection Costs		\$ 299,947	\$ 152,595	\$ 6,312	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Private Fire Line Costs		\$ 586,741	\$ 298,499	\$ 12,347	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Public Fire Costs		\$ 279,154	\$ 142,017	\$ 5,875	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Rate Year Revenue Requirement</b>		<b>\$30,434,764</b>	<b>\$15,483,381</b>	<b>\$ 640,475</b>	<b>\$ 2,174,545</b>	<b>\$ 2,930,327</b>	<b>\$ -</b>	<b>\$ 760,534</b>	<b>\$ -</b>	<b>\$ 3,946,140</b>	<b>\$ 1,761,292</b>	<b>\$ 726,961</b>	<b>\$ 6,892,761</b>	<b>\$ 19,192,560</b>
<b>Rate Year Sales</b>														
	HCF	8,396,176	4,041,665	187,186	1,494,845	1,822,773	0	421,521	0	2,727,147	1,038,229	391,600	3,466,644	11,362,760
<b>Volumetric Rate Build-Up</b>														
Base	\$/HCF	\$ 1.782522	\$ 1.782522	\$1.782522	\$ 1.147949	\$ 1.156374	\$ -	\$ 1.156374	\$ -	\$ 1.156374	\$ 1.156374	\$ 1.156374	\$ 1.156374	\$ 1.155266
Maximum Day	\$/HCF	\$ 0.577380	\$ 0.701034	\$0.455445	\$ 0.291135	\$ 0.384723	\$ -	\$ 0.584771	\$ -	\$ 0.244989	\$ 0.519769	\$ 0.676331	\$ 0.806776	\$ 0.497447
Maximum Hour	\$/HCF	\$ 0.518697	\$ 0.558717	\$0.479232	\$ 0.015612	\$ 0.066523	\$ -	\$ 0.063114	\$ -	\$ 0.045621	\$ 0.020296	\$ 0.023680	\$ 0.025159	\$ 0.036362
Service Charge	\$/HCF	\$ 0.607383	\$ 0.641919	\$0.573328	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retail Fire	\$/HCF	\$ 0.035724	\$ 0.037756	\$0.033721	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Private Fire	\$/HCF	\$ 0.069882	\$ 0.073855	\$0.065964	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Public Fire	\$/HCF	\$ 0.033248	\$ 0.035138	\$0.031384	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$/HCF	\$ 3.624836	\$ 3.830941	\$3.421596	\$ 1.454696	\$ 1.607620	\$ -	\$ 1.804260	\$ -	\$ 1.446984	\$ 1.696440	\$ 1.856385	\$ 1.988309	\$ 1.689076
Rounded	\$/HCF	\$ 3.625000	\$ 3.831000	\$3.422000	\$ 1.454696	\$ 1.607621	\$ -	\$ 1.804260	\$ -	\$ 1.446985	\$ 1.696440	\$ 1.856386	\$ 1.988310	\$ 1.689076
Revenues		\$30,436,138	\$15,483,619	\$ 640,551	\$ 2,174,545	\$ 2,930,328	\$ -	\$ 760,534	\$ -	\$ 3,946,141	\$ 1,761,293	\$ 726,961	\$ 6,892,764	\$ 19,192,565
COS		\$30,434,764	\$15,483,381	\$ 640,475	\$ 2,174,545	\$ 2,930,327	\$ -	\$ 760,534	\$ -	\$ 3,946,140	\$ 1,761,292	\$ 726,961	\$ 6,892,761	\$ 19,192,560
Variance due to Rounding		\$ 1,374	\$ 238	\$ 76	\$ 0	\$ 1	\$ -	\$ 0	\$ -	\$ 2	\$ 0	\$ 0	\$ 2	\$ 6

