

PHILADELPHIA WATER DEPARTMENT  
REBUTTAL STATEMENT NO. 5

BEFORE THE  
PHILADELPHIA WATER, SEWER AND STORM WATER RATE BOARD

In the Matter of the Philadelphia Water Department's Proposed Change in Water, Wastewater and Stormwater Rates and Related Charges	Fiscal Years 2019-2021
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**Rebuttal Testimony**

of

**Black & Veatch Management Consulting, LLC**

on behalf of

**The Philadelphia Water Department**

Topics Addressed:

TAP Cost Recovery

TAP Rider

Dated: May 4, 2018

1                   **REBUTTAL TESTIMONY OF BLACK & VEATCH MANAGEMENT**  
2   **CONSULTING, LLC**

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4   **I.       INTRODUCTION**

5   **Q1.   PLEASE STATE YOUR NAMES AND BUSINESS AFFILIATION.**

6   A1.   Our names are Brian Merritt, Dave Jagt, Prabha Kumar, and Ann Bui. We are  
7       employed by the firm of Black & Veatch Management Consulting LLC (Black  
8       & Veatch), 8400 Ward Parkway, Kansas City, Missouri. On behalf of the City  
9       of Philadelphia Water Department (Water Department), we proffer our  
10      collective rebuttal for Mr. Roger Colton’s testimony.

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12   **Q2.   HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN THIS**  
13      **PROCEEDING?**

14   A2.   Yes. We provided testimony in PWD Statements No. 9A and 9B.

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16   **Q3.   WHAT IS THE PURPOSE OF THE PANEL’S REBUTTAL?**

17   A3.   In this rebuttal, we provide our response to some of the concerns and criticisms  
18       that Mr. Colton has expressed in his direct testimony on behalf of the public  
19       advocate. We specifically address the following two areas of Mr. Colton’s  
20       testimony:

- 21           • TAP Cost Recovery
- 22           • TAP Rider

1 **II. TAP COST RECOVERY AND TAP RIDER**

2 **Q4. DO YOU AGREE WITH MR. COLTON'S OVERALL**  
3 **CHARACTERIZATION OF PWD'S ORIGINALLY PROPOSED TAP**  
4 **COST RECOVERY AND TAP RIDER?**

5 A4. Mr. Colton, in his direct testimony, expresses strong concerns regarding both  
6 PWD's proposed cost recovery mechanism and the TAP Rider and essentially  
7 deems both unreasonable. We disagree with these characterizations. As stated in  
8 PWD's Statement 9A and Statement 9B, PWD's originally proposed cost  
9 recovery mechanism and rate rider framework were designed to include and  
10 reflect the following aspects:

- 11 • Recover through water, sewer, and stormwater rates, from all other non-  
12 TAP ratepayers, the projected reduction in revenues due to TAP  
13 discounts;
- 14 • Include a reconcilable rate rider that adjusts for variance between actual  
15 experience and projected TAP costs, for specific items, and closer to the  
16 time in which PWD incurs them;
- 17 • Establish a rate rider framework that adjusts only the water and sewer  
18 quantity charge component, for reconcilable TAP costs, so that it is  
19 simple to administer; and
- 20 • Be flexible to accommodate available data, allowing for future  
21 refinements to the rider framework;

22 While some of Mr. Colton's suggestions are valid, we disagree with some of his  
23 recommendations. It is also important to note that Mr. Colton only had PWD's  
24 originally proposed cost recovery and TAP rider mechanisms as submitted in the  
25 original filing when he developed his testimony.

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In the questions and responses that follow, we highlight where PWD concurs with Mr. Colton’s suggestions and perspectives and how PWD’s “Alternate TAP Proposal” addresses and/or reasonably aligns with his suggestions. We also highlight areas where PWD strongly disagrees with Mr. Colton’s perspectives and recommendations.

**Q5. HAS PWD REVISED ITS PROPOSAL FOR TAP COST RECOVERY AND THE TAP RIDER TO ADDRESS SOME OF THE PUBLIC ADVOCATE’S CONCERNS? PLEASE EXPLAIN.**

A5. Yes, PWD has now revised its proposal for both the cost recovery mechanism and the reconcilable TAP Rider. During the last few months, PWD engaged in a collaborative process with the Public Advocate regarding the TAP cost recovery and the reconcilable TAP Rider, with the following activities:

- Hosted a meeting with the Public Advocate team, during the pre-discovery phase, to understand their perspectives and ideas; and
- Held a teleconference discussion with the Public Advocate team, after the filing, to understand their specific concerns regarding PWD’s originally proposed cost recovery and reconcilable rider mechanisms.

