

**BEFORE THE
PHILADELPHIA WATER, SEWER AND STORM WATER RATE BOARD**

Re Application of the Philadelphia Water Department for Increased Water, Wastewater and Stormwater Rates and Related Charges	Fiscal Years 2019-2021
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**BRIEF SUBMITTED ON BEHALF OF
PHILADELPHIA WATER DEPARTMENT**

Hearing Officer Nancy Brockway, Presiding

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TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION AND STATEMENT OF THE PROCEEDINGS	1
A. Overview of Request for Rate Relief.	1
B. Order of Proceedings.....	2
C. Proposed Rates and Charges.	5
II. GOVERNING LEGAL STANDARDS.....	6
A. Ratemaking Requirements.	6
B. Rate and Insurance Covenants.	7
C. Nature of Rate Process.	9
III. RATEMAKING STANDARDS AND PRINCIPLES	10
A. Municipal Ratemaking.	10
B. Ratemaking Principles.....	11
C. Reasonable Projections.....	13
IV. ARGUMENT	14
A. Financial Planning and Ratemaking.	14
1. Financial Plan.....	14
2. Financial Challenges and Risk Factors.	15
3. Financial Planning and Metrics.....	16
(a) Debt Service Coverage.....	16
(b) Rate Stabilization Fund and Residual Fund.	18
(c) Capital Funding from Current Revenues (Pay-Go Financing)...21	
(d) Capital Account Deposit.	22
(e) Peer Utility Comparisons.	24
B. Revenue and Revenue Requirements.	25
1. Time Horizon for Rates.....	25
2. Agreed Upon Adjustments.	29
3. Contested Revenue and Revenue Requirement Issues.....	30
(a) Collection Factors.	30
(b) SMIP/GARP.....	33
(c) Capital Program Spend Rate.	36
(d) Escalation Factors.	37
(i) Power and Gas Costs.	38
(ii) General Costs and Other Class 200 Expenses.	39
(iii) Chemical Costs.....	40

(iv)	Transfers	40
(e)	Normalization Adjustments.....	41
C.	Cost of Service, Cost Allocation, Rate Design And Other Issues.....	43
1.	PWD Proposed Cost Allocation and Rate Design Are Reasonable..	43
(a)	Receipts Form the Basis for Revenue Projections.	44
(b)	PWD Provides Discounts for Impacted Customers.	45
2.	The Capacity Factors Used in the COS Study Are Appropriate and Reflect PWD’s Historical Experience.....	45
(a)	Recent Data Support the System-Wide Capacity Factors Utilized in the COS Study.....	45
(b)	Capacity Factors Used by the Advocate Reflect Illustrative Examples, Not PWD-Specific Data.	46
(c)	The Advocate’s Proposal Does Not Follow Accepted Industry Guidelines nor Does it Reflect PWD-Specific Adjustments.....	47
3.	The Rate Board Should Approve the Department’s Proposed Rate Design	48
4.	The Rate Board Should Approve the Department’s Public Fire Protection Proposal.	49
D.	Tiered Assistance Program.....	52
1.	TAP Cost Recovery.....	52
2.	TAP Rider	53
(a)	TAP Rate Rider – Basic Framework.....	53
(b)	Areas of Agreement.....	54
(c)	Narrowing Areas of Disagreement	56
E.	Customer Assistance Programs and Related Activities.	60
1.	The Board Has No Authority to Direct Department Business Practices	60
(a)	The Board’s Authority Limited to Powers Granted by City Council.....	61
(b)	The Board Has Previously Acknowledged It Has No Authority to Direct the Business Practices of the Department	62
2.	The Department’s Motion in Limine Should Be Granted	62
3.	Customer Service Issues and Proposals Raised by the Public Advocate Should Be Rejected.	64

(a)	TAP Is a Ground Breaking Customer Assistance Program.....	64
(i)	PWD/WRB Designed TAP Around Customers	64
(ii)	Initial Program Design Was Critical to Success.....	65
(iii)	Program Design Is Supported With Regulations.	67
(iv)	TAP’s Information Technology Systems Are the Backbone of the Program.	67
(v)	TAP’s Timely Launch Was Successful.....	68
(vi)	TAP Is Administered To Deliver Substantial Relief to Low-Income Customers and Insightful Metrics For Stakeholders	69
(b)	The Department’s Shut-Off Policies Are Appropriate and Meaningful	71
(i)	Mr. Colton’s Underlying Logic Is Flawed.	71
(ii)	The Department’s Shut-Off Notice Provides Robust Due Process	72
(iii)	The Department Issues Notices with the Full Intent to Shut-Off Service	73
F.	Other Issues Raised By Participants.	74
1.	PLUG	74
2.	Land Bank.	74
3.	Penn Environment.	75
4.	Mr. Skiendzielewski.	76
V.	CONCLUSION.....	77

APPENDICES

A.	Comparison of PWD and Public Advocate Positions
B.	Proposed Findings of Fact
C.	Proposed Conclusions of Law
D.	Proposed Ordering Paragraphs
E.	Schedules C-1 and C-8

I. INTRODUCTION AND STATEMENT OF THE PROCEEDINGS

A. Overview of Request for Rate Relief.

The Philadelphia Water Department (“Department” or “PWD”) submits this Brief summarizing the issues presented in the instant rate proceeding. The Philadelphia Water, Sewer and Storm Water Rate Board (“Rate Board” or “Board”) is now presented with a record upon which to make a decision that will determine the Department’s ability to provide safe and reliable service to customers for the next three fiscal years. The record demonstrates that, without adequate rate relief, PWD’s revenues will not keep pace with increasing expenses and allow the Department to achieve critical financial metrics.

As explained in the record, the cost drivers for the current rate case primarily include (i) rising work force costs; (ii) fringe costs shifting from the capital budget to operating budget; and (iii) increasing costs related to regulatory requirements (e.g., SMIP/GARP). In addition, the record reflects that higher debt service coverage (1.3 times) and adequate reserves (244 days cash-on-hand) are necessary to preserve the Department’s “A” credit rating. The Department maintains that it needs the proposed 10.6% cumulative total increase in service revenues during FY 2019-2021 to sustain its operations.

The Public Advocate has a different perspective. It asks that the Rate Board ignore very real utility operational and financial needs to authorize a litany of adjustments that will clearly be detrimental to the Department. Stated plainly, the Advocate essentially recommends no rate relief be provided in FY 2019-2020 (TAP lost revenues are an exception). By such a stark proposal, the Advocate assumes facts not in evidence, and places PWD at risk for a credit rating downgrade.

The Advocate’s recommendations specifically include (i) increased collections levels; (ii) decreased operating expenses; (iii) decreased capital spending; and (iv) decreased senior debt service coverage. These recommendations are reckless and lack evidentiary support. If adopted, such recommendations would result in a reduction in days cash-on-hand as well as reduced cash funding for PWD’s capital program. Such weakened financial metrics will have a direct negative reception by the rating agencies. Moreover, the practical effect of the Advocate’s recommendations would leave PWD more exposed to negative variances which could have direct impact upon PWD’s operations and its ability to

fulfill its bond covenants with investors. The Advocate's recommendations could also result in an immediate placement of PWD credit ratings on "Negative Outlook" (i.e., trending to a lower rating) or "Negative Watch" (i.e., expected downgrade within 90 days absent material changes), if not an immediate downgrade itself.¹

To make this analysis more clear, a side-by-side comparison of PWD and Public Advocate positions is provided in Appendix A hereto. The Department suggests that this convenient summary offers a road map for the Board's review of the various positions proffered by the major participants in this proceeding. PWD believes that the aforesaid summary and the arguments raised in this Brief provide the necessary support for the adoption of the rate increase request.

B. Order of Proceedings.

On February 12, 2018, the Department filed its advance notice with Philadelphia City Council ("City Council") and the Rate Board communicating its intent to file proposed changes in rates for water and wastewater service to become effective during the period September 1, 2018 to September 1, 2021² ("Advance Notice"). On March 14, 2018, the Department filed its formal notice with the Rate Board and the Department of Records of the aforesaid application for rate relief ("Formal Notice"). Both the Advance Notice and Formal Notice were transmitted with supporting engineering, financial and accounting documentation as well as the prepared direct testimony and related schedules and exhibits of the Department, the Water Revenue Bureau ("WRB"), Black & Veatch Management Consulting LLC ("Black & Veatch" or "B&V") and Raftelis Financial Consultants ("Raftelis" or "RFC").

¹ The rating agencies have expressly articulated this in their recent respective rating reports: Moody's (March 21, 2017 and July 13, 2017) "Factors that Could Lead to a Downgrade – (i) Material reductions in debt service coverage, (ii) Notable deterioration in cash and liquidity;" S&P (March 22, 2017) "Downside Scenario – If financial metrics deteriorate...we could lower the rating or revise the outlook to negative;" Fitch (April 3, 2017) "Rating Sensitivities – Insufficient Rate Recovery: The Stable Rating Outlook reflects Fitch's expectation that consistent rate action will be taken to support planned capital spending. However, if PWD experiences any difficulty in achieving timely and sufficient rate recovery, financial margins could decline, which would likely prompt negative rating action." PWD Statement 2 (Schedule ML-4).

² PWD presents a multi-year rate period consisting of three fully projected test years during the period September 1, 2018 to September 1, 2021 (the "Rate Period" or fully projected future test years "FPFTY 2019-2021").

Pursuant to the Rate Board's Regulations,³ the instant proceeding was initiated to review the above rate request. The Board appointed Nancy Brockway, Esquire ("Hearing Officer") to preside over the rate hearings and to prepare a recommended decision. The Rate Board also appointed Community Legal Services to serve as Public Advocate ("Advocate" or "PA") in the rate hearings. Participants in the proceeding (in addition to PWD, WRB and the Advocate) included, the Philadelphia Large Users Group ("PLUG"), Penn Environment, Philadelphia Land Bank ("Land Bank"), PECO Energy Company/Exelon ("PECO") and Michael Skiendzielewski. As the Board is aware, information exchange (discovery)⁴ by the participants commenced immediately upon PWD's submission of its Advance Notice, on February 12 and continued through on May 3.

In support of its filing, the Department presented numerous expert witnesses on various technical aspects of the proposed increase in rates and charges. The Department's witnesses included:

- Debra McCarty, Water Commissioner;⁵
- Melissa LaBuda, PWD Deputy Water Commissioner for Finance;⁶
- Stephen Furtek, PWD General Manager of Engineering and Construction;⁷
- Donna Schwartz, PWD Deputy Commissioner and General Manager of the Operations Division;⁸
- Joanne Dahme, PWD General Manager of Public Affairs;⁹
- Erin Williams, PWD Manger for the Stormwater Billing and Incentives Program;¹⁰
- Michelle L. Bethel, WRB Deputy Revenue Commissioner;¹¹
- RaVonne A. Muhammad, Assistant to the Director of Finance, WRB Assistance Division;¹²
- David Katz, PWD Deputy Water Commissioner;¹³

³ Rate Board Regulations, §II (1-5).

⁴ See, Rate Board Hearing Regulations at §7(b). Information exchange is sometimes referred to as "discovery."

⁵ PWD Statement 1.

⁶ PWD Statement 2; PWD Rebuttal Statement 2.

⁷ PWD Statement 3; PWD Rebuttal Statement 2.

⁸ PWD Statement 4; PWD Rebuttal Statement 4.

⁹ PWD Statement 5; PWD Rebuttal Statement 4.

¹⁰ PWD Statement 6; PWD Rebuttal Statement 1.

¹¹ PWD Statement 7; PWD Rebuttal Statement 4.

¹² PWD Statement 7; PWD Rebuttal Statement 4.

¹³ PWD Rebuttal Statement 1.

- Department consultants Black & Veatch¹⁴ (Prabha Kumar, Brian Merritt, Dave Jagt, and Ann Bui);
- Department consultants Raftelis¹⁵ (Jon Pilkenton Davis, Henrietta Locklear, and Jennifer Fitts);
- Department bond counsel, Ballard Spahr¹⁶ (Valarie Allen, Esq.);
- Department consultant Public Financial Management (“PFM”)¹⁷ (Katherine Clupper); and
- Department consultant Acacia Financial¹⁸ (Peter Nissen).

All written testimony, schedules, exhibits and other supporting documentation were served upon the participants and posted at the Rate Board’s website, consistent with the Rate Board’s regulations.

Expert witnesses testifying for the other participants included Lafayette Morgan,¹⁹ Jerome Mierzwa²⁰ and Roger Colton²¹ for the Public Advocate, Stephanie Wein for Penn Environment,²² Angel Rodriguez for the Land Bank,²³ and Richard Baudino for PLUG.²⁴

As a part of the proceedings, the Hearing Officer convened a total of nine public input hearings. These hearings were held in West Philadelphia (White Rock Baptist Church), North Philadelphia (Taller Puertorriqueño and Zion Baptist Church), South Philadelphia (EOM Athletic Association); Northwest Philadelphia (Roxborough Memorial Hospital), Northeast Philadelphia (Holy Family University), Lower Northeast Philadelphia (Protestant Home) and Center City (City Council Chambers; Free Library) on April 16, 17, 19, 20, 23, 24, 25, 30 and May 2.

Technical hearings were also convened in this proceeding on May 10, 11, 14, 15 and 17 at 1515 Arch Street, 18th Floor, Philadelphia, Pennsylvania. All hearings were open to the public and were advertised consistent with Rate Board Regulations and the Hearing Officer’s directives. Transcripts of the

¹⁴ PWD Statement 9A and 9B; PWD Rebuttal Statement 1; PWD Rebuttal Statement 3; PWD Rebuttal Statement 5.

¹⁵ PWD Statement 8; PWD Rebuttal Statement 4.

¹⁶ PWD Rebuttal Statement 2.

¹⁷ PWD Rebuttal Statement 2.

¹⁸ PWD Rebuttal Statement 2.

¹⁹ PA Statement 1.

²⁰ PA Statement 2.

²¹ PA Statement 3.

²² Penn Environment Statement 1.

²³ Land Bank Statement 1.

²⁴ PLUG Rebuttal Statement 1.

technical hearings and public input hearings are available on the Rate Board's web site. Technical hearings were completed on May 17, but the record remains open for transcript responses, briefs, exceptions and the compliance filing.

C. Proposed Rates and Charges.

The table below provides an outline of PWD rates and charges impacted by the proposal to change water, sewer and stormwater rates and related charges as well as implement a cost recovery mechanism for the Tiered Assistance Program. Proposed changes were incorporated in the rate filing transmitted to the Department of Records together with the Formal Notice, pursuant to Sections 8-407 and 5-801 of the Philadelphia Home Rule Charter ("Charter").²⁵

Philadelphia Water Department Rates and Charges

- 1.0 Rates and Charges Definitions
- 2.0 Water Charges
- 3.0 Sewer Charges
- 4.0 Stormwater Management Service Charges
- 5.0 Billing for Water, Sewer and Stormwater Service
- 6.0 Miscellaneous Water Charges
- 7.0 Miscellaneous Sewer Charges
- 8.0 Miscellaneous Stormwater Management Charges
- 9.0 Fire Service Connections
- 10.0 Tiered Assistance Program Cost Recovery

The Department's proposed rates (as originally filed) would result in annual increases in typical residential customer bills of 1.1% beginning September 1, 2018, 5.0% beginning September 1, 2019 and 4.5% beginning September 1, 2020 for a proposed cumulative total increase of 10.6% spread over three years.²⁶ Estimates of the average bill increase for typical residential, senior citizen and small business customers are provided in the testimony of Black & Veatch.²⁷

²⁵ PWD Exhibit 3.