**Schedule HJS-22: Proposed Rates**

**AMENDED BY MICHAEL R. MAKER, SURREBUTTAL**

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Rebuttal Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Description	Existing Rates			Proposed FY 2021				Proposed FY 2022			Proposed FY 2023		
	Units	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	
<b>Service Charges</b>													
5/8"	57,812	\$ 7.56	\$ 5,244,705	32.01%	\$ 9.98	\$ 6,923,565	5.67%	\$ 10.55	\$ 7,316,382	5.49%	\$ 11.13	\$ 7,718,116	
3/4"	11,326	\$ 8.05	\$ 1,094,092	32.05%	\$ 10.63	\$ 1,444,745	5.67%	\$ 11.23	\$ 1,526,714	5.49%	\$ 11.85	\$ 1,610,544	
1"	5,335	\$ 9.50	\$ 608,190	32.00%	\$ 12.54	\$ 802,811	5.67%	\$ 13.25	\$ 848,359	5.49%	\$ 13.98	\$ 894,942	
1.5"	1,547	\$ 11.43	\$ 212,187	32.02%	\$ 15.09	\$ 280,131	5.67%	\$ 15.95	\$ 296,024	5.49%	\$ 16.82	\$ 312,279	
2"	1,357	\$ 16.76	\$ 272,920	32.04%	\$ 22.13	\$ 360,365	5.67%	\$ 23.39	\$ 380,811	5.49%	\$ 24.67	\$ 401,721	
3"	73	\$ 56.01	\$ 49,065	32.01%	\$ 73.94	\$ 64,771	5.67%	\$ 78.14	\$ 68,446	5.49%	\$ 82.43	\$ 72,205	
4"	35	\$ 70.55	\$ 29,631	32.01%	\$ 93.13	\$ 39,115	5.67%	\$ 98.41	\$ 41,334	5.49%	\$ 103.82	\$ 43,603	
6"	57	\$ 104.47	\$ 71,457	32.01%	\$ 137.91	\$ 94,330	5.67%	\$ 145.73	\$ 99,682	5.49%	\$ 153.74	\$ 105,156	
8"	42	\$ 143.23	\$ 72,188	32.00%	\$ 189.07	\$ 95,291	5.67%	\$ 199.80	\$ 100,698	5.49%	\$ 210.77	\$ 106,227	
10"	4	\$ 178.36	\$ 8,561	32.00%	\$ 235.44	\$ 11,301	5.67%	\$ 248.80	\$ 11,942	5.49%	\$ 262.46	\$ 12,598	
12"	-	\$ 213.49	\$ -	32.00%	\$ 281.81	\$ -	5.67%	\$ 297.80	\$ -	5.49%	\$ 314.15	\$ -	
Total Service Charge	77,588		\$ 7,662,995	32.02%		\$ 10,116,425	5.67%		\$ 10,690,393	5.49%		\$ 11,277,389	
						\$ -							
<b>Retail Fire Protection Service Charges (Providence Only)</b>													
5/8"	25,954	\$ 1.38	\$ 429,798	32.61%	\$ 1.83	\$ 569,950	5.67%	\$ 1.93	\$ 602,287	5.49%	\$ 2.04	\$ 635,357	
3/4"	4,580	\$ 2.07	\$ 113,767	32.37%	\$ 2.74	\$ 150,590	5.67%	\$ 2.90	\$ 159,134	5.49%	\$ 3.05	\$ 167,872	
1"	2,091	\$ 5.15	\$ 129,224	32.04%	\$ 6.80	\$ 170,626	5.67%	\$ 7.19	\$ 180,306	5.49%	\$ 7.58	\$ 190,207	