Taking into consideration the feedback and suggestions received from the Public Advocate during these sessions, PWD has developed an “*Alternative TAP Cost Recovery and TAP Rider Proposal*” (henceforth referred to as “Alternative TAP Proposal”). This Alternative TAP Proposal is attached as [Schedule R5-1](#) to this rebuttal.

1 The salient aspects of the Alternative TAP Proposal are as follows:

- 2 • The TAP costs will only recover the TAP bill discounts provided
- 3 (adjusted for collections) and not include the Low Income Conservation
- 4 Assistance Program (LiCAP) costs;
- 5 • The TAP costs will be recovered via a distinct and reconcilable TAP
- 6 Surcharge (“TAP-R”), that would be defined in terms of dollars per
- 7 thousand cubic feet (\$/MCF);
- 8 • The TAP-R will comprise of two sub-components:
  - 9 ○ A “Water TAP-R” that is added to each declining block rate of
  - 10 the water quantity “base rate” (\$/MCF);
  - 11 ○ A “Sewer TAP-R” that is added to the uniform sewer quantity
  - 12 “base rate” (\$/MCF);
- 13 • The determination of net over or under collection of TAP costs will be
- 14 based on an examination of both the actual TAP costs experienced, and
- 15 the actual TAP rider revenues recovered from non-TAP customers.
- 16 • The formula for determining the TAP-R is as follows:

$$TAP-R = \frac{(C) - (E + I)}{S}$$

Component	Draft Definition
TAP-R	TAP Rider Rate (\$ per MCF).
C	Cost in dollars of the estimated TAP <u>Billing Loss</u> for the <u>projected period</u> (i.e. discounts provided to TAP customers).
E	The net over or under collection of the TAP-R for the <u>most recent period</u> . The E factor reconciles actual experienced TAP Revenue Loss (resulting from discounts provided to TAP Customers) with the TAP-R revenues from Non-TAP customers.
I	Interest on any over or under recovery of the TAP-R for the most recent period. Interest is computed on an annual basis at a 0.36% <u>simple annual interest rate</u> based on the net over or (under) collection (i.e. E-Factor) for the most recent period.
S	<u>Projected sales</u> in MCF for <i>Non-TAP</i> customers.

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For additional details on the calculation for each of the above-referenced components and an illustration of the calculations, please see the “Alternative TAP Proposal” attached as [Schedule R5-1](#), to this rebuttal.

**Q6. IN VIEW OF PWD’S REVISED APPROACH TO TAP COST RECOVERY AND THE TAP RIDER, WHAT DISAGREEMENTS STILL REMAIN WITH RESPECT TO MR. COLTON’S TESTIMONY? PLEASE EXPLAIN.**

A6. Taking into account PWD’s alternate proposed approach to TAP cost recovery and TAP rider, as presented in [Schedule R5-1](#), we believe disagreements exist concerning the following:

- i. Application of Low Income Embedded Lost Revenue Adjustment percentage to determine reconcilable TAP costs;
- ii. The inclusion of Arrearage Forgiveness;
- iii. The basis to use in apportioning TAP costs between Water and Sewer utilities;
- iv. Annualizing 9 to 10 months of actual TAP costs and actual TAP-R revenues of the current rate period to determine the reconcilable TAP Rider rate for the following rate period;
- v. Ability to implement emergency adjustments to the TAP Rider; and
- vi. Rate Board approval process of the TAP Rider.

We explain each item identified above in the following responses.