²⁶ As a part of the rate filing, miscellaneous changes were proposed to Sections 5.2 and 6.7 of rates and charges, as detailed in PWD's Proposed Findings of Fact. See, Appendix B hereto (Proposed Rates and Charges). These proposed miscellaneous changes are unassailed in this record.

²⁷ See, PWD Statement 2 at 4; PWD Statement 9A at 129-132.

II. GOVERNING LEGAL STANDARDS

A. Ratemaking Requirements.

Section 5-800 of the Charter conveys authority to the Department to operate the water and wastewater utilities. In addition, Section 5-801 of the Charter authorizes the regulation of rates and charges for utility services. In November, 2012, Philadelphia voters approved an amendment to the Charter to allow City Council to establish, by ordinance, an independent ratemaking board responsible for fixing and regulating rates and charges for water, sanitary sewer and stormwater services. Consistent with the foregoing, City Council enacted an ordinance, effective January 20, 2014 (the “Rate Ordinance”)²⁸ which, among other things, created the Rate Board. The Board’s first rate proceeding was completed in 2016.²⁹

It bears mention that despite the regulatory changes alluded to above, the Charter still mandates that rates and charges shall be fixed so as to yield to the City at least an amount equal to operating expenses and interest and sinking fund charges on any debt incurred or about to be incurred for water supply, sewage and sewage disposal services. In computing operating expenses, proportionate charges for all services performed for the Department by all departments, boards or commissions of the City are also included. Specific standards for rates and charges, applicable to this proceeding, are also set forth in the Rate Ordinance, pertinent sections of which are high-lighted below:

Rate Ordinance Standards for Rates and Charges

Just and Reasonable: The PWD’s rates and charges shall be just and reasonable.³⁰ This means that rates and charges must (a) provide the PWD with adequate funding for both operating and capital costs (which include, but are not limited to, planned and actual debt service coverage)³¹ and (b) provide for PWD’s financial stability over a reasonable number of years.³²

²⁸ See, Philadelphia Code §13-101.

²⁹ The Rate Board is an independent rate-making body authorized to approve/modify proposed changes to the regulations containing the rates and charges of the PWD. The decisions of the Board are set forth in a “Rate Determination.” See, Philadelphia Code §§13-101(4)(b)(iii), 13-101(8). The Board, in making its Rate Determination with respect to proposed changes in rates and charges must fully consider and give substantial weight to the hearing record.

³⁰ See, Philadelphia Code §13-101(4)(d).

³¹ See, Philadelphia Code §13-101(4)(a); PWD Statement 2 at 11-12.

³² See, Philadelphia Code §13-101(2), (4)(d)

- **Equitably Apportioned:** The PWD’s rates and charges shall be equitably apportioned among the various classes of consumers.³³ The costs incurred to provide service are generally responsive to the specific service requirements imposed on the system by its customers.³⁴ PWD’s cost of service study recognizes the differences in service/usage between customer types and apportions PWD’s costs to the customer types that causes them.
- **Non-Discriminatory:** The rates and charges shall be nondiscriminatory as to the same type of consumers.³⁵ This mandate does not prohibit different types of service or different customer classifications;³⁶ only unreasonable differences as to the same type of consumers are prohibited. Stated otherwise, not all variances in rates are discriminatory.

In addition to the above, the Rate Ordinance requires the Department to develop a comprehensive plan (“Financial Stability Plan” or “Financial Plan”), pursuant to which the Department shall forecast capital and operating costs and expenses and corresponding revenue requirements. In this plan, the Department is required to identify the strengths and challenges to its overall financial status including the utility’s credit ratings planned and actual debt service coverage, capital and operating reserves and utility service benchmarks. The Department is also required to compare itself with similar utilities in peer cities in the United States.

B. Rate and Insurance Covenants.

In addition to the foregoing, PWD rates must generate sufficient revenues to comply with its rate and insurance covenants. The Department’s principal covenants are set forth in and required by the Restated General Water and Wastewater Revenue Bond Ordinance of 1989, as amended (“1989 General Ordinance”),³⁷ pursuant to which the City issues Water and Wastewater Revenue Bonds, and bond insurance policies with Assured Guaranty Municipal Corp. (“AGM”) with respect to certain series of outstanding Water and Wastewater Revenue Bonds.

³³ Philadelphia Code §13-101(4)(c).

³⁴ AWWA Rate Manual at 61 (hereinafter defined).

³⁵ See, Philadelphia Code §13-101(4)(d).

³⁶ Generally speaking, different rates may be charged to customers who are receiving a different type, grade or class of service. See, e.g., *Carpenter v. PUC*, 15 A.2d 473 (Pa. Super. 1940). Customer classifications and accompanying rate differences can be justified by various considerations, including the quantity of use, the nature of the use, the time of the use, the pattern of the use, and differences in conditions of service or cost of service. See *Philadelphia Suburban Transportation Co. v. PUC*, 281 A.2d 179, 186 (Pa. Cmwlth. 1971). Differences in the value of service provided to customers can also be a valid basis for rate differentiation. See, e.g., *Zucker v. PUC*, 401 A.2d 1377 (Pa. Cmwlth. 1979); *U.S. Steel Corp. v. PUC*, 390 A.2d 849 (Pa. Cmwlth. 1978).

³⁷ Restated General Water and Wastewater Revenue Bond Ordinance of 1989, approved June 24, 1993, as amended by an Ordinance approved January 23, 2007.

In the 1989 General Ordinance, the City covenanted with the bondholders that it will impose, charge and collect rates and charges in each Fiscal Year (sometimes called “FY”) sufficient to produce annual Net Revenues (as defined in the 1989 General Ordinance) which are at least 1.20 times the debt service requirements, excluding the amounts required for Subordinated Bonds (as defined in the 1989 General Ordinance). In addition, the City’s covenants with its bondholders require that net revenues in each Fiscal Year must be equal to 1.00 times (A) annual debt service requirements for such fiscal year, including the amounts required for Subordinated Bonds, (B) annual amounts required to be deposited in the Debt Reserve Account (as defined in the 1989 General Ordinance), (C) the annual principal or redemption price of interest on General Obligation Bonds (as defined in the 1989 General Ordinance) payable, (D) the annual debt service requirements on Interim Debt (as defined in the 1989 General Ordinance), and (E) the annual amount of the deposit to the Capital Account (less amounts transferred from the Residual Fund to the Capital Account) (collectively, the “Rate Covenants”).

Further, the City’s bond insurance policies contain an insurance covenant (the “Insurance Covenant”) which requires the City to establish rates sufficient to produce Net Revenues (excluding amounts transferred from the Rate Stabilization Fund into the Revenue Fund for a given year) equal to at least 90% of Debt Service Requirements (as defined by the 1989 General Ordinance) for as long as the PWD Bonds identified above insured by AGM remain outstanding.³⁸

Taken together, the foregoing governing legal standards (ratemaking requirements and bond covenants) require that the Rate Board establish rates and charges sufficient to meet operating requirements and obligations to investors through creation of a stable revenue stream over a reasonable period of years. The instant rate filing is designed to specifically comply with all of the above legal requirements.

³⁸ More specifically, the City has secured municipal bond insurance from AGM in connection with the issuance of Series 2005A Bonds, Series 2005B Bonds and a portion of Series 2010A Bonds; and pursuant to covenants related to such bond insurance, the City must establish rates sufficient to produce net revenues (excluding amounts transferred from the Rate Stabilization Fund into the Revenue Fund for a given year) equal to at least 90% of Debt Service Requirements (as defined by the 1989 General Ordinance) for as long as the above referenced bonds, insured by AGM, remain outstanding. See, PWD Statement 2 at 11-12; PWD Statement 9A at 43-46.

C. Nature of Rate Process.

As explained in various memoranda submitted to the Rate Board in this proceeding and the 2016 Proceeding, the instant rate process is legislative (regulatory) in nature.³⁹ This is not an adjudicatory proceeding.⁴⁰ Consistent with the holding in *Public Advocate v. Brunwasser*, the Rate Board is acting under quasi-legislative (not quasi-judicial) authority in setting rates for the Water Department.⁴¹ In *Brunwasser*, the Commonwealth Court stated that not every action of an administrative agency is an adjudication.⁴² The Court also observed that an agency decision that does not affect the rights of parties, but only affects the interest of the public in general will not be deemed an adjudication.⁴³ Here, as in the proceeding reviewed in *Brunwasser*, the Rate Board is using similar procedural steps to make a determination (i.e., approve/modify the application for rate relief) which will result in changes to water, sewer and stormwater rates and charges for all customers. Since the Rate Board's actions are not particular to the parties that chose to participate in the rate process, the final rate determination is not an adjudication.⁴⁴

³⁹ See, footnote 40 below.

⁴⁰ See, *Public Advocate v. Brunwasser*, 22 A.3d 261 (Pa.Cmwlth. 2011).

⁴¹ Although the ultimate decision maker in the rate process has changed (from the Water Commissioner (before January 20, 2014) to the Rate Board (on and after January 20, 2014), the nature of the ratemaking action has not: it is still regulatory (legislative). The conclusion that the PWD ratemaking process is still regulatory (not adjudicatory) in nature is expressed in referenced in the following materials:

(1) PWD Memorandum in Opposition to the Public Advocate's Motion to Recuse the City's Treasurer, dated April 12, 2018, which is available at: https://beta.phila.gov/media/20180413104820/memoinoppositiontoparecusalmotion_4-12-18.pdf;

(2) PWD Response to the Public Advocate's "Due Process" Memorandum, dated February 9, 2016, which is available at: <https://beta.phila.gov/media/20180413105300/responsetopadueprocessmemofinal.pdf>;

(3) Advice to R. Johnson Concerning Recusal Motion from Law Department, dated April 17, 2018, which is available at <https://beta.phila.gov/media/20180419112630/dwchtojohnson20180417recusaladvice.pdf>; and,

(4) Letter To Board Members Concerning Motion For Certification of Interlocutory Appeal and Stay From Law Department, Dated May 9, 2018, which is available at: <https://beta.phila.gov/media/20180511111903/DCHLetterReStay.pdf>.

⁴² *Brunwasser*, 22 A.3d at 269, citing, *Fricchione v. Department of Education*, 287 A.2d 442, 443 (Pa.Cmwlth. 1972). As noted by the Court in *Brunwasser* (citing the Local Agency Law) an "adjudication" is defined as "[a]ny final order, decree, decision, determination or ruling by an agency affecting personal or property rights, privileges, immunities, duties, liabilities or obligations of any or all parties to the proceeding in which the adjudication is made." See, *Brunwasser* 22 A.3d at 270; 2 Pa.C.S. §101.

⁴³ *Brunwasser*, 22 A.3d at 269, citing, *Laforge Corp. v. Insurance Department*, 690 A.2d 826, 833 (Pa.Cmwlth. 1997). See also, *CEPA v. Philadelphia Water Department*, 575 A.2d 160 (Pa.Cmwlth. 1990); *Public Advocate v. City of Philadelphia*, 26 Phila. 527 (1993).

⁴⁴ As noted by the Court in *Brunwasser* (citing the Local Agency Law), an adjudication is defined as "[a]ny final order, decree, decision, determination or ruling by an agency affecting personal or property rights, privileges, immunities, duties, liabilities or obligations of any or all parties to the proceeding in which an adjudication is made." See, *Brunwasser*, 22 A.3d at 270; 2 Pa. C.S. §101.

III. RATEMAKING STANDARDS AND PRINCIPLES

A. Municipal Ratemaking.

The guiding principles for municipal ratemaking are set forth in three manuals: the American Water Works Association's *Principles of Water Rates, Fees, and Charges MI Manual* ("AWWA Rate Manual"), the Water Environmental Federation's (WEF) *Financing and Charges for Wastewater Systems Manual of Practice 27* ("WEF Manual") and the WEF's *User Fee Funded Stormwater Programs* – which are applicable to water, wastewater and stormwater utilities, respectively.⁴⁵ The aforesaid manuals provide industry accepted principles and guidelines for the reasonable projection of revenues and revenue requirements and the cost of service allocation process. These industry accepted principles and guidelines are applied in the cost of service study.

The AWWA Rate Manual and WEF Manual confirm that, as a general proposition, government owned utilities are free to set their own policies with regard to appropriate test periods. This is not the case for investor owned utilities which are subject to particular legislative and regulatory policies of state public utility commissions.⁴⁶

Government owned utilities typically select a future test year in recognition of budgetary requirements, applicable legal requirements, bond indentures and the need to set rates for a reasonable future period. In municipal ratemaking, revenue requirements are generally derived from projections premised upon budgets or historical data, which are used to project revenues needed for a reasonable period of years. Municipal regulatory commissions commonly use fully projected test periods.

By use of the proposed three fully projected future test years ("FPFTY") in this proceeding (FPFTY 2019-2021), the Department requests authorization to recover additional revenues over a reasonable period of years so that (a) future rate filings will occur with less frequency; (b) greater financial stability can be achieved over this reasonable period; (c) the Department can balance its capital and operating activities

⁴⁵ The Rate Board should take administrative notice of the AWWA Rate Manual and WEF Manual as water and wastewater industry manuals that provide generally accepted industry guidelines for the reasonable projection of revenues and revenue requirements together with guidelines for the cost of service allocation process and rate setting.

⁴⁶ See, AWWA Rate Manual at 11-12, 16; PWD Statement 9A at 10.

with available resources in a cost-effective manner; (d) rate case expense can be minimized; and (e) water and wastewater customers can plan their budgets with greater certainty.⁴⁷ None of the foregoing can be accomplished without the use of reasonable projections of future revenues and revenue requirements.

The three-year time horizon for future rates is also consistent with Section 13-101 of the Philadelphia Code⁴⁸ and prior rate decisions in this jurisdiction (which have consistently employed future test years since 1993). It is noteworthy that the Department's use of future test periods has been sustained by Pennsylvania courts.⁴⁹

B. Ratemaking Principles.

The Public Advocate perennially raises the issue of appropriate ratemaking conventions for a municipally regulated utility. The Advocate's experts prefer a ratemaking methodology applicable to investor owned utilities used by the Pennsylvania Public Utility Commission ("PUC").⁵⁰ Such preference is misplaced, however, in municipal rate setting where the use of operating budgets and projections over a reasonable period of years is the norm. That does not mean that the end result is at odds with the "just and reasonable standard" – it is just a different (and reasonable) way to set rates.

As the Rate Board is aware, the just and reasonable standard requires that rates charged to customers be fair, reasonable and sufficient to permit the utility to sustain its operations, maintain its financial integrity and access capital at favorable interest rates.⁵¹ This standard is usually applied in association with accrual accounting methods (commonly used by PUC regulated utilities), but it also has applicability here.

In the instant context, however, for purposes of (i) rate setting, (ii) calculating compliance with Rate Covenants (hereinafter defined) and debt service coverage and (iii) budgeting, the Water Fund accounts are maintained using a cash basis of accounting, also known as the legally enacted basis of

⁴⁷ PWD Statement 2 at 21; See also, WEF Manual at 85.

⁴⁸ Section 13-101 sanctions the establishment of rates over a reasonable number of years.

⁴⁹ Challenges to the legal standards, rate setting procedures and inclusion of certain costs in rates have been rejected during the last twenty years. See, *CEPA v. Marrazzo*, 575 A.2d 160 (Pa. Cmwlth. 1990), aff'd 600 A.2d 189 (Pa. 1992); *Public Advocate v. Philadelphia Water Department*, 26 Phila. 527 (Common Pleas, Phila. County, 1993), aff'd 662 A.2d 686 (Pa. Cmwlth. 1995).

