

PHILADELPHIA WATER DEPARTMENT  
REBUTTAL STATEMENT NO. 4R

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 2026 - 2027
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**Rebuttal Testimony**

**on behalf of**

**the Philadelphia Water Department**

**to**

**Philadelphia Large Users Group Witness Richard A. Baudino**

Dated: May 15, 2025

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**I. INTRODUCTION AND PURPOSE OF TESTIMONY**

**Q1. PLEASE STATE YOUR NAMES AND POSITIONS.**

A1. Our names are Ann Bui, Dave Jagt, Brian Merritt, and David Sayers. We are employed by the firm of Black & Veatch Management Consulting LLC (Black & Veatch), 11041 Lamar Avenue, Overland Park, Kansas. We are providing testimony on behalf of the City of Philadelphia (the City) Water Department (“Water Department” or “PWD”) in this proceeding as a panel.

Also testifying with us is Susan Crosby, Deputy Revenue Commissioner in charge of the Water Revenue Bureau (“WRB”).

**Q2. HAVE ANY WITNESSES ON THIS PANEL PREVIOUSLY SUBMITTED TESTIMONY IN THIS PROCEEDING?**

A2. Yes. Black & Veatch provided testimony and schedules in PWD Statement 7. Susan Crosby has provided testimony and schedules in PWD Statement 5.

**Q3. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

A3. In this rebuttal, we provide the Department’s response to recommendations and criticisms of Richard A. Baudino in his direct testimony (PLUG St. 1) submitted on behalf of Philadelphia Large Users Group (“PLUG”).

**II. COST OF SERVICE STUDY**

**A. Water Cost of Service Study**

**Q4. DOES PLUG RECOMMEND THAT THE INDUSTRIAL AND HOSPITAL/UNIVERSITY SERVICE TYPES RECEIVE A LOWER INCREASE THAN THE SYSTEM AVERAGE FOR FY 2026 AND FY 2027?**

A4. Yes. Mr. Baudino recommends that the Industrial and Hospital/University service classes receive a lower increase than the system average increase for the proposed FY 2026 and FY 2027 rate adjustments.

**Q5. DO YOU AGREE WITH PLUG'S RECOMMENDATION? PLEASE EXPLAIN.**

A5. No. While the Class Cost of Service (CCOS) based on the 25% phase-in of the AMI Demand Study peaking factors implies that they (i.e., industrial, hospitals and universities) should receive a lower increase than the system average, the AMI Demand Study cost of service impact comparison presented in Table 2-2 of Schedule BV-4 WP-2 indicates that the full implementation of the AMI Demand Study peaking factors will result in a revenue increase of 31.1% for industrial and 35.2% for hospitals and universities<sup>1</sup>. With the end result of a full implementation of the AMI Demand Study peaking factors in mind, it does not make sense to provide the industrial and hospitals and universities with a lower revenue increase only to make larger increase in subsequent years.

Although Mr. Baudino suggests a revised FY 2026 revenue and cost of service increases for the industrial and hospitals and universities customer types in his testimony, he does not provide a complete system cost of service or revenue distribution to identify how he is proposing to reallocate his suggested reduction. In addition, he does not provide a

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<sup>1</sup> Discovery response PA-V-2, which provided the FY 2026 CCOS based on the full implementation of the AMI Demand Study peaking factors, reflects a revenue increase of 32.9% for industrial and 25.0% for hospitals and universities.

1 proposed rate schedule upon which this distribution of revenues is based. It should be  
2 noted that with the Department's current rate structure, where one rate schedule is applied  
3 to all customer types, some of these class specific adjustments may not be achievable.  
4 Mr. Baudino appears to recognize this potential limitation in the following statement  
5 from his testimony: "If Basis2 cannot fully reflect my recommendation, then B&V and/or  
6 the Department should explain why and revise the increases in the volumetric charges to  
7 come as close to my recommendations as possible using Basis2."