1 **Q7. WHAT ARE THE KEY PROBLEMS THAT PWD FINDS WITH MR.**  
2 **COLTON’S (1) APPLICATION OF A LOW-INCOME**  
3 **UNCOLLECTIBLE RATE; (2) DETERMINATION OF THE**  
4 **UNCOLLECTIBLE RATE PERCENTAGE; AND (3) ATTRIBUTION OF**  
5 **DATA TO LOW-INCOME ACCOUNTS.**

6 A7. Mr. Colton first argues that participation of customers in TAP “does not create  
7 “new” costs,” and further argues that a “low-income uncollectible rate” must be  
8 applied to the “lost billings” to determine actual TAP costs. PWD strongly  
9 disagrees with both of these positions for the following reasons:

- 10 • The bill discount provided to TAP customers (and therefore can never be  
11 collected from that group) is a “new cost burden” imposed on other  
12 ratepayers (the Non-TAP customers). The “lost billings” from TAP  
13 customers have to be billed to Non-TAP customers, for PWD to meet its  
14 revenue requirements.
- 15 • Further, as PWD does not have any low-income uncollectible rate data,  
16 Mr. Colton proceeds to determine an arbitrary low-income uncollectible  
17 rate of 13.1%, using data from two other utilities – PECO, an investor-  
18 owned electric utility and PGW, a gas utility. These two utilities bear no  
19 relationship to the nature of services PWD provides. It is very important  
20 to note that PWD is a municipal utility that provides three integrated  
21 services, namely water, sanitary sewer, and stormwater. Therefore, it is  
22 totally inappropriate to use data from other entities that provide services  
23 of a completely different nature, and with one of those entities not even  
24 being a municipal utility.

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- Mr. Colton also makes a critical “false assertion” pertaining to PWD’s low-income customers:
  - PWD and WRB specifically targeted the most vulnerable low-income customers, during the launch of the TAP program. Consequently, most of the initial enrollees have arrearage and a high average arrearage per account. This current set of TAP enrollees is a very small subset of Philadelphia’s overall low-income customer accounts and hence is not fully representative of the entire low-income customer base. Regardless of these facts, Mr. Colton falsely attributes the information from this “unrepresentative” set of initial TAP enrollees to Philadelphia’s entire low-income customer base, in his testimony (*Colton Testimony, Page 63*).
  
- Finally, Mr. Colton’s use of an *arbitrary* low-income uncollectible rate of 13.1% is inconsistent with the approach PWD uses in projecting revenue receipts. In this rate proceeding and all prior rate proceedings, PWD has always projected water, sewer, and stormwater revenue receipts based on customer payment patterns and not based on income level distinctions among its customer base. Based on actual historical collection trends, PWD has determined a cumulative system-wide collection rate of 97.3% and has appropriately used this cumulative collection factor in its revenue projections, in this rate proceeding. A cumulative collection factor of this magnitude also provides clear logical evidence that not all low-income customers renege in the payment of their utility bills.



1 For all of the reasons stated above, while we agree that the TAP billing discount  
2 must be adjusted to reflect collections, we strongly disagree with Mr. Colton's  
3 recommendation of using a 13.1% low-income uncollectible rate. Instead, we  
4 emphasize that PWD's system-wide cumulative collection rate of 97.3% is the  
5 most appropriate collection rate to use in the determination of reconcilable TAP  
6 costs, as it is based upon known data applicable to PWD.

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8 **Q8. MR. COLTON, USING PWD'S FY 2014 DATA, OPINES IN HIS**  
9 **TESTIMONY THAT THE CUMULATIVE COLLECTABILITY OF**  
10 **BILLINGS IS 94.84%. IS THIS CONSISTENT WITH THE**  
11 **CUMULATIVE COLLECTION FACTOR THAT PWD HAS USED TO**  
12 **PROJECT REVENUES IN ITS RATE MODEL?**

13 A8. No, the 94.84% collection rate that Mr. Colton refers to is not consistent with  
14 the 97.3% that PWD has determined and used in its revenue projections. PWD  
15 does not base its cumulative collection rate on a single fiscal year's billings.  
16 Instead, PWD determines the cumulative collection rate based on an average of  
17 multi-year billings and associated historical collection trends. Such an approach  
18 provides a more representative collection rate to project revenues.

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20 **Q9. DO YOU AGREE WITH MR. COLTON'S INCLUSION OF THE**  
21 **RECONCILABLE ARREARAGE FORGIVENESS IN HIS TAP RIDER**  
22 **PROPOSAL?**

23 A9. No, PWD disagrees with the inclusion of any reconcilable arrearage forgiveness  
24 in the determination of the reconcilable TAP surcharge rate at the current time,  
25 especially when the TAP is in its infancy and is still evolving. However, PWD

1 would be willing to consider potential inclusion of some form of arrearage  
2 forgiveness in the future, subject to potential changes to City policies on  
3 arrearage forgiveness.