⁵⁰ See, PA Statement 1 at 7-10.

⁵¹ See, *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

accounting. In this accounting framework, revenues are recorded on a receipts basis, except revenues from other governments and interest, which are accrued as earned.⁵² Use of the legally enacted basis of accounting in the rate process is not (in and of itself) at odds with the just and reasonable standard. Rates can be fairly set within a variety of accounting frameworks (including using a cash basis of accounting).⁵³ The test is whether this accounting method (or any other) is fairly and appropriately applied.⁵⁴ In the instant context, the FY 2018 Operating Budget (developed using the legally enacted basis of accounting) adjusted to reflect the actual to budget spending factors, serves as the basis for determining revenue requirements for the Rate Period.⁵⁵ The Rate Board should also note that revenue requirements (tied to the budget process) are vetted by City Council⁵⁶ and the Pennsylvania Intergovernmental Cooperation Authority (“PICA”) in the determination of appropriation levels utilized by Black & Veatch in formulating proposed rates.

In addition to the foregoing, an integral part of establishing just and reasonable rates involves consideration of what authorized revenue levels are required for the Department and City to continue to maintain prudent financial policies and avoid potential negative effects on their financial position and bond ratings. Prudent financial policies will contribute to lower capital costs and will minimize rate increases over the long term. The Department’s capital costs are driven by needed infrastructure investments which

⁵² By use of this method, rates must be established so as to actually realize sufficient receipts to pay operating expenses and debt service. Equally important is the fact that the “cash basis” of accounting is the legally required accounting method for this venue. See, PWD Exhibit 4 (Annual Financial Report).

⁵³ The PUC utilizes a cash basis of accounting (“cash flow method”) in setting rates for Philadelphia Gas Works. 52 Pa. Code §§69.2701-2703. This method has also been described as a debt service based ratemaking methodology. This methodology is required to be utilized pursuant to the Natural Gas Choice and Competition Act, 66 Pa.C.S. §2212(e) and local Ordinance governing the operation of that utility (Management Agreement between the City and Philadelphia Facilities Management Corporation, pursuant to an Ordinance of City Council approved December 29, 1972 (Bill No. 455), as amended).

⁵⁴ The Department’s cash requirements are determined within the framework of the legally enacted basis of accounting and, in the first instance, are reviewed by Philadelphia City Council which has authorized expenditures associated with the Water Fund for FY 2018. This is the base year from which revenue requirements are determined, subject to adjustment (i) based upon an analysis of historical actual and budgeted expenses for each of the classes of expenses (including personal services, purchased services, materials and supplies, equipment and interdepartmental charges); and (ii) application of appropriate escalation factors for each FPFTY.

⁵⁵ PWD Statement 9A at 34.

⁵⁶ The fact that the Charter requires a balanced budget (one where revenues and expenses are equal), as determined by City Council, is one clear indication that the revenues and revenue requirements determined in this case should be reasonably aligned with Water Fund appropriations approved by Council (FY 2018 operating budget) as projected over a reasonable period of years. This is the general framework of the rate process within which we are engaged.

are long-term in nature and are typically funded through a combination of external debt (tax exempt bonds) and internally generated funds (coverage). See discussion, *infra*.

C. Reasonable Projections.

Rate setting is prospective.⁵⁷ Rates and charges are set today to recover the future cost of providing service. To do this, a study is performed using a “test year”⁵⁸ to determine if rates and charges should be adjusted. A “test year” is used for the detailed cost of service analysis and rate design.⁵⁹

Projections must be reasonable. Nothing requires absolute certainty in a fully-projected future test year, however. By their very nature, forward-looking projections for such test years are subject to a number of estimates and assumptions, known and unknown risks, uncertainties and other factors. So, it is reasonable to expect that actual results may vary from said projections. Nonetheless, revenues and expenses are reasonably projected within the future test period based upon reliable information that is reasonably known to the Department.

PWD’s estimates of revenues and revenue requirements for the fully projected future test years in this rate filing (FPFTY 2019-2021) are reasonable. PWD provided actual data for revenues, obligations/appropriations, adjustments and balances in FY 2016 (final, audited), FY 2017 (preliminary, unaudited) and FY 2018 (as budgeted and adjusted to reflect actual-to-budget spend factors).⁶⁰ For the purposes of developing projections for the future test years, adjustments were made to FY 2018 budgeted data, where necessary, to ensure that the projections were representative of revenue requirements that the Department expects to experience during the Rate Period.⁶¹

⁵⁷ PWD Rebuttal Statement 1 at 1.

⁵⁸ The test year may be specific 12-month period of time or it may be a period of more or less than one year. AWWA Rate Manual at 11. There are three types of “test years” (or test periods): (1) Historic, which is based entirely on actual results in recent periods. (2) Pro-forma, which is historical based and adjusted for any “known and measurable” changes. In Pennsylvania, a pro-forma test year is sometimes called a “future” test year; and, (3) Fully-projected, which is based entirely on projections. *Id.*

⁵⁹ PWD Statement 9A at 9.

⁶⁰ PWD Statement 2 at 31.

⁶¹ PWD Statement 2 at 31.

IV. ARGUMENT

A. Financial Planning and Ratemaking.

PWD's rates and charges are set by determining the appropriate levels of cash, debt service coverage and other financial metrics necessary to enable the Department to pay its bills and maintain efficient access to the capital markets at reasonable rates.⁶² Since the last rate proceeding, the Department has reduced debt and other costs where it is possible to do so.⁶³ However, the Department needs additional revenues to address unavoidable increases in operating costs in several areas and to continue to achieve the financial metrics necessary to maintain its current favorable bond rating.⁶⁴

In the circumstances presented, the Department's goal is to preserve its "A" credit rating (in the highest category) and clearly avoid undertaking actions that would result in a credit downgrade. To do this, given its rapidly growing costs and capital program,⁶⁵ the Department is working towards (i) funding 20% of capital program costs from current revenues; and (ii) better long-term alignment of debt repayment and current cash flow. It is also strategically using its Rate Stabilization and Residual Funds to absorb costs and protect ratepayers from rising rates.

1. Financial Plan.

As the Rate Board is aware, in fixing rates and charges, it must recognize the importance of the Financial Plan.⁶⁶ The Department has prepared a Financial Plan as part of every prior rate proceeding and updated its Financial Plan prior to initiating this rate proceeding. The Department's current Financial Plan is attached to PWD Statement 2 as Schedule ML-2.⁶⁷

The Financial Plan is a forecast of capital and operating costs and expenses and associated revenues prepared by the Department. It contains three major sections which provide the information required by the Rate Ordinance.

⁶² PWD Statement 2 at 6-7, 19-20.

⁶³ PWD Statement 2 at 4.

⁶⁴ PWD Statement 2 at 4.

⁶⁵ The major cost projections that underpin the proposed rates and charges are in the following expense areas: Workforce costs; COA costs; costs for the Capital Improvement Program. PWD Statement 2 at 32.

⁶⁶ Philadelphia Code §13-101(4)(b)(i); PWD Statement 2, Financial Plan (Schedule ML-2) at 16.

⁶⁷ PWD Statement 2 at 14.

The first section summarizes information on revenues and expenses, debt service coverage, and cash balances in recent years and describes the Department's current bond ratings. As shown in this section, the Department outperformed projections for Fiscal Years 2016 and 2017 in the amounts and for the reasons summarized.⁶⁸

The second section describes the Department's goals and key policies with respect to capital funding from current revenues, debt service coverage, debt issuance and cash revenues. As explained in this section, the Department is focusing on the following four key financial policy goals: (1) funding at least 20% of the Department's capital program from current revenues; (2) improving debt service coverage; (3) using strategic debt issuance to relieve cash flow pressures and better align debt payments over the lifetime of assets; and (4) utilizing cash reserves to offset the level of rate increases.⁶⁹

The third section is a peer utility review and includes a comparison of credit ratings, financial metrics for revenue and debt, debt service coverage, reserve levels, debt-to-revenue ratios and asset conditions.⁷⁰

2. Financial Challenges and Risk Factors.

The Financial Plan addresses challenges and risks to the Department's overall financial status.⁷¹ As noted in the record, the most significant financial challenge presented concerns the continuing implementation of the Department's Long Term Control Plan (*Green City, Clean Waters*) and the achievement of milestone requirements related to Consent Order Agreement ("COA") negotiated with Pennsylvania Department of Environmental Protection ("PaDEP").⁷² These milestone requirements are tied to "greened acres" achieved and escalate, as PWD approaches the ten year milestone (at the end of the Rate Period).

⁶⁸ PWD Statement 2 at 14-15.

⁶⁹ PWD Statement 2 at 15.

⁷⁰ PWD Statement 2 at 16.

⁷¹ PWD Statement 2 at 10.

⁷² PWD Exhibit 7.

The Board should be aware that the Department has revised its Financial Plan and strategies since the 2016 Proceeding to address the increasing capital and operating requirements associated with the COA. However, additional pressures will arise in future rate periods due to the performance metrics in the COA. To address the foregoing, the Department revised its Financial Plan to include the following objectives: (i) managing cash reserves with the dual intent of covering expenditures when revenues are not sufficient and to prevent the need for large swings in rate increases, (ii) targeting higher coverage levels above the minimum required by the 1989 General Ordinance, and (iii) increasing internally generated funds for the Department's Capital Improvement Program to provide (A) for financial stability for the Department both in the near and medium term and (B) more closely mirror coverages of other municipal water and wastewater utilities.

3. Financial Planning and Metrics.

The Financial Plan also addresses critical financial metrics for PWD including (a) debt service coverage; (b) system liquidity levels measured by days of cash on hand; (c) targeted pay-go financing of capital (i.e., funding of capital from current revenues); (d) the capital account deposit amount; and (e) peer comparisons.⁷³

(a) Debt Service Coverage.

Debt service coverage is simply cash flow that is used to support the system by funding certain actions such as capital projects.⁷⁴ Any funds used for capital projects also allow the system to manage future leverage.⁷⁵ Adequate debt service coverage ensures that reserves are maintained at levels that can mitigate unforeseen expenses and capital needs or dips in expected revenue.⁷⁶

The Department has targeted debt service coverage to trend to 1.3 times, which is included in its Financial Plan.⁷⁷ That level is just above the minimum legal requirement for debt service coverage (which is 1.2 times coverage of senior debt, including contributions from the Rate Stabilization Fund) and will

⁷³ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 2.

⁷⁴ PWD Rebuttal Statement 2 at 11.

⁷⁵ PWD Rebuttal Statement 2 at 11.

⁷⁶ See, PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3.

⁷⁷ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3

support maintaining PWD’s existing credit ratings for the foreseeable future.⁷⁸ All three of the rating agencies have mentioned the PWD’s increased debt service coverage of 1.3 times as a credit positive.⁷⁹ This increased coverage will result in stronger liquidity and will ultimately allow for increased pay-go funding.⁸⁰ This is critical given the reality of PWD’s increasing required capital needs.⁸¹ As with older urban systems, ongoing maintenance of assets is critical. PWD has historically had low margins and a higher debt burden.⁸² Consistent reasonable rate increases will allow PWD to address capital needs without over-burdening future ratepayers.⁸³ The current and past debt service coverage for PWD are below national trends for “A” rated utilities.⁸⁴ If not allowed to improve coverage levels, PWD will face higher costs for funding its capital program (as it will have no other recourse but to issue more debt on less favorable terms).⁸⁵

The difference between 1.2 times coverage and 1.3 times coverage is called the “margin.” This margin, which is also referred to as coverage or internally generated funds, is a municipal utility’s only real alternative to issuing debt to fund capital program costs.⁸⁶ PWD’s bond investors also derive benefit from a “safety” margin above minimum amount of revenues to meet ongoing principal and interest payments.⁸⁷ Ratepayers also benefit when the margin is used to fund a portion of the PWD’s capital investments, reduce the need for future increased debt, and provide liquidity protection from unforeseen financial stresses.⁸⁸ In other words, coverage reduces the need for financial leverage and reduces credit risk for bond investors and lenders.⁸⁹ The reduced credit risk enables utilities, like the PWD, to sell bonds at lower interest rates and obtain credit at lower costs.⁹⁰ The accumulation of coverage above the PWD’s stated minimums requires

⁷⁸ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3.

⁷⁹ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 8.

⁸⁰ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 8.

⁸¹ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 8.

⁸² PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 8.

⁸³ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 8.

⁸⁴ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3.

⁸⁵ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3.

⁸⁶ PWD Rebuttal Statement 2 at 12.

⁸⁷ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3.

⁸⁸ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3.

⁸⁹ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3.

⁹⁰ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3.

modestly higher rates today, but leads to lower future debt payments and rates.⁹¹ So, from both an operational and a credit rating perspective, it is essential for the Department to sustain debt service coverage levels significantly above the minimum levels required by the Rate Covenants to provide (i) a hedge against unanticipated cost increases or revenue losses; (ii) a source for pay-go funding; as well as (iii) comfort to bondholders that the Department is not operating at the edge of an event that would cause a violation of the Rate Covenants.

The Public Advocate seems to recommend setting the debt service coverage at the legal requirement of 1.2 times.⁹² If that is the case, its recommendation ignores reality and must be rejected. First, the recent rating agency reports have emphasized the need for the Department to improve debt service coverage.⁹³ The Advocate's recommendation would do nothing to improve coverage. Second, increasing the extent to which current revenues fund capital expenditures is a mathematical imperative to improve debt service coverage to industry standards.⁹⁴ Therefore, from both an operational and a credit rating perspective, it is essential for the Department to sustain debt service coverage levels significantly above the minimum required levels throughout the Rate Period.⁹⁵ It bears emphasis that the Advocate's recommendation would only provide coverage at or near the minimum required levels during the Rate Period (and presumably lower after that period). So, another significant financial risk that the Department would face, should the Public Advocate's recommendation be approved, is the probability of materially higher borrowing costs due to downward rating pressures from the lack of proper rate recovery and absence of sound financial metrics.⁹⁶

(b) Rate Stabilization Fund and Residual Fund.

Days of cash-on-hand is an indicator of a system's financial flexibility and ability to swiftly address unforeseen financial requirements.⁹⁷ The number of days of cash on hand is a "key ratio" used by the rating

⁹¹ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3.

⁹² PA Statement 2 at 34-36.

⁹³ PWD Rebuttal Statement 2 at 12.

⁹⁴ PWD Rebuttal Statement 2 at 12-13.

⁹⁵ PWD Rebuttal Statement 2 at 12-13.

⁹⁶ PWD Rebuttal Statement 2 at 11.