8  
9 **Q6. DID PLUG MAKE RECOMMENDATIONS REGARDING THE AMI DEMAND**  
10 **STUDY AND ITS APPLICATION IN THIS RATE CASE?**

11 A6. Yes. As noted on PLUG St. 1 at 6, Mr. Baudino recognizes that the Demand Study is an  
12 important first step in updating the Department's service class demand factors. He also  
13 notes that the Demand Study complies with the Board's Rate Determination in the last  
14 rate proceeding. He further states that *"given that this is just the first step, a phased*  
15 *approach is both prudent and necessary in this rate proceeding."*

16  
17 Mr. Baudino notes that the Water Department's AMI Peaking Factors are based upon  
18 one-year of data and that *"both system and customer class extra capacity factor will vary*  
19 *year to year."* He further recommends that the Rate Board *"avoid fully implementing the*  
20 *results of the Demand Study in this proceeding."* He agrees with (endorses) the Water  
21 Department's position that additional studies using additional years of data are need and  
22 will provide further insights into customer behaviors and their impact on the system and  
23 its performance.  
24  
25

1 **Q7. DO YOU AGREE WITH MR. BAUDINO THAT THE RATE BOARD SHOULD**  
2 **UTILIZE THE 25% PHASE-IN OF EXTRA CAPACITY FACTORS IN THE**  
3 **WATER COST OF SERVICE STUDY FOR 2027, AND NOT MOVE TO 50%**  
4 **PHASE-IN IN 2027?**

5 A7. No. We are in general agreement with Mr. Baudino that a phase-in of extra capacity  
6 factors as determined by the AMI Demand Study is appropriate. However, we believe our  
7 gradual phase-in of extra capacity factors, in incremental steps of 25% for FY 2026 and  
8 50% (i.e., another 25%) in FY 2027 strikes the appropriate balance to implement  
9 directionally correct movement towards more accurate and reliable extra capacity factors  
10 and at the same time achieves gradualism to minimize bill impacts from the significantly  
11 different extra capacity factors.

12  
13 **Q8. WHY DOES MR. BAUDINO RECOMMEND LIMITING THE PHASE-IN TO**  
14 **25%?**

15 A8. Mr. Baudino believes that limiting the phase-in to 25%, and going no further, is  
16 appropriate, as the AMI Demand Study only utilizes one year of data. Black & Veatch  
17 acknowledges that limitation and agrees further study is beneficial to capture customer  
18 usage under a wider variety of weather conditions. However, Black & Veatch views the  
19 available AMI data as providing a more robust frame of reference, using real customer  
20 data, for determining extra capacity factors compared to the assumptions that were  
21 necessary prior to AMI data becoming available. Therefore, despite the study's  
22 limitations, we believe a phase-in of 50% of the study's extra capacity factors over two  
23 years is appropriate. We also note that Black and Veatch's proposed phase-in plan, is both  
24 slower than Mr. Mierzwa's proposal, and faster than Mr. Baudino's proposal, and  
25 therefore it appears to be a reasonable middle-ground position.

**Q9. DOES PLUG OPINE THAT PWD'S RATE STRUCTURE SHOULD CONTINUE TO HAVE DECLINING BLOCKS?**

A9. Yes. PLUG recommends that the Rate Board retain the declining block rate structure and not approved the proposed flattening of the 3<sup>rd</sup> and 4<sup>th</sup> volume blocks<sup>2</sup>.

**Q10. WHAT IS YOUR RESPONSE TO PLUG'S POSITION?**

A10. We disagree with Mr. Baudino's position to retain the declining block rate structure for the 4<sup>th</sup> rate block. The billed volume distribution reflected in the CCOS study indicates that only commercial and hand billed customer types have consumption in the 4<sup>th</sup> rate block. Based on a comparison of the cost of service to the projected billings under the proposed quantity charges prior to the lag factor, commercial is recovering 100.9% and hand billed is recovering 92.3% of their cost of service. The 4<sup>th</sup> block was set equal to the 3<sup>rd</sup> rate block to improve overall cost recovery.

In addition, as shown in Figure 2-2 of Schedule BV-4 WP-2, the proposed FY 2026 and FY 2027 quantity charges for the 4<sup>th</sup> block follow the flattening of the quantity charge rate schedule based on the phase-in. This aligns with the proposed approach to gradually phase-in the full AMI Demand Study peaking factors in future rate schedules.

**B. Wastewater COSS**

**Q11. DOES PLUG PROPOSE ANY CHANGES TO THE WASTEWATER COST OF SERVICE STUDY?**

A11. No. Mr. Baudino did not proposal any changes to the wastewater cost of service study.

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<sup>2</sup> See PLUG St. 1 at 14.