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5 **Q10. MR. COLTON PROPOSES THAT TAP COSTS MUST BE**  
6 **APPORTIONED BETWEEN WATER AND SEWER SERVICES BASED**  
7 **ON THE RELATIVE CONTRIBUTION OF EACH SERVICE TO**  
8 **TOTAL SYSTEM REVENUES. DO YOU AGREE?**

9 A10. No, PWD strongly disagrees. As mentioned in response to Question 6 above, the  
10 TAP bill discount is a “cost” to other non-TAP customers, and hence from that  
11 perspective, is a revenue requirement. Therefore, it is appropriate and reasonable  
12 to apportion the TAP costs between water and sewer services by the proportion  
13 of water and sewer revenue requirements to total revenue requirements.

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15 In addition, PWD revenues reflect payments (for a given year of billings)  
16 received over multiple years. Therefore, using revenue requirements as the basis  
17 for apportioning costs better aligns with the timing of when TAP costs are  
18 incurred. For consistency and certainty, PWD in its Alternative TAP Proposal,  
19 recommends using the FY 2019 Water and Sewer revenue requirement  
20 distribution percentages to apportion the FY 2019, FY 2020, and FY 2021 TAP  
21 costs between water and sewer services.

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23 **Q11. MR. COLTON STATES THAT ANNUALIZING 9 TO 10 MONTHS OF**  
24 **ACTUAL TAP COSTS AND ACTUAL TAP REVENUES OF THE TRUE-**  
25 **UP PERIOD TO DETERMINE THE RECONCILABLE TAP RIDER**

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**WILL RESULT IN A RIDER THAT IS “JUST PLAIN WRONG.” DO YOU AGREE?**

A11. PWD strongly disagrees with Mr. Colton’s characterization, that annualizing 9 to 10 months of actual TAP costs and actual TAP revenues will result in an erroneous TAP rider, for the following reasons:

- PWD needs to complete the annual TAP reconciliation process and file the TAP Rider for the following rate period in a timely manner so that PWD can submit the filing to the Rate Board 60 days prior to the effective date;
- PWD’s timely completion of the reconciliation and filing will afford the Rate Board adequate time to review and approve the TAP Rider so that the TAP Rider can go in to effect on September 1<sup>st</sup> for the FY 2020 and FY 2021 rate periods.

Given the criticality of this timing, and the primary objective of completing the reconciliation of the TAP costs and TAP revenues closer to the time they are incurred, it is totally appropriate and prudent to annualize 9 to 10 months of actual TAP costs and actual TAP revenues, to determine the TAP Rider for the following rate period.

**Q12. DO YOU AGREE WITH MR. COLTON’S STATEMENT THAT “PWD IRRATIONALLY PROPOSES” TO ADJUST FOR EMERGENCIES?**

A12. No, PWD disagrees with Mr. Colton’s characterization that PWD “irrationally proposes” to seek an emergency adjustment if PWD deems it necessary. It is plausible that PWD could experience a scenario where multiple factors

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including unforeseen increases in expenditures, a significant reduction in revenues, and significant increases in TAP costs all occur concurrently and consequently pose financial risks. In such a scenario, it is only prudent that PWD has the flexibility to seek, from the Rate Board, a TAP Rider emergency adjustment to at least perform TAP cost reconciliation and mitigate just that portion of the financial risk. While PWD has to manage the financial risks of other non-TAP cost-related factors through other mechanisms, it is only appropriate that PWD retain the ability to seek an interim TAP emergency adjustment, to address the TAP cost issue, should the financial situation warrant such an adjustment.

**Q13. IN SCHEDULE RDC-3, MR. COLTON STATES THAT THE ANNUAL TAP RIDER FILING, AND ANNUAL RECONCILIATION STATEMENT BE SUBJECT TO PUBLIC REVIEW, AND ANY COMPLAINT BE ADDRESSED VIA A FORMAL HEARING PROCESS INCLUDING PUBLIC ADVOCATE PARTICIPATION. DO YOU AGREE?**

A13. PWD disagrees. While it is reasonable that the TAP Rider filing and annual reconciliation statement be available for public review, PWD disagrees that any complaint to the Rate Board should require a “formal hearing process” and require public advocate participation. To assure that the TAP Rider reconciliation occurs in a timely manner, PWD believes that the Rate Board should be able to review and opine on issues without a “formal hearing” process.