⁹⁷ PWD Rebuttal Statement 2 at 6.

agencies in assessing credit quality, meaning it is a highly important criteria in determining a credit rating for all three credit agencies.⁹⁸ It is important to note that days of cash on hand is also consistent with references to terms such as “cash reserves” and “liquidity” that commonly appear in the rating agencies’ ratings reports on individual municipal utilities.⁹⁹

Adequate cash reserves allow systems to contribute to increasing capital projects, mitigate system disruptions, and fund unexpected operating expenses.¹⁰⁰ The Department plans to maintain appropriate levels of financial reserves by targeting a \$150 million balance in the Rate Stabilization Fund and \$15 million in the Residual Fund.¹⁰¹ The credit agencies give credit to the Department for balances in both funds in calculating liquidity levels.¹⁰² It is critical that the Department be allowed to maintain these targeted levels.¹⁰³

The Rate Stabilization Fund is critical to the Department’s overall financial strength, both (i) in consideration of the Department’s credit rating by all three rating agencies that rate the Department and (ii) for actual protection in the event of unforeseen emergency capital or operating requirements.¹⁰⁴ The purpose of the Rate Stabilization Fund is to maintain liquidity in the Water and Wastewater Funds in satisfaction of financial covenants and otherwise for the financial health and operation of the water and sewer enterprise.¹⁰⁵ PWD aims to keep \$150 million in the Rate Stabilization Fund to cover annual expenditures when the revenues are less than projected.¹⁰⁶ This serves as the key protection to ratepayers and bondholders.¹⁰⁷ A smaller level of protection is provided by the Residual Fund, which may be used to

⁹⁸ PWD Rebuttal Statement 2 at 6. A common measure to determine liquidity is “days cash on hand,” which is calculated by totaling unrestricted cash and investments and any restricted cash that is available for general system purposes, divided by the result of operating expenses (minus depreciation) divided by 365. While rating agencies vary in their calculation, in particular with regards to the allowance of balances in the Rate Stabilization Fund and the Residual Fund, all mention and acknowledge the balance in their liquidity consideration. PWD Statement 2, Memorandum from Financial Advisors (Schedule ML-6) at 4.

⁹⁹ PWD Rebuttal Statement 2 at 4-6. All three rating agencies view liquidity measures as a critical indicator of financial stability.

¹⁰⁰ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 4.

¹⁰¹ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3. PWD aims to maintain a minimum of \$15M in the Residual Fund, which is established to maintain the remaining revenues after all other payments. PWD Statement 2, Financial Plan (Schedule ML-2) at 21.

¹⁰² PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3.

¹⁰³ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 4; PWD Rebuttal Statement 2 at 9.

¹⁰⁴ PWD Rebuttal Statement 2 at 9.

¹⁰⁵ PWD Statement 2, Memorandum from Bond Counsel (Schedule ML-3) at 6.

¹⁰⁶ PWD Statement 2, Financial Plan (Schedule ML-2) at 21.

¹⁰⁷ PWD Statement 2, Financial Plan (Schedule ML-2) at 21.

pay Operating Expenses or debt service, or for almost any other purpose in support of the System.¹⁰⁸ As the Water and Wastewater Funds are a closed system, the Residual Fund is the last Fund into which revenues may flow.¹⁰⁹ Regarding emergency capital expenditures, the only sources available are the Residual Fund and the Capital Account,¹¹⁰ and not the Rate Stabilization Fund.¹¹¹

There are prudent financial reasons to maintain reserves of at least \$150 million in the Rate Stabilization Fund.¹¹² First, a municipal utility, like any business, needs a reserve of cash on hand in order to pay current obligations as they come due.¹¹³ Municipal water and wastewater utilities incur costs to provide the service (labor, materials, supplies, services, etc.) in advance of bills being rendered and revenue collected for providing the service. The timing of the costs necessary to run the business precede the timing of the receipt of revenues to cover those costs, which means a reserve of cash always must be available to handle basic day-to-day utility operations. Second, utility revenue can fall short of expenditures, causing negative cash flow due to the inherent lag in the regulatory process of adjusting rates to match costs that have been impacted by inflation and other increases over time.¹¹⁴

The Public Advocate disagrees with the targeted balance for the Rate Stabilization Fund. It recommends instead a \$110 million balance in the Rate Stabilization Fund.¹¹⁵ It is not opposing the \$15 million balance for the Residual Fund.¹¹⁶

The Advocate's proposed target for the Rate Stabilization Fund must be rejected. Its recommended level of cash reserves would severely impede the Department's ability to mitigate any changes in revenue

¹⁰⁸ PWD Statement 2, Memorandum from Bond Counsel (Schedule ML-3) at 6-7.

¹⁰⁹ PWD Statement 2, Memorandum from Bond Counsel (Schedule ML-3) at 6-7.

¹¹⁰ The Capital Account holds Project Revenues accumulated over time primarily to pay capital expenditures, though such moneys may be used for certain other purposes. Amounts deposited in the Capital Account may be applied to (i) payments for the cost of renewals, replacements and improvements to the System; (ii) payments into the Sinking Fund or into the Subordinated Bond Fund to cure a deficiency in one of the foregoing; or (iii) the purchase of Bonds if a Consulting Engineer first has certified to the City that amounts remaining on deposit in the Capital Account following the proposed purchase of Bonds will be sufficient to pay, the cost of renewals, replacements and improvements to the System projected to be payable during such Fiscal Year. PWD Statement 2, Memorandum from Bond Counsel (Schedule ML-3) at 6.

¹¹¹ PWD Rebuttal Statement 2 at 9.

¹¹² PWD Rebuttal Statement 2 at 2.

¹¹³ PWD Rebuttal Statement 2 at 2.

¹¹⁴ PWD Rebuttal Statement 2 at 2.

¹¹⁵ PA Statement 2 at 14, 38.

¹¹⁶ PA Statement 2 at 36-37.

collections, unforeseen operating expenditures or disruptions in the ability to fund ongoing capital needs.¹¹⁷ It would be irresponsible to leave a system with annual operating revenues of over \$729 million and expenses of over \$485 million and annual capital needs of over \$300 million with cash reserves at such low levels.¹¹⁸ Adopting the Advocate’s recommendation (\$110 million) would represent only a fraction of cash reserves necessary to meet the required medians for an “A” rated credit rating and would be well below the required medians for an “A” rated credit on all accounts.¹¹⁹ In comparison, the proposed minimum of \$165 million balance in the Rate Stabilization Fund and Residual Fund would represent approximately 244 days cash on hand for FY 2018.¹²⁰ The point of the foregoing is that PWD’s target of \$150 million would keep PWD on the path towards adequacy in this area, and the Public Advocate’s target of \$110 million would leave PWD short of the financial reserves of any comparable peer.

(c) Capital Funding from Current Revenues (Pay-Go Financing).

Increased borrowing is anticipated to fund PWD’s Capital Improvement Program and COA obligations.¹²¹ No one disputes that more investment will be needed by PWD to maintain the system.¹²² Beyond maintaining the system, PWD anticipates increasing capital and operating requirements associated with the COA during the Rate Period.¹²³ As mentioned above, the Department has revised its Financial Plan and strategies to begin to address these obligations, but notes that additional pressures will arise during FY 2019-2021 (and beyond) due to the performance milestones in the COA.¹²⁴

In this context, the Department maintains that Capital and Construction Accounts are appropriately used to provide “pay-go” financing for capital improvements. Pay-go financing is simply funding capital needs with current revenues,¹²⁵ which reduces borrowing needs, thereby reducing costs that customers will

¹¹⁷ PWD Rebuttal Testimony 2 at 5-6.

¹¹⁸ PWD Rebuttal Testimony 2 at 6.

¹¹⁹ PWD Rebuttal Testimony 2 at 5.

¹²⁰ PWD Rebuttal Testimony 2 at 6.

¹²¹ PWD Statement 2 at 17, 21, 32.

¹²² PWD Statement 2, Financial Plan (Schedule ML-2) at 30.

¹²³ PWD Statement 2 at 22.

¹²⁴ PWD Statement 2 at 22.

¹²⁵ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 4.

have to bear over the life of the typical 30-year bond.¹²⁶ Stated differently, pay-go funding lessens PWD's dependence on borrowing money for capital improvements. Similarly situated utility systems, which have been able to fund significant portions of their capital programs with annual revenues, are able to manage their debt without significantly burdening future ratepayers.¹²⁷

Pay-go financing is mathematically necessary to improve debt service coverage to industry standards and is just and reasonable as a principle of both finance and ratemaking.¹²⁸ PWD is working towards the goal of funding at least 20% of its capital program from current revenues (or 80% debt funding).¹²⁹ The PWD goal of 20% is on the weaker side and should be achieved, and even strengthened, in the future.¹³⁰ PWD has a rapidly growing capital program¹³¹ and is working towards funding 20% of the capital program from current revenues.¹³² That being said, PWD will not meet that threshold over the next few years.¹³³ This is the result of striking an appropriate balance between the above objective (more internal generated funding for the capital program) and rate increase mitigation.¹³⁴

(d) Capital Account Deposit.

The Capital Account¹³⁵ Deposit is necessary to finance water and wastewater capital improvements.¹³⁶ The 1989 General Ordinance requires an annual deposit to the Capital Account. It defines the required "Capital Account Deposit Amount" as "an amount equal to one percent (1%) of the depreciated value of property, plant and equipment of the System or such greater amount as shall be

¹²⁶ PWD Statement 2 at 5.

¹²⁷ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at p. 4; PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 4-5.

¹²⁸ PWD Statement 2 at 17-19.

¹²⁹ PWD Statement 2, Financial Plan (Schedule ML-2) at 18; PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 4-5.

¹³⁰ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 4-5. As a point of reference, Fitch views 65% pay-go funding as strong, 55% as a midrange and 45% pay-go funding as on the weaker side in assessing operating risks. *Id.*

¹³¹ PWD Statement 2 at 5. The Department's rate filing (as detailed in Schedule BV-E1, Table C-7) includes capital improvements totaling \$1.1 billion from FY2019 through FY2021 which supports critical improvements related to water and wastewater treatment plant upgrades, clean water storage tanks, pumping stations, water main replacements and sewer replacements. For a listing of the Top Fifteen Projects, please see Table 6 in PWD Exhibit 5.

¹³² PWD Statement 2, Financial Plan (Schedule ML-2) at 31

¹³³ PWD Statement 2, Financial Plan (Schedule ML-2) at 18.

¹³⁴ PWD Statement 2, Financial Plan (Schedule ML-2) at 18.

¹³⁵ The "Capital Account" is an account within the Construction Fund. PWD Statement 2, Memorandum from Bond Counsel (Schedule ML-3 – Glossary).

¹³⁶ PWD Statement 9A at 39.

annually certified to the City in writing by a Consulting Engineer as sufficient to make renewals, replacements, and improvements in order to maintain adequate water and wastewater service to the areas served by the System.”¹³⁷ One percent should be considered a minimum.¹³⁸ As noted in the ordinance, greater amounts are allowable based on the certification of a Consulting Engineer.¹³⁹

The Department proposes to increase the Capital Account Deposit Amount from 1.0% to 1.5%.¹⁴⁰ This proposal provides a critical source of cash financing, consistent with industry best practices, and is imperative to improving PWD’s financial metrics. The PWD’s Consulting Engineer has testified that, commensurate with the projected increase in average annual capital expenditure, the adjusted level of annual Capital Account Deposit Amount would be approximately 1.56% of the FY 2016 depreciated value of property, plant, and equipment of the water and wastewater assets.¹⁴¹ So, the proposed change to 1.5% would better align the Capital Account Deposit Amount to the enhanced levels of capital spending that are occurring and are likely to continue during the foreseeable future.¹⁴²

The Rate Board should be aware that changing the Capital Account Deposit Amount from 1.0% to 1.5% does not increase the Department’s annual revenue requirement.¹⁴³ The level of revenues needed to fund the Capital Account Deposit Amount based on 1.5% is less than the level of revenues necessary to meet the 1989 General Ordinance rate covenants requirements.¹⁴⁴ Furthermore, the increase in the Capital Account Deposit is accompanied by a corresponding decrease in the transfer to the Residual Fund.¹⁴⁵

Nevertheless, the Public Advocate recommends the amount to be deposited to the Capital Account Deposit be set at 1%.¹⁴⁶ That recommendation ignores reality and is unreasonable under the circumstances presented. That is, it is undisputed in the record that, since FY 2010, the Department’s annual capital

¹³⁷ PWD Rebuttal Statement 1 at 22-23.

¹³⁸ PWD Rebuttal Statement 1 at 23.

¹³⁹ PWD Rebuttal Statement 1 at 23.

¹⁴⁰ PWD Statement 9A at 42.

¹⁴¹ PWD Statement 9A at p. 42-43; PWD Rebuttal Statement 1 at 23.

¹⁴² PWD Rebuttal Statement 1 at 24.

¹⁴³ PWD Rebuttal Statement 1 at 24.

¹⁴⁴ PWD Rebuttal Statement 1 at 24.

¹⁴⁵ PWD Rebuttal Statement 1 at 24.

¹⁴⁶ PA Statement 1 at 29-30 and at Schedule LKM-2.

expenditures have increased due to (i) the COA; (ii) enhanced rehabilitation of aging infrastructure; and (iii) increased investments in water and wastewater treatment facilities to meet water quality standards and permit requirements.¹⁴⁷ The rate of capital spending during FY 2010 through FY 2016 is 1.62 times that of the capital spending during FY 2004 through FY 2009.¹⁴⁸ Despite the foregoing, the Advocate would keep the amount of revenues made available for capital improvements at the historic level of 1%.¹⁴⁹ As noted above, the Advocate's position is unrealistic (looking backward in time). In addition, its recommended approach will have negative consequences for customers: lowering the amount deposited into the Capital Account would reduce the "pay-go" funds for capital improvements and would increase borrowing needs, thereby increasing the costs that customers will have to bear over the life of the typical 30-year bond.

(e) Peer Utility Comparisons.

PWD has selected certain peer systems to provide important benchmarking critical to organizational best practices.¹⁵⁰ Peer comparisons and benchmarking performance indicators are a component of best practices and are specifically mentioned as a factor the Rate Board must consider in making its Rate Determination.¹⁵¹

PWD, as compared to its peers, remains on the weaker side of certain key financial ratios.¹⁵² For example:

- PWD's long-term credit standing falls within the "A" for all three major credit rating agencies.¹⁵³ Most of PWD's peer utilities are ranked above PWD.¹⁵⁴
- PWD has modest debt service coverage (1.3x) compared to peer utilities and is below median coverage (1.7x) for other "A" rated utilities.¹⁵⁵

¹⁴⁷ PWD Statement 9A at 42.

¹⁴⁸ PWD Statement 9A at 42.

¹⁴⁹ Prior rate cases reflected the Capital Account Deposit Amount at 1% of the depreciated value of system property, plant, and equipment. PWD Statement 9A at p. 42; PWD Rebuttal Statement 1 at 22.

¹⁵⁰ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 8. While systems have their own characteristics based on regions, size, and service area, the selected peers are of similar size, service areas of industrial urban centers and are located largely in the mid-Atlantic and Midwestern regions of the country. *Id.*

¹⁵¹ Philadelphia Code at §13-101(4)(b)(i); PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 8.

¹⁵² PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 8.

¹⁵³ PWD Statement 2, Financial Plan (Schedule ML-2) at 24.

¹⁵⁴ PWD Statement 2, Financial Plan (Schedule ML-2) at 24. Only peer (Indianapolis) was ranked lower — by one (Fitch) of the three rating agencies — than PWD. *Id.* The other agencies ranked that peer either the same (Moody's) or slightly higher (Standard and Poor's) than PWD. *Id.*

¹⁵⁵ PWD Statement 2, Financial Plan (Schedule ML-2) at 27.