1.5"	902	\$ 13.74	\$ 148,722	32.02%	\$ 18.14	\$ 196,347	5.67%	\$ 19.17	\$ 207,487	5.49%	\$ 20.22	\$ 218,880	
2"	792	\$ 32.96	\$ 313,252	32.01%	\$ 43.51	\$ 413,519	5.67%	\$ 45.98	\$ 436,981	5.49%	\$ 48.50	\$ 460,975	
3"	55	\$ 89.26	\$ 58,912	32.01%	\$ 117.83	\$ 77,768	5.67%	\$ 124.52	\$ 82,180	5.49%	\$ 131.35	\$ 86,692	
4"	20	\$ 151.05	\$ 36,252	32.00%	\$ 199.39	\$ 47,854	5.67%	\$ 210.70	\$ 50,569	5.49%	\$ 222.27	\$ 53,345	
6"	28	\$ 308.97	\$ 103,814	32.00%	\$ 407.85	\$ 137,038	5.67%	\$ 430.99	\$ 144,813	5.49%	\$ 454.65	\$ 152,764	
8"	15	\$ 466.89	\$ 84,040	32.00%	\$ 616.30	\$ 110,934	5.67%	\$ 651.27	\$ 117,228	5.49%	\$ 687.03	\$ 123,665	
10"	2	\$ 714.07	\$ 17,138	32.00%	\$ 942.58	\$ 22,622	5.67%	\$ 996.06	\$ 23,905	5.49%	\$ 1,050.75	\$ 25,218	
12"	-	\$ 1,180.95	\$ -	32.00%	\$ 1,558.85	\$ -	5.67%	\$ 1,647.29	\$ -	5.49%	\$ 1,737.74	\$ -	
Total Retail FPSC (Providence Only)	34,439		\$ 1,434,918	32.22%		\$ 1,897,247	5.67%		\$ 2,004,890	5.49%		\$ 2,114,976	
Total Retail Service Charge Revenue			\$ 9,097,913	32.05%		\$ 12,013,672	5.67%		\$ 12,695,282	5.49%		\$ 13,392,365	
<b>Retail Consumption Charges</b>													
Residential	8,396,176	\$ 3.403	\$ 28,572,187	6.52%	\$ 3.625	\$ 30,436,138	5.67%	\$ 3.831	\$ 32,162,969	5.49%	\$ 4.041	\$ 33,928,998	
Commercial	4,041,665	\$ 3.223	\$ 13,026,286	18.86%	\$ 3.831	\$ 15,483,619	5.67%	\$ 4.048	\$ 16,362,100	5.49%	\$ 4.271	\$ 17,260,523	
Industrial	187,186	\$ 3.169	\$ 593,192	7.98%	\$ 3.422	\$ 640,551	5.67%	\$ 3.616	\$ 676,893	5.49%	\$ 3.815	\$ 714,060	
Total Retail Consumption Charge	12,625,027		\$ 42,191,666	10.35%		\$ 46,560,307	5.67%		\$ 49,201,962	5.49%		\$ 51,903,582	
East Smithfield Debt Surcharge	235,576	\$ 0.35	\$ 82,451	0.00%	\$ 0.350	\$ 82,451	0.00%	\$ 0.350	\$ 82,451	0.00%	\$ 0.350	\$ 82,451	
Total Retail Volume Charge Revenue			\$ 42,274,117	10.33%		\$ 46,642,759	5.66%		\$ 49,284,414	5.48%		\$ 51,986,033	
<b>Total Retail Revenue</b>			<b>\$ 51,372,030</b>	<b>14.18%</b>		<b>\$ 58,656,431</b>	<b>5.67%</b>		<b>\$ 61,979,696</b>	<b>5.48%</b>		<b>\$ 65,378,398</b>	