1 **Q14. DOES THIS COMPLETE YOUR REBUTTAL TESTIMONY IN THIS**  
2 **MATTER?**

3 A14. Yes, it does.  
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<b>To: Philadelphia Water Department (PWD)</b>	<b>From: Black &amp; Veatch Management Consulting, LLC</b>
Task Name: Cost of Service Study	
Document: Alternate TAP Cost Recovery and TAP Rider	Date: May 04, 2018

## ALTERNATE TAP COST RECOVERY AND TAP RIDER APPROACH

This white paper provides the details of PWD’s alternate proposal for the Tiered Assistance Program (TAP) cost recovery and the associated reconcilable TAP rider.

## DEFINITIONS

- **Actual Bill** – Refers to the total water, sewer, and stormwater bill amount determined for a PWD customer, before the application of any TAP related discounts.
- **Adopted Rates** – Refers to the approved and adopted water, sewer, and stormwater rates, pursuant to the FY 2019 through FY 2021 rate proceeding.
- **Projected Period** – The next rate period to which the calculated TAP Rate Rider would apply.
- **Most Recent Period** – This refers to the prior period. PWD will compare actual costs to the amounts recovered via the TAP Rate Rider.
  - The first “Most Recent Period” will be FY 2019 per BV/PWD proposal.
- **TAP** – PWD’s Tiered Assistance Program.
- **TAP-R**– Refers to the distinct TAP Surcharge Rate in dollars per thousand cubic feet (\$/MCF)

The alternate proposal involves the following key assumptions:

### Assumptions:

1. The recovery of TAP costs is via a distinct TAP Surcharge (“**TAP-R**”), that would be defined in terms of \$/MCF;
2. TAP-R consists of two sub-components:
  - A “Water TAP-R” added to each declining block rate of the water quantity “base rate” (\$/MCF);
  - A “Sewer TAP-R” added to the sewer quantity “base rate” (\$/MCF);
3. The formula for determining the TAP-R is as presented in the following section.



## TAP Rider Equation

$$TAP-R = \frac{(C) - (E + I)}{S}$$

Component	Draft Definition
TAP-R	TAP Rider Rate (\$ per MCF).
C	Cost in dollars of the estimated TAP <u>Billing Loss</u> for the <u>projected period</u> (i.e. discounts provided to TAP customers).
E	The net over or under collection of the TAP-R for the <u>most recent period</u> . The E factor reconciles actual experienced TAP Revenue Loss (resulting from discounts provided to TAP Customers) with the TAP-R revenues from Non-TAP customers.
I	Interest on any over or under recovery of the TAP-R for the most recent period. Interest is computed on an annual basis at a 0.36% <u>simple annual interest rate</u> based on the net over or (under) collection (i.e. E-Factor) for the most recent period.
S	<u>Projected</u> sales in MCF for <i>Non-TAP</i> customers.

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### Calculation Notes:

1. TAP-R be applied to “ALL” customers (both TAP and Non-TAP customers) for billing purposes.
2. C-Factor: Reconcilable TAP Costs (\$) for the Projected Period
  - For FY 2019, the current TAP Lost Revenue (Billing Loss) estimate is \$9.8 million.
  - This figure will not be adjusted for collections because the TAP Billing Loss is a cost to the utility.
  - TAP Billing Loss is amount that cannot be attributed to TAP customers and which must be billed to and recovered from other customers.
3. E-Factor: Net over or under collection of the TAP-R for the most recent period
  - For FY 2019 calculation, this amount is zero.
  - For the FY 2020 calculation, the E-Factor amount will be determined based on the following multi-step process:
    - Step 1: Determine the Actual TAP Customers Billing Loss (i.e. discount provided), for FY 2019, as follows:
      - Due to billing system constraints, the TAP customers will also be billed the TAP surcharge when monthly bills are issued.
      - However, to determine the Actual TAP Billing Loss due to billing discounts, the surcharge portion of the amount billed to TAP customers will be separately determined and subtracted from the total FY 2019 TAP bill discount amount. The surcharge portion will be calculated based upon the actual TAP billed usage and the approved FY 2019 TAP-R rate.
    - Step 2: Determine the Actual TAP Customers Revenue Loss by applying PWD’s FY 2019 system-wide collection factor of 97.3% to the Actual TAP Billing Loss amount determined in Step 1.
    - Step 3: Determine the Actual Non-TAP customers TAP-R Billings based on the sales volumes of Non-TAP customers and the approved FY 2019 TAP-R rate.
    - Step 4: Determine the Actual Non-TAP Customers TAP-R revenue by applying PWD’s FY 2019 system-wide collection factor of 97.3% to the Actual Non-TAP TAP-R billings determined in Step 3.
    - Step 5: Determine the net over/under recovery of TAP-R amount as the difference between FY 2019 TAP-R revenues recovered from Non-TAP customers (Step 4) and actual TAP revenue loss from TAP customers (Step 2).
4. I-Factor: The annual interest on the net over/under collection will be computed for the most recent reconciliation period based on a simple annual interest rate.
  - For FY 2019 calculation, this amount is zero.
  - For FY 2020 and FY 2021, the interest amount will be calculated by applying a 0.36% interest rate to the amount of over/(under) collection (i.e. the E-Factor). The 0.36% interest rate aligns with the assumptions utilized in the FY 2019 through FY 2024 financial plan, and reflects PWD’s recent historical interest income experience.
5. S-Factor: This will reflect the projected sales volume (MCF) of the Non-TAP customers. The projected Non-TAP sales volume will be determined as follows:





- The Non-TAP projected usage is determined by deducting the projected usage of TAP customers from the total projected usage of the fiscal year for which the TAP-R is being defined.
- For FY 2019, the usage of TAP customers uses the projected TAP enrollees and the typical residential monthly usage of 5 MCF.
- For FY 2020 and FY 2021, the usage of TAP customers is projected by applying the actual average usage per TAP customer (from the previous year) to the projected number of TAP enrollees for each of those two years.

## Example Calculations

### Example 1 – FY 2019 TAP-R Calculation

**Table 1 - Calculation of TAP Rider Adjustment Effective September 1, 2018 (FY 2019)**

		TOTAL		
		Amount	Water Amount	Wastewater Amount
(1)	C = Projected Recoverable TAP Costs <sup>a</sup>	\$ 9,800,000	\$ 4,054,852	\$ 5,745,148
(2)	E = Experienced & Estimated Net Over/Under Recovery <sup>b</sup>	\$ -	\$ -	\$ -
(3)	I = Interest on Experienced & Estimated Net Over/Under Recovery <sup>c</sup>	\$ -	\$ -	\$ -
(4)	Net Recoverable (C) - (E + I) <sup>d</sup>	\$ 9,800,000	\$ 4,054,851.94	\$ 5,745,148.06
(5)	S = Projected Non-TAP Sales for Computation Period (MCF) <sup>e</sup>		6,036,638	6,133,068
(6)	<b>TAP Rate Rider Charge<sup>f</sup>: (5)/(6)</b>		\$ 0.672 /MCF	\$ 0.937 /MCF

Notes: <sup>a</sup>Recoverable TAP Costs for the next period / fiscal year.

<sup>b</sup>Actual TAP Discounts versus TAP Revenue Recovery for the previous period / prior fiscal year.

<sup>c</sup>Simple Annual Interest on Net Over/Under Recovery

<sup>d</sup>Net Recoverable Costs

<sup>e</sup>Estimated water and sewer sales for Non-Tap Customers for the next period.

<sup>f</sup>TAP Rider Charge

**Table 2 - EXAMPLE Application of TAP Rate Rider Adjustment Effective September 1, 2018 (FY 2019)**

Rates		Proposed <sup>1</sup>	TAP Rate Rider Charge	Total
		FY 2019	FY 2019	
Water Quantity Charges		(\$/Mcf)	(\$/Mcf)	
1	0 to 2 Mcf	\$ 43.93	\$ 0.672	\$ 44.60
2	2.1 to 100 Mcf	\$ 37.78	\$ 0.672	\$ 38.45
3	100.1 to 2,000 Mcf	\$ 29.28	\$ 0.672	\$ 29.95
4	2,000 + Mcf	\$ 28.48	\$ 0.672	\$ 29.15
Sewer Quantity Charges		(\$/Mcf)	(\$/Mcf)	
5	Sewer Volume Rate	\$ 33.81	\$ 0.937	\$ 34.75

**TO BE UPDATED**

Notes:

<sup>1</sup>The Proposed Rates presented above reflect the initial FY 2019 to FY 2021 Rate Filing.

The quantity charges will need to be updated to reflect the alternative TAP Rate Rider Approach, if adopted.