- PWD has modest reserves (i.e., days of cash) compared to peer utilities and falls slightly below the median (of 248 days cash on hand) for the “A” rated peer utilities.¹⁵⁶ It is also less than the Moody’s ‘A’ (overall) median of 296 days cash on hand.¹⁵⁷
- PWD’s infrastructure has a shorter remaining useful life compared to other utilities, which indicates more investment will be needed to maintain the system.¹⁵⁸

PWD set its Financial Plan to maintain its existing credit ratings over the next five fiscal years.¹⁵⁹

The proposed rates and charges will keep PWD on the path towards maintaining its “A” credit rating. As discussed, increased rates and charges are needed to maintain needed financial reserves and key financial indicators, most relevant to potential bond buyers and the credit rating agencies, so that PWD might preserve its present credit rating. Approval of an increase will send a signal to the rating agencies and potential lenders that the Rate Board is supportive of the PWD’s efforts to maintain and improve its financial ratios as compared to peers.

B. Revenue and Revenue Requirements.

1. Time Horizon for Rates.

The use of a multi-year rate methodology is consistent with industry standards¹⁶⁰ The AWWA Rate Manual explains that, if a utility is looking at revenues and expenses for a 36-month rate period, the utility may wish to use a single test year that averages the revenue requirements and revenues for the 36-month period or separate the period into three separate 12-month test periods to phase the rates in over that time.¹⁶¹ This is common practice in municipal rate setting. Beyond the PWD,¹⁶² there are also several recent examples of municipally-owned utilities adopting multi-year rate increases.¹⁶³ One such example is the

¹⁵⁶ PWD Statement 2, Financial Plan (Schedule ML-2) at 28.

¹⁵⁷ PWD Rebuttal Testimony 2 at 6. PWD Rebuttal Testimony 2, Schedule R2-2 (Moody’s), at Exhibit 14.

¹⁵⁸ PWD Statement 2, Financial Plan (Schedule ML-2) at 30.

¹⁵⁹ See, PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3.

¹⁶⁰ PWD Statement 9A at 10, citing, AWWA Rate Manual at 11-12, 16 and WEF Manual at 85; PWD Rebuttal Statement 1 at 2; PWD Statement 2 at 20.

¹⁶¹ AWWA Rate Manual at 16. *See also* PWD Statement 2 at 20.

¹⁶² In 2016, the Rate Board approved a multi-year rate period for PWD consisting of two fully-projected future test years (FY 2017 and FY 2018). *See* 2016 Determination of Water Department Rates and Charges for FY 2017-2018.

¹⁶³ PWD Rebuttal Statement at 1, 4-5; *See also*, Response to TR-11 for additional examples.

Pittsburgh Water and Sewer Authority's (PWSA) which approved, in November 2017, a multi-year rate period (with increases)¹⁶⁴ that reflected the need to improve its systems.¹⁶⁵

Here, PWD presents a multi-year rate period consisting of three fully-projected future test years.¹⁶⁶ The Department is specifically proposing schedules of retail water, wastewater and stormwater charges for three successive years (2019-2021 FPFTYs). The Water Fund's FY 2018 approved budget adjusted to reflect the actual to budget spending factors is used as the beginning base for projections of operation and maintenance ("O&M") expenses for the Rate Period. The adjusted FY 2018 O&M expenditures are then used to project O&M expenses for each FPFTY.¹⁶⁷ Those revenues and expenses are intended to be representative of what PWD anticipates will be incurred while those rates and charges are in effect.¹⁶⁸

PWD submits that a three-year rate period (with separate FPFTYs) is reasonable. A three-year rate period is optimal for this rate proceeding.¹⁶⁹ In the past few rate proceedings, the rate periods have ranged from two to four years, with rate increases phased in over multiple years.¹⁷⁰ Base rate proceedings involve significant time and expense.¹⁷¹ The City budgets approximately \$2 million for each base rate proceeding before the Rate Board.¹⁷² Multi-year rate proceedings provide customers with transparency about the Department's planned expenses, revenues and rate increases over a reasonable number of years while reducing the administrative burden and expense of having to litigate base rate filings on a more frequent basis.¹⁷³ In addition, the use of three year period (as proposed by PWD) will provide (a) an indicator of

¹⁶⁴ It approved rate increase of 28% for 2018, 11% in 2019 and 10% in 2020. See <http://www.pgh2o.com/rates>.

¹⁶⁵ See, *Implementation of Chapter 32 of the Public Utility Code Re Pittsburgh Water and Sewer Authority*, PUC Docket No. M-2018-2640802 (water), M-2018-2640803 (wastewater), Final Implementation Order issued March 15, 2018 at 13-14. Act 65 of 2017 amended the Public Utility Code by adding Chapter 32, which provides that the PUC has jurisdiction over the rates and service of PWSA. *Id.*

¹⁶⁶ PWD Statement 9A at 9-11.

¹⁶⁷ PWD Statement 9A at 9-11, 34; PWD Rebuttal Statement 1 at 2-4.

¹⁶⁸ PWD Statement 9A at 9-11, 30-31; PWD Rebuttal Statement 1 at 2-4.

¹⁶⁹ PWD Statement 2 at 20.

¹⁷⁰ PWD Statement 2 at 20.

¹⁷¹ PWD Statement 2 at 20.

¹⁷² PWD Statement 2 at 20-21.

¹⁷³ PWD Statement 2 at 21.

financial stability (which is viewed as a “credit positive” by the rating agencies);¹⁷⁴ and (b) time for PWD to fully evaluate alternative rate structure options ahead of the next rate proceeding.¹⁷⁵

The Public Advocate disagrees with PWD. It submits that only a two year rate period (2019-2020 FPFTY) is reasonable.¹⁷⁶ The Advocate contends that the third rate period (2021 FPFTY) is not reasonable because (a) the nature of financial projections and forecasting is that the further out in time one projects, the less accurate the forecast;¹⁷⁷ (b) historical projections for PWD have not been an “accurate forecast;”¹⁷⁸ and (c) the revenues and expenses in 2021 FPFTY are not known with certainty.

The Public Advocate is wrong for the following reasons:

First, the use of a third FPFTY is reasonable under industry standards. This is made clear by above-described industry standards, which explicitly endorse the use of a three year rate period (with separate FPFTYs) and the municipal utilities that have used multi-year rate periods. Contrary to the Advocate’s position, nothing indicates that the use of a third FPFTY is inherently unreasonable.

Second, the Advocate’s “back-testing” of PWD’s projections misses the mark. Mr. Morgan looked at the six-year period of FY 2012 to 2017 and observed/opined that PWD’s projections did not exactly match actual revenues and expenses.¹⁷⁹ Based on said past/historic performance, Mr. Morgan simply (and summarily) opines that the 2021 FPFTY cannot be accurate in its entirety. However, since that opinion is not based on any information or data actually related to the projections for the 2021 FPFTY, there is no basis for the Board to conclude that 2021 FPFTY is less accurate than any other FPFTY.¹⁸⁰

Third, the Advocate is “painting with too broad a brush.” In describing the accuracy of PWD’s projections, Mr. Morgan ignores the accuracy of the projections used in most recent two-year period of FY

¹⁷⁴ PWD Rebuttal Statement 1 at 5.

¹⁷⁵ PWD Rebuttal Statement 1 at 5.

¹⁷⁶ PA Statement 1 at 6-7.

¹⁷⁷ PA Statement 1 at 7.

¹⁷⁸ PA Statement 1 at p. 6. See also PA Statement 1 at 11-15.

¹⁷⁹ See, PA Statement 1 at 11-15.

¹⁸⁰ The application of Mr. Morgan’s observations on historical accuracy appear to have been applied in an arbitrary manner. Mr. Morgan applied that observation to the 2021 FPFTY in its entirety. PA Statement 1 at 6, 11-15. But, he only applied that observation to certain expenses in the 2019 FPFTY and the 2020 FPFTY. *Id.* at 15-32. Mr. Morgan does not explain why the 2021 FPFTY in its entirety is less accurate than the 2019 FPFTY and/or the 2020 FPFTY in its/their entirety.

2017 and FY 2018. So, if one properly focuses on the more recent periods, PWD’s projections are both reasonable and accurate. To avoid that conclusion, Mr. Morgan makes observations based on the six year period of FY 2012 to 2017.¹⁸¹ However, in doing so, Mr. Morgan uses projections and data that are not analogous or useful to evaluating projections for a FPFTY. The projections and data for periods before FY 2017 were produced under a different set of procedural requirements, without the Rate Board making the decisions.¹⁸²

Fourth, Mr. Morgan incorrectly applies the “known and measurable standard” to the entirety of the 2021 FPFTY. By definition, any FPFTY is based entirely on projections.¹⁸³ Mr. Morgan opines that projections for the 2021 FPFTY are not “known and measurable.”¹⁸⁴ He indicates that to be considered as “known and measurable,” the probability of the revenue or expense and the amount of any change must be known with certainty.¹⁸⁵ He does not define “certainty.” But, he applies that term as meaning indisputable or inevitable.¹⁸⁶ Certainty is not the correct standard for projections made for a FPFTY.¹⁸⁷ The correct standard is whether the projections are reasonable.

Finally, the Advocate has incorrectly suggested¹⁸⁸ that the Board should be guided by the treatment of FPFTYs by the PUC.¹⁸⁹ That suggestion should be ignored. Unlike the Public Utility Code (where the definition is tied to a 12-month period of time which begins after the PUC’s power to suspend rate proceedings),¹⁹⁰ the Philadelphia Code does not dictate a specific period for a FPFTY. Simply put, the

¹⁸¹ See, PA Statement 1 at 11-15.

¹⁸² See, Hearing Officer Ruling on PWD Objections and PA Motion to Compel Responses to Discovery Requests (PA-IX-23), dated April 10, 2018 at 2.

¹⁸³ AWWA Rate Manual at 11.

¹⁸⁴ PA Statement 1 at 6, 9, 23, 25, 27, 31.

¹⁸⁵ PA Statement 1 at 9.

¹⁸⁶ See, PA Statement 1 at 6, 9, 23, 25, 27, 31.

¹⁸⁷ Nothing requires absolute certainty in a FPFTY. By their very nature, forward-looking projections for FPFTY are subject to a number of estimates and assumptions, and known and unknown risks, uncertainties and other factors. It is reasonable to expect that actual results may vary from said projections. Accordingly, revenues and expenses must be reasonably certain to occur within the FPFTY, and their amount must be reasonably known.

¹⁸⁸ PA Hearing Exhibit 7.

¹⁸⁹ Before the PUC, the use of a FPFTY was prohibited until 2012. See PUC Guide to Utility Ratemaking (2018) at 88 (citation omitted). Before the PUC, rate case filings were originally based exclusively on a historic test year. PUC Guide to Utility Ratemaking (2018) at 87. Starting in approximately 1989, the PUC began using a modified future test year approach under which utilities are given the option of either employing a single historic test year or a historic test year and a future test year together. *Id.* The use of a FPFTY was recognized by the General Assembly under Act 11 of 2012. *Id.*

¹⁹⁰ If the filing constitutes a general rate case, at the end of the initial 60 days, unless the Commission permits the proposed rates to go into effect at that time, the proposed rate increase is automatically suspended for up to seven additional months. 66 Pa.C.S.

PUC's definition does not mirror the definition used in industry standards, which permit the use of any periods that "may represent a specific 12-month period of time ... [or] a period of more or less than one year."¹⁹¹ Given that the PWD (and the City) tend to keep data and information and make reports on a fiscal year basis, it is reasonable to use a test period reasonably aligned with its fiscal year. There is no legitimate reason to look at how the PUC treats FPFTYs since that treatment has absolutely no relationship to any actual fiscal year.

2. Agreed Upon Adjustments.

The Department has agreed to reduce proposed revenue requirements pursuant to the adjustments shown in the table below.

Adjustments Acceptable to the Department

<u>Adjustment</u>	<u>Description of Adjustment</u>	<u>Citation to Record</u>
Additional Staffing Operating Labor Expense (Actual/Budget Factor) ¹⁹²	Application of Actual to Budget Factor consistent with cost classification	PA Statement 1 at 20, Lines 6-7
Debt Interest Rate ¹⁹³	Use of 5.25 percent interest rate for debt issuance in FY 2019 and FY 2020	PA Statement 1 at 27, Lines 15 - 16
Capacity to Pay Energy Costs ¹⁹⁴	(\$1,493,250) - FY 2019 (\$1,493,250) - FY 2020	PA Statement 1 at 31, Schedule LKM-2, line 14
Chemicals ¹⁹⁵	0.0% - FY 2019	PA Statement 1 at 25-26.
Bond Issuance Costs	0.56% - FY 2019 0.56% - FY 2020 0.56% - FY 2021	PA Statement 1 at 28.

The above adjustments appropriately modify the Department's rate filing and are uncontroverted in the record. The discussion in the following section of the brief, however, addresses contested revenue and revenue requirement issues.

§1308(d). This added time enables the Commission to continue its own investigation and to provide for public hearings before an administrative law judge to examine the various claims made by the utility.

¹⁹¹ AWWA Rate Manual at 11.

¹⁹² This adjustment relates to the actual-to-budget factor to be applied for this expense for FY 2019-2021. PWD maintains its position that planned expenditures for Additional Employees should be approved for FY 2021.

¹⁹³ This adjustment reflects a 5.25% interest rate for planned issuances in FY 2019 and 2020 – which is acceptable to the Department. PWD maintains its position for FY 2021. See, PWD Statement 9A at 39.

¹⁹⁴ This adjustment reduces Class 200 Power using actual-to-budget factor of 75.62%.

¹⁹⁵ This adjustment reduces a 6.7% increase estimated for FY 2019. See, PWD Statement 9A, Schedule BV-E5 (WP-1) at 5.

3. Contested Revenue and Revenue Requirement Issues.

(a) Collection Factors.

Projected revenues reflect anticipated cumulative receipts for water, sewer and stormwater services for each fully projected future test year. The receipts for each year are estimated based upon projected system billings and the associated projected collection factors. These collection factors reflect the payment patterns of the Department's customers. Simply put, the collection factors are calculated as the percentage of the total amount billed that is collected (i.e., amount collected divided by amount billed). This is directly related to the Department's accounts receivable and reflect the amount that the Department anticipates receiving in a fiscal year. The remaining balance reflects an uncollectible amount, which increases rates for all paying customers.

The Department used a cumulative collection factor of 96.54% for water and wastewater (non-stormwater only) billings.¹⁹⁶ This means that the Department expects to collect 96.54% of its gross non-stormwater only billings, and will not collect 3.46% of its gross non-stormwater only billings. The 3.46% is an uncollectible expense, which is recovered from all customers.

The Department's approach is reasonable and prudent. The Department used a cumulative system collection rate in this rate proceeding (using all of the available data). This approach recognizes that payments for bills in any fiscal year may be collected in the fiscal year they are rendered (the billing year) or in a subsequent fiscal year. The cumulative collection factors utilized in the rate filing represent the multi-year payment pattern for the following periods:

- **Billing Year** – All payments associated with a given fiscal year's billing and received within the 12 months following the beginning of the fiscal year.
- **Billing Year Plus 1** – All payments associated with a given fiscal year's billing and received within 13-24 months following the beginning of the fiscal year.
- **Billing Year Plus 2 and Beyond** – All payments associated with a given fiscal year's billing and received after 24 months following the beginning of the fiscal year.¹⁹⁷

¹⁹⁶ PWD Statement 9A, Schedule BV-E5: WP-1, at 2, 15.

¹⁹⁷ PWD Statement 9A, Schedule BV-E5: WP-1 at 2.