**Q12. DOES PLUG RECOMMEND AN ACROSS-THE-BOARD INCREASE FOR  
WASTEWATER SERVICE?**

A12. Yes. Mr. Baudino is recommending that the Rate Board adopt a 10% across the board increase for both sewer service charges and volumes charges. He argues that *“Most of the cost of the Department's sewer system is fixed, meaning that costs associated with sewer plant in service and depreciation, for example, do not vary with the volumes generated by customers. Fixed costs should be collected in fixed charges to the extent practicable.”*

In determining the sewer rates and charges, the Department uses the CCOS approach consistent with the Water Environment Federation (WEF) Manual of Practice 27, *Financing and Charges for Wastewater Systems* (WEF Manual, 2018). The fundamental principle in a CCOS approach is that one or more representative cost-causative factors influence the operating and capital costs of the wastewater system. Per WEF guidelines, in a CCOS analysis, the cost-causative factor(s) for any given component of the wastewater plant in service, is defined as “that measurable design criterion or operational or service purpose, or customer requirement that predominantly influences the size and annual operating and capital costs of the utility.” (WEF Manual, 2018).

Therefore, while it is true that a utility has both fixed costs and variable costs, the simplistic assumption that most of the costs of the utility are fixed and “do not vary with the volumes generated by customers” as stated by Mr. Baudino, is not appropriate in the context of CCOS based sewer rates and charges determination.

1 To the contrary, for example, the major cost categories of the Department's wastewater  
2 plant in service, namely – (i) Sewers, (ii) Lift/Pumping Stations; (iii) Primary and  
3 Secondary Basins; (iv) Aeration Chambers; (v) Sludge Pumping; and (iv) Sludge  
4 Processing – are heavily influenced by peak and average flow rates (volume driven)  
5 and/or by nutrient loading of Biochemical Oxygen Demand (BOD) and Total Suspended  
6 Solids (TSS), which are driven by both volume and strength characteristics of wastewater  
7 discharge. As the WEF Manual indicates, in fact, all seventeen (17) facility components  
8 listed in Table 6-5 of Chapter 6, on a design-basis cost allocation, are influenced by peak  
9 flow, average flow, and/or strength of pollutants.

10  
11 Consistent, with the WEF guidelines, the Department has performed its due diligence in  
12 using the appropriate cost-causative factors of volume, capacity, strength, and customer  
13 to allocate plant in service capital costs and operating costs, to determine the portion of  
14 annual wastewater costs that need to be recovered from the fixed charge and volume  
15 charge components. Based on that CCOS allocation, the Department has reasonably  
16 determined the increases for the meter-size based *fixed charges* and the volume-based  
17 *quantity charges*.

18  
19 It is also important to note that ultimately, the fixed charge and quantity charge rates and  
20 charges that are designed must be set to recover the total annual wastewater cost of  
21 service (net revenue requirements) that is determined for FY 2026 and FY 2027. Mr.  
22 Baudino did not present revenue distribution or a proof of revenue to demonstrate how  
23 the test year cost of service for sewer would be recovered utilizing the across the board  
24 increase approach nor did he address how any shortfall in cost recovery from resulting  
25 sewer charges would be addressed.

1  
2 In addition, it is important to recognize that the Department has ten wholesale wastewater  
3 contract customers. Wholesale wastewater rates must be determined via a cost-of-service  
4 study. Wholesale customer rates reflect their contract requirements and their unit costs  
5 must be established based on a cost of service study. Moving retail sewer charges away  
6 from cost-of-service based principles creates a conflicting basis for establishing rates for  
7 PWD's overall customer base (retail and wholesale) and invites challenge.

8  
9 In his recommendations, Mr. Baudino does not mention that wastewater costs are  
10 allocated between sewer and stormwater charges. Stormwater currently receives an  
11 allocation of treatment costs as they are related to wet weather<sup>3</sup>. An across the board  
12 increase to sewer would undoubtedly impact stormwater allocations and potentially push  
13 additional expenses to the stormwater cost of service (barring any other recovery  
14 mechanism). Without any adjustments to wastewater cost of service and associated  
15 allocations, the combined sewer and stormwater rates would not be sufficient to recover  
16 the overall wastewater costs and leading to lower than required revenues.

17  
18 Given the above the Water Department recommends that the Rate Board continue to set  
19 rates utilizing the cost of service based approach included in the Water Department's  
20 filing and reject PLUG's proposed approach.