**Schedule HJS-22: Proposed Rates**

**AMENDED BY MICHAEL R. MAKER, SURREBUTTAL**

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Rebuttal Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Description	Existing Rates			Proposed FY 2021				Proposed FY 2022				Proposed FY 2023	
	Units	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	
<b>Wholesale Charges</b>													
Bristol County	1,494,845	\$ 1.350858	\$ 2,019,323	7.69%	\$ 1.454696	\$ 2,174,545	4.19%	\$ 1.515639	\$ 2,265,646	4.15%	\$ 1.578486	\$ 2,359,591	
East Providence	1,822,773	\$ 1.350858	\$ 2,462,307	19.01%	\$ 1.607621	\$ 2,930,328	4.19%	\$ 1.674971	\$ 3,053,091	4.15%	\$ 1.744424	\$ 3,179,688	
Greenville	421,521	\$ 1.350858	\$ 569,415	33.56%	\$ 1.804260	\$ 760,534	4.19%	\$ 1.879848	\$ 792,396	4.15%	\$ 1.957796	\$ 825,253	
Kent County	2,727,147	\$ 1.350858	\$ 3,683,989	7.12%	\$ 1.446985	\$ 3,946,141	4.19%	\$ 1.507605	\$ 4,111,462	4.15%	\$ 1.570118	\$ 4,281,944	
Lincoln	1,038,229	\$ 1.350858	\$ 1,402,499	25.58%	\$ 1.696440	\$ 1,761,293	4.19%	\$ 1.767511	\$ 1,835,080	4.15%	\$ 1.840801	\$ 1,911,172	
Smithfield	391,600	\$ 1.350858	\$ 528,996	37.42%	\$ 1.856386	\$ 726,961	4.19%	\$ 1.934158	\$ 757,417	4.15%	\$ 2.014358	\$ 788,823	
Warwick	3,466,644	\$ 1.350858	\$ 4,682,944	47.19%	\$ 1.988310	\$ 6,892,764	4.19%	\$ 2.071609	\$ 7,181,530	4.15%	\$ 2.157508	\$ 7,479,314	
<b>Total Wholesale Revenue</b>	<b>11,362,760</b>		<b>15,349,475</b>	<b>25.04%</b>	<b>\$ 1.689076</b>	<b>19,192,565</b>	<b>4.19%</b>	<b>\$ 1.759839</b>	<b>19,996,622</b>	<b>4.15%</b>	<b>\$ 1.832811</b>	<b>20,825,786</b>	

Wholesale (per million gallons) 8,499 \$ 1,805.96 \$ 15,349,475 25.04% \$ 2,258.12 \$ 19,192,565 \$ 2,352.73 \$ 19,996,622 \$ 2,450.28 \$ 20,825,786

Description	Existing Rates			Proposed FY 2021				Proposed FY 2022				Proposed FY 2023	
	Units	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	
<b>Private Fire Service Charges</b>													
3/4"	2	\$ 8.64	\$ 207	32.06%	\$ 11.41	\$ 274	5.67%	\$ 12.06	\$ 289	5.49%	\$ 12.72	\$ 305	
1"	9	\$ 10.21	\$ 1,103	32.03%	\$ 13.48	\$ 1,456	5.67%	\$ 14.24	\$ 1,538	5.49%	\$ 15.03	\$ 1,623	
1-1/2"	2	\$ 12.57	\$ 302	32.06%	\$ 16.60	\$ 398	5.67%	\$ 17.54	\$ 421	5.49%	\$ 18.51	\$ 444	
2"	68	\$ 18.64	\$ 15,210	32.03%	\$ 24.61	\$ 20,082	5.67%	\$ 26.01	\$ 21,221	5.49%	\$ 27.43	\$ 22,386	
4"	391	\$ 79.67	\$ 373,812	32.01%	\$ 105.17	\$ 493,458	5.67%	\$ 111.14	\$ 521,455	5.49%	\$ 117.24	\$ 550,087	
6"	1,245	\$ 129.89	\$ 1,940,557	32.00%	\$ 171.46	\$ 2,561,612	5.67%	\$ 181.19	\$ 2,706,949	5.49%	\$ 191.14	\$ 2,855,584	
8"	256	\$ 196.73	\$ 604,355	32.00%	\$ 259.69	\$ 797,768	5.67%	\$ 274.42	\$ 843,030	5.49%	\$ 289.49	\$ 889,320	
10"	4	\$ 274.06	\$ 13,155	32.00%	\$ 361.76	\$ 17,364	5.67%	\$ 382.28	\$ 18,350	5.49%	\$ 403.28	\$ 19,357	
12"	18	\$ 367.64	\$ 79,410	32.00%	\$ 485.29	\$ 104,823	5.67%	\$ 512.82	\$ 110,770	5.49%	\$ 540.98	\$ 116,852	
16"	-	\$ 611.43	\$ -	24.21%	\$ 759.46	\$ -	5.67%	\$ 802.55	\$ -	5.49%	\$ 846.62	\$ -	
Total		\$ 3,028,110	\$ 3,028,110	32.00%		\$ 3,997,235	5.67%		\$ 4,224,023	5.49%		\$ 4,455,959	