PWD prudently uses a five-year average for the Billing Year. A four year average for the Billing Year Plus 1. Finally, a three-year average is used for the Billing Year Plus 2 and Beyond. This approach effectively uses all of the data that is available on actual payment patterns and also reflects potential payment volatility that could occur due to economic conditions and other factors.¹⁹⁸

The Public Advocate disagrees with the projected collection factor for non-stormwater only billings proposed by the Department and by its own witness (Mr. Morgan). Instead, the Advocate proposes a collection factor of 97.12%,¹⁹⁹ which is 0.58% higher than the Department's proposal.²⁰⁰ The Public Advocate agrees with the use of a cumulative system collection rate in this rate proceeding, but curiously disagrees with the use of all of the available data. The Advocate's proposal is only based on a "rolling" average that takes into account the three most recent results in each category, as depicted in the shaded portions of the table below:

Non-Stormwater Only Collection Factors Under PWD and Public Advocate Analyses²⁰¹

Fiscal Year	Non-Stormwater Only Billings		
	Billing Year	Billing Year Plus 1	Billing Year Plus 2 and Beyond
2016	86.84%	N/A	N/A
2015	87.03%	8.24%	N/A
2014	86.17%	8.61%	1.00%
2013	84.80%	9.80%	1.69%
2012	84.67%	9.67%	1.99%
Department's Method (All Data)			
Average (All Data)	85.90%	9.08%	1.56%
Cumulative Total			96.54%
Public Advocate Witness' Method (Most Recent 3 years)			
Average	86.68%	8.43%	1.00
Cumulative Total			96.11%
Public Advocate's Method (Bold Data in Shaded Cells)			
Average	86.68%	8.88%	1.56%
Cumulative Total			97.12%

¹⁹⁸ See, PWD Rebuttal Statement 1 at 8-9; Response to PA-VI-28.

¹⁹⁹ Curiously, the Advocate did not object to the collection factor for stormwater only billings. See discussion, *infra*.

²⁰⁰ PA Hearing Exhibit 7 at 56.

²⁰¹ See, PWD Hearing Exhibit 1 (Illustration of Collection Factor Analysis).

The Advocate's witness, Lafayette Morgan, also errs in using only an average based on three years of data, as depicted above.²⁰² As explained in the Department's rebuttal testimony, this approach has two fundamental flaws: (i) the use of three years of data does not provide sufficient support to reliably determine payment patterns; and (2) the use of the most recent three years of data actually only provides one set of payment pattern for FY 2014 billings.²⁰³ It is appropriate to use a larger data set, as illustrated by viewing the totality of the data shown above, because historical experience indicates that PWD continues to receive payments on bills for more than three years. As a consequence, the Advocate's analyses in both instances are incomplete and misleading (by focusing on only three years of data).

In addition, the Advocate's analyses both ignore stormwater only customers altogether. These customers would also be impacted, if the Advocate's methodology were utilized. PWD uses a cumulative collection factor of 72.08% for stormwater only billings. The data for stormwater only customers is available in the rate filing²⁰⁴ to complete this analysis, but for whatever reason, the Advocate and its witness chose not to utilize same. Obviously, stormwater only data will affect the overall collection levels for the Department. This is confirmed by the table below showing collection factors for stormwater only customers.

²⁰² PA witness, Lafayette Morgan characterizes accumulated data over three years old as "stale." He is mistaken, however, because historically billings are collected over three years or more (i.e., the Billing Year, Billing Year Plus 1, and Billing Year Plus 2 and beyond). The billing periods also reflect "one set" of payment patterns. PWD Rebuttal Statement 1 at 8.

²⁰³ PWD Rebuttal Statement 1 at 9.

²⁰⁴ PA Statement 9A, Schedule BV-E5 (WP-1) at 15.

Comparison of Collection Factors Analysis Extended to Include Stormwater Only Billings²⁰⁵

Fiscal Year	Stormwater Only Billings		
	Billing Year	Billing Year Plus 1	Billing Year Plus 2 and Beyond
2016	63.08%	N/A	N/A
2015	59.51%	8.08%	N/A
2014	59.11%	5.98%	2.98%
2013	60.86%	7.49%	3.95%
2012	59.32%	9.21%	5.09%
Department's Method (Add Data)			
Average	60.38%	7.69%	4.01%
Cumulative Total			72.08%
Public Advocate Witness' Method (Most Recent 3 years)			
Average	60.57%	7.03%	2.98%
Cumulative Total			70.58%
Public Advocate's Method (Bold Data in Shaded Cells)			
Average	60.57%	7.18%	4.01%
Cumulative Total			71.76%

As depicted above, use of either of the Public Advocate's methods lowers the collection factor for stormwater only customers. Perforce this will lower the overall collection factor during the Rate Period. The point of the foregoing is that an incomplete analysis, as presented by the Advocate (using a subset of available data) to project revenues for 2019-2021 FPFTYs, is misleading, irresponsible and lacks sufficient record support.

(b) SMIP/GARP.

The Department proposes to fund SMIP/GARP at \$25 million in each year of the Rate Period. This represents an increase of \$10 million per year when compared to the levels presented in the last rate case (\$15 million per year) for FY 2017-2018. The Department's proposal for SMIP/GARP project grants is reasonable and necessary. That is, SMIP and GARP grants are important components of the *Green City Clean Waters* program and are necessary for the Department to comply with the requirements in the Consent Order and Agreement. The grants also allow businesses, institutions and other non-residential customers to directly implement stormwater management projects and provide a pathway for the Department to take compliance credit for "greened acres" on project sites that would otherwise be inaccessible; and at a cheaper

²⁰⁵ PWD Statement 9A, Schedule BV-E5 (WP-1) at 15.

price than it would cost the Department to build equivalent projects on public property. As of September 2017, 301 greened acres have been constructed using funds provided by SMIP or GARP, and many more are expected to come on-line by the end of this fiscal year.²⁰⁶

Under the COA, the Department must obtain greened acres. To meet milestone requirements, the Department must accelerate its pace in obtaining greened acres. By way of example, the 5-year COA milestone was 744 greened acres, while the upcoming 10-year milestone is triple that at 2,148 greened acres.²⁰⁷ Obtaining greened acres through the SMIP/GARP program costs less than implementing greened acres in public space. In addition, there are more acres of available private property than public property. Since SMIP/GARP project grants are the most-cost effective method of obtaining greened acres, the Department needs additional resources to fund SMIP/GARP project grants, so that it can meet requirement milestones in the COA.

The Public Advocate objects to increasing rates to obtain the additional \$10 million per fiscal year. To be clear, the Advocate does not challenge the need to spend \$25 million per year to comply with the COA. It only objects to the inclusion of the \$10 million in the Department's revenue requirement (i.e., as part of the rate increase). Stated plainly, the Advocate (wrongly) believes that the additional \$10 million can be adequately funded by PWD's ability to control costs or by using other reserves.

The Public Advocate's position is untenable and irresponsible.²⁰⁸ The GARP program is not something that is merely optional or discretionary. GARP is absolutely critical to the Department for three central reasons.

In the first instance, it is essential to meeting a legal requirement. GARP is a critical part of PWD meeting state and federal Combined Sewer Overflow (CSO) consent orders. The COA specifically requires the Department to meet targets known as "total greened acres." This metric reflects the number of acres

²⁰⁶ PWD Statement 6 at 8-9.

²⁰⁷ PWD Statement 1 at 22; PWD Statement 6 at 9.

²⁰⁸ The Advocate falsely asserts, among other things, that not funding SMIP/GARP would provide an incentive for PWD to control costs. PA Statement 1 at 19. The opposite is true. SMIP/GARP provides cost savings as constructing green stormwater infrastructure on private parcels is cheaper than analogous projects on City or public land. Another benefit to PWD and its customers is that the long-term operating and maintenance of green stormwater infrastructure remains the responsibility of the private property owner. PWD Rebuttal Statement 1 at 14.

within the City from which PWD must control stormwater runoff so as to achieve the over-arching goal of an 85% reduction in CSO discharges. As alluded to above, the Department's goal for FY 2021 (consistent with COA requirements) is 2,148 greened acres. Without GARP, PWD will be unable to achieve this goal using private parcels, resulting in a violation of state and federal consent orders.²⁰⁹

Secondly, GARP is critical in controlling costs related to compliance with the aforesaid consent orders. The Board should be aware that greened acres are created in three ways (a) new development is required to meet applicable stormwater regulations which require management of stormwater on site, thereby producing greened acres; (b) PWD can build green infrastructure in the street and manage stormwater runoff from the streets; and/or (c) PWD can utilize GARP to manage large volumes of stormwater on commercial and industrial sites. After seven years, it has become abundantly clear that GARP is far and away the least expensive, most efficient, most timely and simplest way for PWD to produce greened acres in compliance with COA requirements.²¹⁰

Finally, GARP provides relief to the most highly impacted industrial and commercial customers. Many of these customers saw their stormwater bills dramatically increase when the Department transitioned to a parcel based method of allocating stormwater management costs. GARP provides some rate relief to these customers while providing the Department (and other customers) with its most economical method of producing greened acres.²¹¹

By not fully planning for the required SMIP/GARP projects, the Public Advocate appears to be positioning the Department (i) to be non-compliant with COA requirements; (ii) to cut other programs/services; or (iii) force the Department to rely on reserves (or some combination of those outcomes). To be sure, none of the above outcomes are responsible or prudent, and therefore the Advocate's recommendations should be rejected.

²⁰⁹ PWD Rebuttal Statement 1 at 14. Without SMIP/GARP, the Department would not have met the 5-year milestone of the COA which required the Department to achieve a performance standard of 744 total greened acres by June 2016. As of that deadline, the projects constructed and in operation with funding from SMIP/GARP accounted for 234 greened acres or approximately 31% of the greened acre requirement for the 5-year COA milestone requirement. PWD Statement 6 at 9.

²¹⁰ PWD Rebuttal Statement 1 at 14.

²¹¹ PWD Rebuttal Statement 1 at 16.

(c) Capital Program Spend Rate.

Projected Capital Improvement Program expenditures for the Rate Period are \$328 million, \$339 million and \$349 million in 2019, 2020 and 2021 FPFTYs, respectively.²¹² The projected capital program total annual expenditures for the Rate Period are estimated at 90% of the annual inflated capital program budget to track anticipated expenditure levels during each FPFTY.²¹³ The inflated capital program budget reflects an annual inflation of 2.5% based upon industry construction cost indices.²¹⁴

The Advocate disagrees with the projected Capital Program spend rate proposed by the Department.²¹⁵ Public Advocate witness, Lafayette Morgan, specifically recommends that a 76% spend rate be used instead, reflecting average spending levels over the past three years. Mr. Morgan's analysis is mistaken, however, given recent trends in capital obligations. As detailed in the response to PA-IX-20, the Department reviewed recent capital obligations by fiscal year together with expenditures. In that context, expenditures lagged behind obligations for a variety of reasons including, (i) the timing of obligations during the fiscal year; (ii) the timing of the start of construction; and (iii) the duration of construction.²¹⁶ But the two are correlated. As obligations increase, future expenditures will likewise increase as the projects (for which the obligations were made) are constructed and paid for.

As depicted in the table below, over the past six years, bidding related to capital projects has been steadily increasing (as demonstrated by the increase in fiscal year obligations in column 3 below). As one would expect, there is also an increase in expenditures which reached an 82.12% of the budget in FY 2017 (due to an increase in obligations over prior years).

²¹² PWD Statement 9A, Schedule BV-E5 (WP-1) at 10.

²¹³ PWD Statement 9A, Schedule BV-E5 (WP-1) at 9; PWD Rebuttal Statement 2 at 14-15.

²¹⁴ PWD Statement 9A, Schedule BV-E5 (WP-1) at 9; Appendix 7.

²¹⁵ PA Statement 1 at 28-29.

²¹⁶ PWD Rebuttal Statement 2 at 14.

Capital Budget Obligations/Expenditures (FY 2013-2018)²¹⁷

Fiscal Year	Budget	Obligations	Obligations as Percent of Budget	Expenditures	Expenditures as Percent of Budget
2013	\$228,573,000	\$171,497,831	75.03%	\$142,016,000	62.13%
2014	\$235,153,000	\$181,341,988	77.12%	\$143,024,000	60.82%
2015	\$260,353,000	\$235,833,991	90.58%	\$175,618,460	67.45%
2016	\$284,041,000	\$290,086,548	102.13%	\$187,170,515	65.90%
2017	\$301,629,000	\$333,689,547	110.63%	\$247,692,583	82.12%
2018	\$353,658,000	\$388,436,942	109.83%		

Based upon the high level of obligations in FY 2016-2018, the Department reasonably anticipates expenditures in FY 2019-2021 will continue to rise, and may even surpass 90% of the capital budget.²¹⁸

Given the experience of the recent past (obligations in FY 2016-2018 are considerably higher than preceding years), longer term historical performance (relied upon by Mr. Morgan) will not be a good indicator of future expenditure levels. Stated differently, in view of increasing PWD obligations (which will lead to future increases in spending), it is reasonable to reflect this trend in the Capital Program spend rate at 90% (which anticipates increased spending as depicted in the table above), as opposed to the lower spend rate recommended by the Advocate.²¹⁹

(d) Escalation Factors.

Operating expenses for each FPFTY are projected utilizing escalation factors which are applied to FY 2018 operating expenses by category.²²⁰ The escalation factors shown in the table below are proposed by the Department for the Rate Period. Escalation factors for Labor costs are based upon the City's Five Year Financial and Strategic Plan for FY 2018-2022 and prior year labor agreements. The escalation factors for Power and Gas are based upon the City Energy Office estimates. The escalation factors for Chemicals for FY 2019 and 2020 are based upon PWD's recent experience. Escalation rates of 3.8% and 1.0% are

²¹⁷ PWD Rebuttal Statement 2 at 15.

²¹⁸ PWD Rebuttal Statement 2 at 15; Response to PA-IX-20.

²¹⁹ PWD Rebuttal Statement 2 at 15.

²²⁰ PWD Statement 9A, Schedule BV-E5 (WP-1) at 4-5.

utilized for FY 2020 and 2021, respectively. The escalation factor for Transfers for the FY2019-2021 period is 2.5%. The table below captures the escalation rates utilized in the rate filing (as revised during the proceeding).

Annual Escalation Factors²²¹

Class	Description	Annual Escalation
100	Labor Costs	FY 2019 – 2.5%; FY 2020 - 3.0%; FY 2021- 3.0%
220	Power	FY 2019 – 2020 – 0.0%; FY 2021 – 3.0%
221	Gas	FY 2019 – 4.0%; FY 2020 – 0.0%; FY 2021 – 3.0%
200	Services	FY 2019-2021 – 3.4%
200	Public Property	FY 2019 – 1.66%; FY 2020 -1.60%; FY 2021 – 1.56%
307	Chemicals	FY 2019 – 0.0%; FY 2020 – 3.8%; FY 2021 – 1.0%
300	Materials and Supplies	FY 2019 – 2021 – 0.5%
400	Equipment	FY 2019-2021 – 1.3%
500	Indemnities	FY 2019-2021 – 0.0%
800	Transfers	FY 2019-2021 – 2.5%

The escalation factors that are contested are those applied to (i) Power and Gas, (ii) General Costs and Other Class 200 Expenses, (iii) Chemicals and (iv) Transfers.²²²

(i) Power and Gas Costs.

The Advocate disagrees with the PWD escalation factor for Power and Gas costs.²²³ Public Advocate witness Morgan observes that the contested escalation factor is based upon the City’s Five Year Plan. He opines that use of projections in this plan fall short of the “known and measurable” standard and should be rejected.²²⁴ Mr. Morgan is mistaken. As stated previously, nothing requires absolute certainty in a fully projected future test year. All forward looking projections are subject to a number of assumptions,

²²¹ PWD Statement 9A, Schedule BV-E5 (WP-1) at 5-6.