Table 3 - EXAMPLE Calculation of TAP Rate Rider Adjustment Effective September 1, 2018 (FY 2019)

		A	B	C
<b>TAP RATE RIDER CHARGE CALCULATION</b>			<b>WATER</b>	<b>WASTEWATER</b>
<b>Allocation Between Water and Wastewater</b>			<b>41.4%</b>	<b>58.6%</b>
<b>Projected TAP Revenue Loss for Next Period (C-Factor)</b>				
1	Project Tap Revenue Loss <sup>1</sup>	\$ 9,800,000	\$ 4,054,852	\$ 5,745,148
<b>Experienced Over/Under Collection from Prior Period (E-Factor)</b>				
2	Actual TAP Discount <sup>2</sup> <i>Experienced</i>	\$ -	\$ -	\$ -
3	Collection Factor Adjustment		97.3%	97.3%
4	Adjusted TAP Discount <i>Line 3 X Line 4</i>		\$ -	\$ -
5	TAP Rate Rider Charge from Prior Period (\$/Mcf)		\$ -	\$ -
6	<u>Non-TAP</u> Sales Volume (Mcf) <i>Experienced</i>		-	-
7	TAP Rate Rider Billings <i>Experienced</i>		\$ -	\$ -
8	Collection Factor Adjustment		97.3%	97.3%
9	Estimated TAP Rate Rider Revenues		\$ -	\$ -
<b>10</b>	<b>Net Over/Under Collection</b> <i>Line 9 - Line 4</i>		\$ -	\$ -
<b>Interest on Experienced Over/Under Collection (I-Factor)</b>				
11	Interest Rate		0.36%	0.36%
12	Interest on Net Over/Under Collection <i>Line 10 x Line 11</i>		\$ -	\$ -
<b>Net Recoverable Amount</b>				
13	Net Recoverable (C) - (E + I) <i>(Line 1) - (Line 10 + Line 12)</i>		\$ 4,054,852	\$ 5,745,148
<b>Projected Non-TAP Sales for Next Period (S)</b>				
14	S = Projected <u>Non-TAP</u> Sales (MCF)		6,036,638	6,133,068
<b>TAP Rate Rider Charge</b>				
15	TAP Rate Rider Charge (\$/Mcf) <i>Line 13 / Line 14</i>		\$ 0.672	\$ 0.937

**Notes:**

TAP Costs are allocated to water and wastewater based on the proportion of FY 2019 revenue requirements.

<sup>1</sup> Assumed TAP Revenue Loss Costs for the next period as included in the Financial Plan and Cost of Service Analysis.

<sup>2</sup> Actual experience will be based upon actual discounts provided to TAP customers during the prior period. Note - this will not include the surcharge costs charged to TAP Customers.

## Example 2 – FY 2020 TAP-R Calculation – 10% Increase in TAP Lost Revenue

**Table 1 - Calculation of TAP Rider Adjustment Effective September 1, 2019 (FY 2020)**

		TOTAL	Water	Wastewater
		Amount	Amount	Amount
(1)	C = Projected Recoverable TAP Costs <sup>a</sup>	\$ 13,700,000	\$ 5,668,518	\$ 8,031,482
(2)	E = Experienced & Estimated Net Over/Under Recovery <sup>b</sup>	\$ (949,933.49)	\$ (392,656.53)	\$ (557,276.96)
(3)	I = Interest on Experienced & Estimated Net Over/Under Recovery <sup>c</sup>	\$ (3,419.76)	\$ (1,413.56)	\$ (2,006.20)
(4)	Net Recoverable (C) - (E + I) <sup>d</sup>	\$ 14,653,353.25	\$ 6,062,588	\$ 8,590,766
(5)	S = Projected Non-TAP Sales for Computation Period (MCF) <sup>e</sup>		5,944,644	6,041,075
(6)	<b>TAP Rate Rider Charge<sup>f</sup>: (5)/(6)</b>		\$ 1.020 /MCF	\$ 1.422 /MCF

Notes: <sup>a</sup>Recoverable TAP Costs for the next period / fiscal year.

<sup>b</sup>Actual TAP Discounts versus TAP Revenue Recovery for the previous period / prior fiscal year.

<sup>c</sup>Simple Annual Interest on Net Over/Under Recovery

<sup>d</sup>Net Recoverable Costs

<sup>e</sup>Estimated water and sewer sales for Non-Tap Customers for the next period.