Hydrants (Excluding Providence) 3,318 \$ 454.02 \$ 1,506,438 32.00% \$ 599.31 \$ 1,988,511 5.67% \$ 633.31 \$ 2,101,331 5.49% \$ 668.09 \$ 2,216,713

<b>Total Fire Protection Charge Revenue</b>		<b>\$4,534,548.24</b>			<b>\$5,985,745.26</b>			<b>\$6,325,353.71</b>			<b>\$6,672,671.16</b>
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<b>Total Rate Revenues</b>		<b>\$ 71,256,053</b>			<b>\$ 83,834,741</b>			<b>\$ 88,301,672</b>			<b>\$ 92,876,855</b>
Miscellaneous Revenues		\$ 1,493,163			\$ 1,493,163			\$ 1,493,163			\$ 1,493,163
<b>Total Revenues</b>		<b>\$ 72,749,216</b>	17.29%		<b>\$ 85,327,904</b>	5.24%		<b>\$ 89,794,835</b>	5.10%		<b>\$ 94,370,018</b>
		-			6,120			6,467			6,822



**CERTIFICATION**

I hereby certify that on June 26, 2020, I sent a copy of the within to all parties set forth on the attached Service List by electronic mail and copies to Luly Massaro, Commission Clerk, by electronic mail and hand delivery.

<b>Parties</b>	<b>E-mail</b>	<b>Phone</b>
<b>Providence Water Supply Board (PWSB)</b> Michael McElroy, Esq. McElroy & Donaldson PO Box 6721 Providence, RI 02940-6721	<a href="mailto:Michael@McElroyLawOffice.com">Michael@McElroyLawOffice.com</a> ;	401-351-4100
	<a href="mailto:Leah@McElroyLawOffice.com">Leah@McElroyLawOffice.com</a> ;	
Ricky Caruolo, General Mgr. Providence Water Supply Board 552 Academy Avenue Providence, RI 02908	<a href="mailto:RickyC@provwater.com">RickyC@provwater.com</a> ;	401-521-6300
	<a href="mailto:Greggg@provwater.com">Greggg@provwater.com</a> ;	
	<a href="mailto:Marydw@provwater.com">Marydw@provwater.com</a> ;	
	<a href="mailto:NancyP@provwater.com">NancyP@provwater.com</a> ;	
	<a href="mailto:PeterP@provwater.com">PeterP@provwater.com</a> ;	
	<a href="mailto:STEVEC@provwater.com">STEVEC@provwater.com</a> ;	
Harold Smith Raftelis Financial Consulting, PA 1031 S. Caldwell Street, Suite 100 Charlotte, NC 28203	<a href="mailto:Hsmith@raftelis.com">Hsmith@raftelis.com</a> ;	704-373-1199
<b>Division of Public Utilities (Division)</b> Leo Wold, Esq. Division of Public Utilities and Carriers  John Bell, Chief Accountant	<a href="mailto:Leo.wold@dpuc.ri.gov">Leo.wold@dpuc.ri.gov</a> ;	401-780-2177
	<a href="mailto:john.bell@dpuc.ri.gov">john.bell@dpuc.ri.gov</a> ;	
	<a href="mailto:Pat.smith@dpuc.ri.gov">Pat.smith@dpuc.ri.gov</a> ;	
	<a href="mailto:Hakeem.ottun@dpuc.ri.gov">Hakeem.ottun@dpuc.ri.gov</a> ;	
	<a href="mailto:Robert.Bailey@dpuc.ri.gov">Robert.Bailey@dpuc.ri.gov</a> ;	
	<a href="mailto:MFolcarelli@riag.ri.gov">MFolcarelli@riag.ri.gov</a> ;	
Jerome Mierzwa Exeter Associates, Inc. 10480 Little Patuxent Pkwy, Suite 300 Columbia, MD 21044	<a href="mailto:jmierzwa@exeterassociates.com">jmierzwa@exeterassociates.com</a> ;	410-992-7500
Ralph Smith Larkin & Associates, PLLC 15728 Farmington Road Livonia, Michigan 48154	<a href="mailto:rsmithla@aol.com">rsmithla@aol.com</a> ;	734-522-3420
	<a href="mailto:dawn.bisdorf@gmail.com">dawn.bisdorf@gmail.com</a> ;	
	<a href="mailto:ssdady@gmail.com">ssdady@gmail.com</a> ;	
	<a href="mailto:mcranston29@gmail.com">mcranston29@gmail.com</a> ;	