21  
22 **Q13. DOES PLUG RECOMMEND THAT A STUDY EVALUATING DECLINING**  
23 **BLOCK RATES FOR WASTEWATER SERVICE BE PREPARED FOR THE**  
24 **NEXT BASE RATE PROCEEDING?**

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<sup>3</sup> See PWD St. 7 Schedule BV-2 Sections 6 to 8.

1 A13. Yes. Mr. Baudino recommends that “PWD investigate the possibility of a declining block  
2 rate for the billable water usage charge,”<sup>4</sup> and present it in its next rate filing before the Rate  
3 Board.

4  
5 **Q14. WHAT IS YOUR RESPONSE?**

6 A14. Mr. Baudino’s suggestion of a declining block rate structure runs counter to the Water  
7 Department’s proposed adjustments to the water quantity charges as well as the findings  
8 of the AMI Demand Study<sup>5</sup> which suggests that a future rate structure might move away  
9 from the existing declining block rate structure for water.

10  
11 A declining block rate structure for sewer is counter intuitive given that PWD is currently  
12 investing heavily in the combined system to reduce overflows and manage inflows.

13 Increased flows have the potential to increase costs for PWD, and there are few  
14 economies of scale, which usually underlie declining block structures, to be realized.

15  
16 Declining block rate structures are becoming increasingly rare in the water industry,  
17 based upon Black & Veatch’s 2024 Survey of the 50 Largest Cities Water/Wastewater  
18 Rate Survey Report we find no cities reported using such an approach for wastewater.  
19 This is consistent with the observations noted in the WEF Manual which states “over at  
20 least the last decade, there has been a rather significant movement away from declining  
21 block rates in favor of uniform volume designs.” The WEF Manual also notes “the trend  
22 toward uniform volumetric rates is often considered to be consistent with a current  
23  
24

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25 <sup>4</sup> See PLUG St. 1 at 17.

<sup>5</sup> See PWD St. 7 Schedule BV-4 WP-1.

1 emphasis on equity in cost recovery from a broad base of usage patterns, expressing the  
2 idea that all contributed wastewater volume should equivalently share in cost recovery.”  
3

4 While the Water Department does not generally view a declining block rate structure as  
5 viable, it is willing to consider such an option in its upcoming alternative rate structure  
6 analysis. The Water Department anticipates PLUG is likely to be a participant and  
7 welcomes their engagement in the stakeholder process, outside of this proceeding.  
8 However, it is unlikely that such an analysis would be completed before the next rate  
9 filing, as to provide recommendations that the Rate Board can act upon in a timely  
10 fashion. PWD plans to develop an overall schedule for the evaluation process following  
11 this rate proceeding.  
12

### 13 C. Stormwater COSS

14 **Q15. DOES PLUG PROPOSE ANY CHANGES TO THE STORMWATER COST OF**  
15 **SERVICE STUDY?**

16 A15. No. Mr. Baudino did not proposal any changes to the wastewater cost of service study.  
17

### 18 III. CHARITY RATE REGULATIONS

19

20 **Q16. DOES PLUG OPPOSE THE PROPOSED CHARITY RATE ADMINISTRATIVE**  
21 **REGULATIONS?**

22 A16. Yes.  
23  
24  
25

**Q17. HOW DO YOU RESPOND?**

A17. PWD and WRB filed joint Regulations addressing the administration of the charity discount program in order to improve efficiency of the application and approval process for the customer and the City. All other similar bill discount programs related to water usage fall under PWD/WRB joint Regulations. There is no change to the substantive content of qualification for the discount nor the rate of the discount, which remains in Rates and Charges under the authority of the Rate Board. Aligning with other water billing and accounting activities, the administration of this program recently moved from PWD to WRB. The new Regulations serve to provide clarity and transparency for the application and appeal processes for the customer.

Mr. Baudino opposes the new Regulations generally, but does not point to any specific term in the new Regulations that causes him concern. His claim that the Regulations contain “significant and unjustified changes” is unsupported. As stated above, no substantive changes are included in the Regulations, so for all intents and purposes, the customer experience with the charity discount is not changing.

Any opposition to filed Regulations is handled by filing an appeal to request a hearing or submit comments with the Department of Records within thirty days of the filing of the Regulations. Mr. Baudino has ample opportunity to pursue his opposition to the Regulations and offer revisions by contacting the Records Department by June 13, 2025.

**IV. CONCLUSION**

**Q18. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

A18. Yes, it does.