²²² PA Statement 1 at 22.

²²³ PA Statement 1 at 22-23.

²²⁴ PA Statement 1 at 22-23.

uncertainties and other factors. The appropriate test is whether the projection is reasonable. With regard to both Power and Gas costs, the escalation factors used reflect the judgment of the City's Office of Sustainability, Energy Office which coordinates energy purchase across the City departments. Consistent with the Energy Office's recommendation, no escalation factors were applied in (i) FY 2019-2020 for Power costs and (ii) FY 2020 for Gas costs.²²⁵ The Advocate accepts this part of the recommendation, but cannot abide a projected increase for FY 2021. However, to assume that the City will experience no increase in either power or natural gas expenses after FY 2020 is unreasonable and fails to recognize the Energy Office's expertise in coordinating purchases for the City.²²⁶ As the Energy Office has already accounted for current hedges and its recent experience in the energy market (which has favorably impacted gas and power costs projected in FY 2019-2020), the escalation factors used in FY 2021 should be considered as reasonable projections – based upon the same reasonable judgment and experience.²²⁷

(ii) General Costs and Other Class 200 Expenses.

The Advocate also disagrees with the escalation factor used for General Costs and Other Class 200 expenses.²²⁸ Its disagreement is predicated upon the assumption that PWD applied a 3.15% general escalation factor in its projections. This is incorrect. Rather, as noted in PWD Statement 9A, Schedule BV-E5 (WP-1) at Appendix 4, the overall escalation in total costs experienced by PWD is presented for FY 2014-2016 at the bottom of the table shown in that Appendix. Specific escalation factors for individual cost categories are used in projecting expenses for each FPFTY (also as shown in Appendix 4). It bears emphasis that the escalation factor utilized for Other Class 200 Costs is 3.3% -- not 3.15%, as assumed by the Advocate. Moreover, the escalation factor utilized by PWD did not include SMIP/GARP costs. Finally,

²²⁵ PWD Rebuttal Statement 1 at 18.

²²⁶ See, PWD Rebuttal Statement 1 at 18. Also, as stated in the technical hearings, PECO has recently filed an application for rate relief with the PUC. The Rate Board should also take notice of the fact that increases in natural gas costs can be experienced independent of a new rate filing by Philadelphia Gas Works in view of its gas cost recovery mechanism.

²²⁷ PWD Rebuttal Statement 1 at 18.

²²⁸ PA Statement 1 at 24.

the Board should be aware that the 3.3% escalation factor (utilized as stated above) is consistent with PWD's historical two-year average increase experience, as presented in Appendix 4 (referenced above).²²⁹

(iii) Chemical Costs.

The Advocate further disagrees with the escalation factor utilized for Chemical costs.²³⁰ In this context, Mr. Morgan's review of chemical cost escalation factors does not appear to recognize the responses to PA-IV-12, PA-IV-22 and PA-IX-18. Those responses detail PWD's recent experience in procuring chemicals. The annual increases for FY 2020 are based on PWD's recent experience and unit costs provided during the procurement process.²³¹ By way of example, the contracted price for ferric chloride (representing 30% of the Chemical budget) significantly increased in January 2018. This increase impacts FY 2020 projections. In addition, a nominal escalation rate of 1% is applied for FY 2021, based upon a review of the overall consumer price index and PWD's recent experience.²³² The Advocate fails to recognize the expertise of the PWD Operations staff in establishing reasonable cost escalation factors based upon their experience and professional judgment. Moreover, the Advocate's recommendation in no way recognizes the impact that variations in river/source water quality may have on treatment costs.²³³

(iv) Transfers.

The Advocate disagrees with the escalation factor applied to Transfers.²³⁴ In this context, Mr. Morgan mistakenly assumes that the Transfers represented by Class 800 (as presented in PWD Statement 9A, Schedule BV-E5 (WP-1) at Appendix 4) include transfers to the Residual Fund for further transfer to the Capital Account.²³⁵ This is incorrect. The historical experience presented in Appendix 4 (referenced above) does not include Residual Fund transfers for further transfer to the Capital Account. Such a transfer would be some \$28 million. As shown in Appendix 4, the total expenses used to derive the 2.47% escalation

²²⁹ PWD Rebuttal Statement 1 at 19.

²³⁰ PA Statement 1 at 25.

²³¹ PWD Rebuttal Statement 1 at 19.

²³² PWD Rebuttal Statement 1 at 19.

²³³ PWD Rebuttal Statement 1 at 20.

²³⁴ PA Statement 1 at 26.

²³⁵ PA Statement 1 at 26 (lines 11-12).

factor for Transfers (Class 800) are in the range of \$6.24 million to \$8.10 million.²³⁶ As such, the premise for Advocate's escalation factor is plainly wrong.

(e) Normalization Adjustments.

In each of the proposed FPFTYs, the Department anticipates incurring Rate Case Expenses and TAP Implementation Costs. The Public Advocate recommends that these expenses be amortized for ratemaking purposes. The Department disagrees for the reasons explained below.

- **Rate Case Expense.** The costs that are budgeted and projected for FY 2019 are the costs that are expected to be incurred in that year.²³⁷ Tr. 96 (May 14, 2018). As budgeted, the category of expense characterized as “rate case” expenses by the Advocate are not limited to expenses incurred in the preparation or presentation of this rate proceeding.²³⁸ This is self-evident by the simple fact that costs related to this rate proceeding are being incurred throughout the Rate Period. So, this category of expenses (rather than being limited to expenses incurred for this rate proceeding) is actually related to ongoing expenses for the same teams of people/consultants who are providing (and will continue to provide) other services to the Department.²³⁹ Many of the consultants have been selected (and contracted) to provide such service over multiple years. Simply put, between rate proceedings, the Department does rate-related tasks that the Department cannot do during a rate proceeding.²⁴⁰ Those tasks are “captured” in the same accounting category as more traditional rate case expenses.
- **TAP Implementation Costs.** As explained in the record, the implementation costs are ongoing annual expenses and are expected to continue throughout the life of the program.²⁴¹ It should be noted that there are still parts of the program that need to be fully-implemented.²⁴² A major component, and specific driver, of continued “implementation” costs is the requirement to have electronic applications.²⁴³ This requirement is ongoing and will continue in the test period. That cost alone is \$3 million dollars.²⁴⁴ In addition, as noted during the technical hearings, the TAP ordinance contains certain reporting requirements that require tracking of applications, and the way WRB obtains those tracking metrics is through bar-coded applications.²⁴⁵

To be clear, the level of these expenses in each FPFTY reflects the anticipated level of these expenses on a normal/ongoing level for that FPFTY. Simply put, each of these expenses is an ongoing annual expense.

²³⁶ PWD Rebuttal Statement 1 at 21; PWD Statement 9A, Schedule BV-E5 (WP-1) at Appendix 4.

²³⁷ Tr. 96 (May 14, 2018).

²³⁸ Tr. 254-255 (May 14, 2018). Investor-owned utilities are often required by a State Commission to separately capture rate case expenses from other studies and efforts. When that is the case, they tend to define “rate case expenses” as non-recurring expenses incurred by a utility in the preparation or presentation of a full rate case proceeding before the commission, necessary for the conduct of the rate case.

²³⁹ Tr. 254-255 (May 14, 2018).

²⁴⁰ Tr. 255 (May 14, 2018).

²⁴¹ Tr. 104 (May 14, 2018).

²⁴² Tr. 105-106 (May 14, 2018).

²⁴³ Tr. 104 (May 14, 2018); Response to Transcript Request (“TR”) 12.

²⁴⁴ Tr. 104 (May 14, 2018).

²⁴⁵ See, Response to TR-12.

The Public Advocate's normalization (amortization) proposal should be rejected.²⁴⁶ Here, the Advocate has proposed to normalize each of the above-described costs over the rate period.²⁴⁷ However, it has misidentified these costs as non-recurring (or infrequent) expenses.²⁴⁸ As explained, these are ongoing annual expenses and include PWD and City personnel costs. The Advocate, therefore, wrongly concluded that these expenses should be normalized over the Rate Period.

That being said, it is not appropriate to normalize the Department's costs between the separate FPFTYs presented in this proceeding. From a ratemaking perspective, each FPFTY is set using the cash needs approach.²⁴⁹ This means that each FPFTY measures the revenue requirement to provide the total revenues required by the Department to meet its cash expenditures in that FPFTY.²⁵⁰ The Public Advocate's proposal would do significantly less than that. Stated differently, "normalization" – as proposed by the Public Advocate – would only provide a portion of the funds to cover anticipated expenses: half if a two year period is adopted²⁵¹ or one-third if a three year period is adopted. This could lead to a revenue shortfall.²⁵² The Public Advocate does not provide adequate funds in the first FPFTY (2019) to pay for all of the costs incurred in that year and would not provide any additional funds for ongoing expenses during 2020 and 2021 FPFTYs. So, acceptance of the Public Advocate's normalization proposal would force the Department to either use funds allocated for other expenses to pay for these expenses or operate at deficit for these expenses. Neither option is a reasonable outcome. In addition, the COS study effectively reflects a normalization of these costs, since PWD budgeted costs are adjusted by actual-to-budget factors based

²⁴⁶ Normalization (or amortization) is done to account for conditions not expected to continue during the FPFTY. AWWA Rate Manual at 10.

²⁴⁷ PA Statement 1 at 27-28 (Debt Issuance Costs), 30 (Rate Case Expenses), 31-32 (WRAP/TAP Implementation Costs).

²⁴⁸ "Non-recurring expenses are not incurred repeatedly from year to year but occur infrequently. A good example of a non-recurring O&M expenses is the cost of painting a water storage tank [, which] ... might only be incurred once every 10 years. ... [In that case,] the cost of painting the tank would be amortized over 10 years, and the annual expense would be one-tenth of the total cost." AWWA Rate Manual at 28.

²⁴⁹ The AWWA Rate Manual identifies the cash needs approach as an acceptable methodology for water rate setting and points out that it is more straight-forward to calculate and may be better aligned with the way many utilities prepare their budgets.

²⁵⁰ "The objective of the cash needs approach for developing revenue requirements is to provide revenues sufficient to recover total cash requirements for a given time period. Generally, the cash-needs approach is used by government-owned utilities...." AWWA Rate Manual at 12.

²⁵¹ Tr. 132 (May 15, 2018).

²⁵² Tr. 89-90, 101-102 (May 14, 2018).

upon historical experience; and RSF transfers mitigate/levelize the need for additional revenues during the Rate Period.

C. Cost of Service, Cost Allocation, Rate Design and Other Issues.

1. PWD Proposed Cost Allocation and Rate Design Are Reasonable.

The Department's proposed cost allocation and rate design are consistent with industry best practices and are premised upon cost causation.²⁵³ PWD specifically uses the base-extra capacity method to allocate costs to the various customer types. This methodology is widely recognized in the industry and is endorsed in the AWWA Rate Manual.

The water and wastewater cost of service ("COS") studies consist of essentially three components (1) the determination of the cost of service to be recovered from charges for water and wastewater service; (2) the allocation of cost of service to functional cost components which recognizes the system characteristics; and (3) the distribution of functionalized cost of service components to customer types.²⁵⁴

The total revenue requirements to be derived from charges for water and wastewater service are synonymous with, and are the definition of, the total cost of service. As a basis for developing an equitable rate structure, these costs are allocable to the various customer types according to respective service requirements.²⁵⁵

For the water utility, allocations of these requirements to customer types should take into account the quantity of water use, relative peak capacity requirements placed on the system, the number and size of services to customers, and proprietary interest in the system investment.²⁵⁶

For the wastewater utility, factors considered in estimating service requirements of each customer type include the annual volume and peak rates of sanitary wastewater, infiltration, and stormwater flows;

²⁵³ PWD Statement 9A at 10.

²⁵⁴ PWD statement 9A at 20.

²⁵⁵ PWD Statement 9A at 52.

²⁵⁶ PWD Statement 9A at 52.

wastewater strengths; the number and sizes of customers served; and proprietary interest in system investment.²⁵⁷

After the allocation of costs to functional cost components, the same are distributed to customer types. To do this, customers with similar characteristics are assigned to specific categories. Units of service for each customer type are determined for each of the functional cost component categories. The unit costs of service are determined by dividing the allocated cost of service by the sum of the units of service for all customer classes for each particular cost component. The unit costs are then applied to the units of service for each customer type with the total cost of service being the sum of the allocated costs for all cost components. The units of service of each customer type provide a means of proportionate distribution of costs previously allocated to functional cost components to the customer types.²⁵⁸

Analysis of resulting costs of service to each customer type provides the basis for design of the proposed rate schedules. In this case, rate schedules for water and wastewater service to retail customers were designed to consist of a service charge and volume charges applicable to billable usage for each utility. PWD-specific characteristics include the following areas described below.

(a) Receipts Form the Basis for Revenue Projections.

The Department uses receipts as the basis for calculating revenues, and therefore, this necessitates the use of “collection factors” and a “lag factor” to project revenues and design rates. The collection factors acknowledge that the Department does not fully collect all fiscal year billings within that fiscal year. The lag factor reflects a final adjustment to the COS rates recognizing the anticipated receipts of the prorated revenue increases projected for the test years, recognizing the implementation of the proposed rates and normally expected historical payment patterns.²⁵⁹

²⁵⁷ PWD Statement 9A at 52-53.

²⁵⁸ PWD Statement 9A at 69.

²⁵⁹ PWD Statement 9A at 22, 121.

(b) PWD Provides Discounts for Impacted Customers.

The proposed user rates and charges recognize that eligible senior citizens²⁶⁰, charities²⁶¹, schools²⁶² and the Philadelphia Housing Authority²⁶³ receive services at a discounted rate. Moreover, with this rate proceeding, the Department is requesting approval for its Tiered Assistance Program (TAP) Rate Rider methodology and the FY 2019 TAP Surcharge which is specifically designed to recover TAP loss. The TAP Surcharge is one of the first of its kind for municipal water agencies and is described in more detail later in this briefing.

2. The Capacity Factors Used in the COS Study Are Appropriate and Reflect PWD's Historical Experience.

For the water COS Study, Black & Veatch used the Base/Extra-Capacity cost allocation method outlined in AWWA's Rate Manual. This approach reflects the fact that engineers size and design the water source of supply, treatment, pumping and transmission and distribution facilities to handle the annual usage and potential maximum day and maximum hour demands of the PWD's water customer base. Accordingly, in sizing the PWD water system, the design criteria recognize the "anticipated" annual usage and maximum demands placed on the water system.

(a) Recent Data Support the System-Wide Capacity Factors Utilized in the COS Study.

To determine the appropriate extra-capacity system factors for cost allocation, the Department's COS Study uses the methodology outlined in AWWA's Rate Manual. Following this methodology, the COS Study recognizes the highest ratios of maximum day to average day demand and maximum hour to average day demand. The highest recent ratio of maximum day to average day demand is 1.41 based on the FY 2012 system raw water pumping data. The proposed system-wide maximum day capacity factor of 1.40 is consistent and supported by recent data.²⁶⁴

²⁶⁰ Philadelphia Code §19-1902.

²⁶¹ Philadelphia Code §13-101(4)(e).

²⁶² Philadelphia Code §13-101(4)(e).

²⁶³ Philadelphia Code §13-101(4)(f).

²⁶⁴ PWD Rebuttal Statement 3 at 3.