<b>Kent County Water Authority (KCWA)</b> Mary B. Shekarchi, Esq. 33 College hill Rd., Suite 15-E Warwick, RI 02886	<a href="mailto:marybali@aol.com">marybali@aol.com</a> ;	401-828-5030
David Bebyn, Consultant	<a href="mailto:dbebyn@gmail.com">dbebyn@gmail.com</a> ;	
David L. Simmons, P.E. Executive Director/Chief Engineer Kent County Water Authority	<a href="mailto:dsimmons@kentcountywater.org">dsimmons@kentcountywater.org</a> ;	401-821-9300
<b>Bristol County Water Authority (BCWA)</b> Joseph A. Keough, Jr., Esq. Keough & Sweeney 41 Mendon Ave. Pawtucket, RI 02861	<a href="mailto:ikeoughjr@keoughsweeney.com">ikeoughjr@keoughsweeney.com</a> ;	401-724-3600
Pamela Marchand, General Manager Bristol County Water Authority	<a href="mailto:pmarchand@bcwari.com">pmarchand@bcwari.com</a> ;	
<b>City of East Providence</b> Michael J. Marcello, City Solicitor City of East Providence 145 Taunton Avenue East Providence, RI 02914	<a href="mailto:mmarcello@cityofeastprov.com">mmarcello@cityofeastprov.com</a> ; <a href="mailto:RLefebvre@CityOfEastProv.com">RLefebvre@CityOfEastProv.com</a> ;	401-435-7523
<b>City of Warwick</b> Timothy M. Bliss, Esq. Center Place 50 Park Row West, Suite 101 Providence, RI 02903	<a href="mailto:tbliss@timblisslaw.com">tbliss@timblisslaw.com</a> ;	401-274-2100
<b>File original and nine (9) copies w/:</b> Luly E. Massaro, Commission Clerk Margaret Hogan, Commission Counsel Public Utilities Commission 89 Jefferson Blvd. Warwick, RI 02888	<a href="mailto:Luly.massaro@puc.ri.gov">Luly.massaro@puc.ri.gov</a> ;	401-780-2107
	<a href="mailto:Margaret.Hogan@puc.ri.gov">Margaret.Hogan@puc.ri.gov</a> ;	
	<a href="mailto:Cynthia.wilsonfrias@puc.ri.gov">Cynthia.wilsonfrias@puc.ri.gov</a> ;	
	<a href="mailto:Margaret.hogan@puc.ri.gov">Margaret.hogan@puc.ri.gov</a> ;	
	<a href="mailto:Sharon.colbycamara@puc.ri.gov">Sharon.colbycamara@puc.ri.gov</a> ;	
	<a href="mailto:Alan.nault@puc.ri.gov">Alan.nault@puc.ri.gov</a> ;	
Kathleen Crawley Water Resources Board	<a href="mailto:Kathleen.crawley@wrb.ri.gov">Kathleen.crawley@wrb.ri.gov</a> ;	401-222-6696



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Joseph A. Keough, Jr., Esquire # 4925  
KEOUGH + SWEENEY, LTD.

41 Mendon Avenue

Pawtucket, RI 02861

(401) 724-3600 (phone)

(401) 724-9909 (fax)

[jkeoughjr@keoughsweeney.com](mailto:jkeoughjr@keoughsweeney.com)