

ERRATA SHEETS FOR PWD 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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**Errata Sheets for**

**PWD Rebuttal Testimony #5**

**of**

**Black & Veatch Management Consulting, LLC**

**on behalf of**

**The Philadelphia Water Department**

Dated: May 12, 2018

ERRATA SHEETS  
TO REBUTTAL TESTIMONY OF BLACK & VEATCH MANAGEMENT CONSULTING,  
LLC  
PWD REBUTTAL TESTIMONY NO. 5

Page 7, Line 21; Page 8, Line 4; Page 8, Line 14; and Schedule R5-1: In all these, replace figure 97.3% with 96.54% to align with the system wide cumulative collection factor reflected in Schedule BV-E5: WP-1, attached to PWD Statement 9A. Please note that the Example Calculations in Schedule R5-1 have also changed consistent with the use of 96.54%.

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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%~~ 96.54% 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%~~ 96.54%  
5 is the most appropriate collection rate to use in the determination of reconcilable  
6 TAP 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%~~ 96.54% that PWD has determined and used in its revenue projections.  
15 PWD does not base its cumulative collection rate on a single fiscal year's  
16 billings. Instead, PWD determines the cumulative collection rate based on an  
17 average of multi-year billings and associated historical collection trends. Such  
18 an approach provides a more representative collection rate to project revenues.  
19

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

<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 <b>Revised: May 12, 2018</b>

## 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 96.54% 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 96.54% 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>		<b>\$ 0.672 /MCF</b>	<b>\$ 0.937 /MCF</b>

- 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 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		96.54%	96.54%
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		96.54%	96.54%
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>	\$ (942,901.28)	\$ (389,749.75)	\$ (553,151.53)
(3)	I = Interest on Experienced & Estimated Net Over/Under Recovery <sup>c</sup>	\$ (3,394.44)	\$ (1,403.10)	\$ (1,991.35)
(4)	Net Recoverable (C) - (E + I) <sup>d</sup>	\$ 14,646,295.73	\$ 6,059,670	\$ 8,586,625
(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>		\$ 1.019 /MCF	\$ 1.421 /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	\$ 1.019	\$ 46.17
2	2.1 to 100 Mcf	\$ 38.92	\$ 1.019	\$ 39.94
3	100.1 to 2,000 Mcf	\$ 30.16	\$ 1.019	\$ 31.18
4	2,000 + Mcf	\$ 29.34	\$ 1.019	\$ 30.36
<b>Sewer Quantity Charges</b>		(\$/Mcf)	(\$/Mcf)	
5	Sewer Volume Rate	\$ 33.81	\$ 1.421	\$ 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
TAP RATE RIDER CHARGE CALCULATION			TOTAL	WATER	WASTEWATER
Allocation Between Water and Wastewater				41.4%	58.6%
Projected TAP Revenue Loss for Next Period (C-Factor)					
1	Project Tap Revenue Loss <sup>1</sup>		\$ 13,700,000	\$ 5,668,518	\$ 8,031,482
Experienced Over/Under Collection from Prior Period (E-Factor)					
2	Actual TAP Discount <sup>2</sup>	Experienced	\$ 10,780,000	\$ 4,460,337	\$ 6,319,663
3	Collection Factor Adjustment			96.54%	96.54%
4	Adjusted TAP Discount	Line 3 X Line 4		\$ 4,306,009	\$ 6,101,003
5	TAP Rate Rider Charge from Prior Period (\$/Mcf)			\$ 0.672	\$ 0.937
6	Non-TAP Sales Volume (Mcf)	Experienced		6,036,638	6,133,068
7	TAP Rate Rider Billings	Experienced		\$ 4,056,621	\$ 5,746,685
8	Collection Factor Adjustment			96.54%	96.54%
9	Estimated TAP Rate Rider Revenues			\$ 3,916,262	\$ 5,547,850
10	Net Over/Under Collection	Line 9 - Line 4		\$ (389,748)	\$ (553,153)
Interest on Experienced Over/Under Collection (I-Factor)					
11	Interest Rate			0.36%	0.36%
12	Interest on Net Over/Under Collection	Line 10 x Line 11		\$ (1,403)	\$ (1,991)
Net Recoverable Amount					
13	Net Recoverable (C) - (E + I)	(Line 1) - (Line 10 + Line 12)		\$ 6,059,669	\$ 8,586,627
Projected Non-TAP Sales for Next Period (S)					
14	S = Projected Non-TAP Sales (MCF)			5,944,644	6,041,075
TAP Rate Rider Charge					
15	TAP Rate Rider Charge (\$/Mcf)	Line 13 / Line 14		\$ 1.019	\$ 1.421

## 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.