<sup>f</sup>TAP Rider Charge

**Table 2 - EXAMPLE Application of TAP Rate Rider Adjustment Effective September 1, 2019 (FY 2020)**

Rates		Proposed <sup>1</sup>	TAP Rate Rider Charge	Total
		FY 2020	FY 2020	
<b>Water Quantity Charges</b>		(\$/Mcf)	(\$/Mcf)	
1	0 to 2 Mcf	\$ 45.15	\$ 1.020	\$ 46.17
2	2.1 to 100 Mcf	\$ 38.92	\$ 1.020	\$ 39.94
3	100.1 to 2,000 Mcf	\$ 30.16	\$ 1.020	\$ 31.18
4	2,000 + Mcf	\$ 29.34	\$ 1.020	\$ 30.36
<b>Sewer Quantity Charges</b>		(\$/Mcf)	(\$/Mcf)	
5	Sewer Volume Rate	\$ 33.81	\$ 1.422	\$ 35.23

**TO BE UPDATED**

Notes:

<sup>1</sup>The Proposed Rates presented above reflect the initial FY 2019 to FY 2021 Rate Filing.

The quantity charges will need to updated to reflect the alternative TAP Rate Rider Approach, if adopted.

Table 3 - EXAMPLE Calculation of TAP Rate Rider Adjustment Effective September 1, 2019 (FY 2020) - 10% Increase in TAP Loss Experience

		A	B	C
<b>TAP RATE RIDER CHARGE CALCULATION</b>		<b>TOTAL</b>	<b>WATER</b>	<b>WASTEWATER</b>
<b>Allocation Between Water and Wastewater</b>			<b>41.4%</b>	<b>58.6%</b>
<b>Projected TAP Revenue Loss for Next Period (C-Factor)</b>				
1	Project Tap Revenue Loss <sup>1</sup>	\$ 13,700,000	\$ 5,668,518	\$ 8,031,482
<b>Experienced Over/Under Collection from Prior Period (E-Factor)</b>				
2	Actual TAP Discount <sup>2</sup> <i>Experienced</i>	\$ 10,780,000	\$ 4,460,337	\$ 6,319,663
3	<i>Collection Factor Adjustment</i>		97.3%	97.3%
4	Adjusted TAP Discount <i>Line 3 X Line 4</i>		\$ 4,338,124	\$ 6,146,504
5	TAP Rate Rider Charge from Prior Period (\$/Mcf)		\$ 0.672	\$ 0.937
6	<u>Non-TAP</u> Sales Volume (Mcf) <i>Experienced</i>		6,036,638	6,133,068
7	TAP Rate Rider Billings <i>Experienced</i>		\$ 4,056,621	\$ 5,746,685
8	<i>Collection Factor Adjustment</i>		97.3%	97.3%
9	Estimated TAP Rate Rider Revenues		\$ 3,945,469	\$ 5,589,226
10	<b>Net Over/Under Collection</b> <i>Line 9 - Line 4</i>		\$ (392,655)	\$ (557,278)
<b>Interest on Experienced Over/Under Collection (I-Factor)</b>				
11	<i>Interest Rate</i>		0.36%	0.36%
12	Interest on Net Over/Under Collection <i>Line 10 x Line 11</i>		\$ (1,414)	\$ (2,006)
<b>Net Recoverable Amount</b>				
13	Net Recoverable (C) - (E + I) <i>(Line 1) - (Line 10 + Line 12)</i>		\$ 6,062,586	\$ 8,590,767
<b>Projected Non-TAP Sales for Next Period (S)</b>				
14	S = Projected <u>Non-TAP</u> Sales (MCF)		5,944,644	6,041,075
<b>TAP Rate Rider Charge</b>				
15	TAP Rate Rider Charge (\$/Mcf) <i>Line 13 / Line 14</i>		\$ 1.020	\$ 1.422

**Notes:**

TAP Costs are allocated to water and wastewater based on the proportion of FY 2019 revenue requirements.

<sup>1</sup> Assumed TAP Revenue Loss Costs for the next period as included in the Financial Plan and Cost of Service Analysis.

<sup>2</sup> Actual experience will be based upon actual discounts provided to TAP customers during the prior period. Note - this will not include the surcharge costs charged to TAP Customers.