Similarly, the highest recent ratio of maximum hour to average day demand is 1.92 based on the FY 2016 system treated water delivery data. The Department's use of a 1.90 system-wide maximum hour capacity factor is consistent and supported by the recent data.²⁶⁵

The utilization of system raw water pumping data as the basis for the maximum day capacity factor and the system treated water delivery data as the basis for the maximum hour capacity factor reflect PWD's system characteristics, is consistent with the methodology used in prior rate proceedings and aligns with the AWWA Rate Manual guidelines.

Additionally, PLUG supports the Department's methodology and capacity factors. Richard A. Baudino submitted rebuttal testimony on behalf of PLUG, which states that "the system-wide maximum day and maximum hour extra-capacity factors used in the COS Study are based on the PWD's actual historical experience, are reasonable, and should be adopted for purposes of the COS Study used in this proceeding."²⁶⁶

(b) Capacity Factors Used by the Advocate Reflect Illustrative Examples, Not PWD-Specific Data.

It should be noted that there are variations between customer-class specific extra-capacity factors in the COS Study and those that are calculated based on the methodology outlined in Appendix A of the AWWA Rate Manual. In the first instance, extra capacity factors used in the COS study are specific to the utility and will reflect demands associated with PWD customers. More generic data (as shown in the above Appendix) is proffered for illustrative purposes and has no empirical relationship with PWD. More specifically, generic data will vary from utility specific data. These variations are primarily due to the use of typical weekly and hourly usage factor assumptions as presented in the example calculations included in Appendix A of the above manual. These weekly and hourly usage factors used in the AWWA Rate Manual

²⁶⁵ PWD Rebuttal Statement 3 at 5.

²⁶⁶ PLUG Rebuttal Statement 1 at 2, lines 18 to 21.

are illustrative assumptions that do not represent unique circumstances of each system. The factors Black & Veatch has used in the COS study reflect PWD-specific considerations, which include:

- PWD does not experience seasonal peaking to the same extent as some utilities since urban customers do not have summer use peaks reflecting irrigation.
- PWD has a lower system-wide maximum day peaking factor when compared with other utilities, and hence experiences more diversity in hourly use adjustments than those presented in the AWWA Rate Manual.²⁶⁷

(c) The Advocate’s Proposal Does Not Follow Accepted Industry Guidelines nor Does It Reflect PWD-Specific Adjustments.

The PWD COS study relies upon recent data and follows the industry-accepted methodology for determining system-wide and customer-specific extra-capacity factors. As summarized in the table below, the Public Advocate’s expert witness, Mr. Mierzwa, has proposed customer-class specific extra-capacity factors that do not follow accepted industry practices nor account for PWD’s specific characteristics.

The table below summarizes how the Advocate’s analyses departs from industry norms with regard to each calculation component in his analysis (i.e., shown by comparing AWWA Guidelines and analysis used in Mr. Mierzwa’s testimony (Schedule JDM-1)).²⁶⁸

Comparison of Advocate Cost Allocation Recommendations and AWWA Guidelines

Calculation Component	AWWA Guidelines	Schedule JDM-1
Customer Class Maximum Monthly Demand	Maximum monthly demand during the year of system historical peak day demand. PWD’s system historical peak day demand occurred in FY 2012.	Average monthly demand based on FY 2014 to FY 2016.
Maximum Day Factor	Maximum Day to Maximum Month	Maximum Day to Annual Average Day.
Weekly Usage and Hourly Usage Adjustments	“Care must be taken to recognize the usage characteristics of each utility’s customers; the assumptions in this appendix are for illustrative purposes only.”	Utilized illustrative calculations presented in AWWA’s Appendix A – with no material changes to address PWD service characteristics.

Mr. Baudino also reviewed Mr. Mierzwa’s class cost of service study and found that he did not use the appropriate customer demand factors²⁶⁹ and was inconsistent with industry norms.

²⁶⁷ PWD Rebuttal Statement 3 at 7.

²⁶⁸ PWD Rebuttal Statement 3 at 7.

²⁶⁹ PLUG Rebuttal Statement 1 at 6, lines 5 to 7.

3. The Rate Board Should Approve the Department's Proposed Rate Design.

The Department's rate structure is reasonable and should be approved. Both the current and proposed rate structures utilize a single schedule of rates.²⁷⁰ This rate design/structure provides reasonable cost recovery²⁷¹ as evidenced by the fact that 82% of retail billings are within 1.5% of the calculated cost of service.²⁷² Under this structure, the same usage (MCF) rates are applicable for all metered usage for all customer types,²⁷³ vary based on monthly consumption, and decline with increasing consumption. The design of the declining tier blocks reasonably captures the inherent diversity of water usage, among PWD's customer types. In addition, PWD's water service rate structure, which includes fixed charges by meter size and a volumetric rate that reflects declining block rates, is a well-accepted rate structure that many utilities use across the United States.²⁷⁴ That being said, the Department recognizes that there is a need for a holistic evaluation of its existing water, sewer, and stormwater rate structure and is considering a conducting a comprehensive rate structure review before the next rate proceeding.²⁷⁵ Consequently, the Department plans to present any potential changes to the rate structure as part of the next rate proceeding, for the Rate Board's consideration.

While the specific components of the rate structure review and the detailed scope of work are yet to be finalized, at the current time, the Department envisions the following activities as part of the rate structure evaluation:

- Determination of the strengths and key issues about the existing rate structure.
- Definition of rate structure evaluation objectives and desired key outcomes.

²⁷⁰ PWD Statement 8 at 8; PWD Exhibit 6 at 791 to 795.

²⁷¹ The basic underlying principle in developing cost of service rates is the determination of what causes the cost, or what elements in a water or wastewater system are causing the level of revenue requirements. As stated above, the Department's capacity and customer peaking factors rely upon recent data, reflect PWD's historical experience for the appropriate facilities, follow industry accepted methodology, and require no adjustments. Thus, the COS Study is appropriate, and the proposed rates, which Black & Veatch designed to recover the cost of service do not require the revisions proposed by Mr. Mierzwa.

²⁷² PWD Statement 8 at 8; PWD Exhibit 6 at 791 to 795.

²⁷³ PA Statement 2 at 17.

²⁷⁴ PWD Statement 8 at 8.

²⁷⁵ PWD Statement 8 at 9.

- Evaluation of select rate structure alternatives and an analysis of the pros and cons of each alternative. Examples of rate structure alternatives that the Department may evaluate include uniform volumetric rate, inclining block rates, customer type based fixed and volumetric rates, specific cost recovery riders and/or charges, stormwater rate structure and magnitude of stormwater credits.
- Evaluation of bill impact and impact mitigation strategies.
- Recommendation of a proposed alternative rate structure that takes into consideration multiple factors including data availability, ease of administration, customer bill impact and outreach, and billing system modifications.

The Department notes that such a holistic rate structure review study would require substantial time and effort (between 24 to 36 months). Therefore, it is imperative that the Rate Board consider approving rates for a three-year rate period in this proceeding as that would provide the Department reasonable and adequate time to perform a comprehensive rate structure re-evaluation.²⁷⁶

It would not be reasonable to mandate the adoption of changes in this proceeding. Changes in the rate structure should not be contemplated without thorough planning and interaction with customer groups before making such a major change.²⁷⁷ Revenue stability could be significantly impacted due to unforeseen changes to various customers and customer types; this could cause disruptions in revenue collections or materially impact revenues.²⁷⁸

Nevertheless, the Advocate recommends that the Department adopt separate volumetric usage rates for each customer class in this proceeding.²⁷⁹ As a matter of best practice to facilitate customer acceptance, the changes recommended by the Advocate should not be decided in this proceeding, but should only be decided after using the activities and practices discussed above.

4. The Rate Board Should Approve the Department's Public Fire Protection Proposal.

PWD has proposed to change how it recovers the costs of public fire protection.²⁸⁰ Currently, costs for public fire protection are allocated and billed to the Fire Department, which pays the PWD from

²⁷⁶ PWD Statement 8 at 9.

²⁷⁷ PWD Statement 8 at 8-9.

²⁷⁸ PWD Statement 8 at 9.

²⁷⁹ PA Statement 2 at 3-4, 17-18.

²⁸⁰ Such change in policy was the subject of decision by the City Administration. See, response to PA-V-6, Attachment.

its General Fund allocation.²⁸¹ It is proposed that prospective costs for public fire protection (beginning in FY 2019) be equitably allocated within the cost of service analysis to all water customers. The same amount of revenue will be received by PWD, but that amount will be coming from a different source.²⁸²

The change in the cost recovery method for public fire protection costs is reasonable. The City has been using the General Fund (via the Fire Department's allocation) to subsidize public fire protection by more than \$8 million each year. Due to other constraints, it is no longer reasonable to artificially subsidize PWD through the use of the General Fund (via taxes).²⁸³ In many places, including in Pennsylvania, water customers pay for the cost of public fire protection services.²⁸⁴

The Public Advocate's argument that the *status quo* should be maintained should be rejected. The Public Advocate is primarily concerned that water bill for low-income tenants would be higher under the PWD's proposal (which apportions public fire protection costs to all customers) than at present (where public fire protection costs are paid by the Fire Department).²⁸⁵ This contention is mitigated by the fact that low-income tenants in Tiered Assistant Program ("TAP") would not experience an increase in the amount that they are asked to pay. Under TAP, they are only asked to pay a percentage of their income. It follows that the amount that they are asked to pay does not increase when the overall bill increases for all residential customers. None of the alleged inequities asserted by the Advocate incorporate the existence and impact of TAP.

In an effort to support its argument, the Public Advocate draws on inapplicable legal precedent to show that public fire protection is a "public good" or "governmental service" that should be paid by

²⁸¹ See, PA Statement 3, Letter to PWD regarding fire protection costs (Appendix D).

²⁸² With regard to fire protection, it should be noted that the AWWA Rate Manual states: "Fire protection service differs from other services provided by the utility. Essentially, this is a standby service that the utility makes available on demand. Although most fire hydrants and sprinkler connections are rarely used, the utility must be ready to provide adequate water quantities and pressures to meet firefighting needs at all times throughout the distribution system. Fire protection services are provided for both public ([e.g.,] municipal fire hydrants) and private ([e.g.,] individual property fire sprinklers) fire protection purposes."

The PWD recovers private fire protection costs differently from public fire protection costs. Costs for private fire protection are allocated and billed to those customers with private fire protection systems. Costs for public fire protection – which subject of a change proposed by the PWD – are given different treatment than private fire protection. See discussion, *infra*.

²⁸³ PA-V-6, Attachment; PA Statement 3, Letter to PWD regarding fire protection costs (Appendix D).

²⁸⁴ PWD Statement 9A, White Paper on Recovery of Public Fire Protection Costs (Schedule BV-E5: WP-2). In Pennsylvania, utilities regulated by the PUC can only charge a municipality up to 25% of the cost of service for public fire hydrants. 66 Pa.C.S. §1328(b). The remaining costs are allocated to all of other customers of the system. *Id.*

²⁸⁵ PA Statement 3 at 89, 95-102.

taxpayers.²⁸⁶ Public Advocate witness, Roger Colton, cites two decisions from the State of Washington²⁸⁷ “as evidence” of that policy position.²⁸⁸ Those decisions are neither binding nor persuasive in Pennsylvania because the test used in those decisions to distinguish governmental functions from proprietary functions is not the same test used in Pennsylvania. More specifically, in Pennsylvania, a municipality (or municipal authority) owning and operating a water system acts in a proprietary, rather than governmental capacity,²⁸⁹ and as such, it does not levy taxes for the operation of the utility.

Next, the Advocate incorrectly argues that the PWD is actually prohibited from allocating the costs of public fire protection to any customer other than the City itself.²⁹⁰ In this context, the Public Advocate misapplies cost causation principles to make this assertion. Its witness, Mr. Colton (as a non-rate consultant) advances this argument.²⁹¹ Same is wholly contradictory with the guidelines in the AWWA Rate Manual as well as the experience of other municipal utilities whose regulators have sanctioned analogous cost allocation approaches. Further, the Advocate misreads the Philadelphia Code as creating a prohibition to cost recovery in the circumstances presented.²⁹² That is, Section 13-101(4) contains two key provisions that must be read in context. Section 13-101(4)(a) establishes the minimum amount that rates and charges shall yield to the City.²⁹³ Section 13-101(4)(b) establishes the maximum amount that rates and charges shall yield to the City.²⁹⁴ By its plain language, Section 13-101(4)(b) compares the rates and

²⁸⁶ PA Statement 3 at 89, 93-94.

²⁸⁷ *Okeson v. City of Seattle*, 78 P.3d 1279 (Wash 2003); *Lane v. City of Seattle*, 194 P.3d 977 (Wash 2008).

²⁸⁸ PA Statement 3 at p. 89, 93-94.

²⁸⁹ See, e.g., *Boyle v. Municipal Authority of Westmoreland County*, 796 A.2d 389 (Pa. Cmwlth. 2001).

²⁹⁰ Such arguments implicitly contradict the Public Advocate’s position that allocation of public fire protection costs is policy position being advanced by the PWD. See, PA Statement 1 at 90-92.

²⁹¹ PA Statement 3 at 94-95. Nothing in Mr. Colton’s resume indicates any expert experience in cost causation principles. In fact, cost causation principles were addressed by Mr. Mierzwa, not Mr. Colton. See, PA Statement 2.

²⁹² PA Statement 3 at 91-92.

²⁹³ “The rates and charges shall be such as shall **yield to the City at least an amount** equal to operating expenses and debt service, on all obligations of the City in respect of the water, sewer, storm water systems and, in respect of water, sewer and storm water revenue obligations of the City, such additional amounts as shall be required to comply with any rate covenant and sinking fund reserve requirements approved by ordinance of Council in connection with the authorization or issuance of water, sewer and storm water revenue bonds, and proportionate charges for all services performed for the Water Department by all officers, departments, boards or commissions of the City.” Philadelphia Code § 13-101(4)(a) (emphasis added).

²⁹⁴ “The rates and charges **shall yield not more than** the total appropriation from the Water Fund to the Water Department and to all other departments, boards or commissions, plus a reasonable sum to cover unforeseeable or unusual expenses, reasonably anticipated cost increases or diminutions in expected revenue, less the cost of supplying water to City facilities and fire systems and, in addition, such amounts as, together with additional amounts charged in respect of the City’s sewer system, shall be required to comply with any rate covenant and sinking fund reserve requirements approved by ordinance of Council in connection with the authorization or issuance of water and sewer revenue bonds. Such rates and charges may provide for sufficient revenue to stabilize them over a reasonable number of years.” Philadelphia Code § 13-101(4)(b) (emphasis added).

charges to appropriations from the Water Fund to the PWD. That comparison excludes the “cost of supplying water to City facilities and fire systems” because such costs have been historically appropriated from other parts of the General Fund. That being said, it is not reasonable, as the Advocate suggests, to read that exclusion as prohibiting rates and charges for public fire protection. Such an interpretation would mean that the PWD could not directly allocate the cost of public fire protection to anyone, including the Fire Department.

D. Tiered Assistance Program.

1. TAP Cost Recovery.

PWD, in its original filing, proposed a cost recovery approach along with a rate rider to recover the costs and anticipated revenue loss associated with the Department’s Tiered Assistance Program (TAP) and the Low Income Conservation Assistance Program (LiCAP). The TAP revenue loss and LiCAP costs were represented as an integral component of the water, sewer, and stormwater “net revenue requirement” and consequently, the recovery of those costs was embedded in all of the existing water, sewer, and stormwater rate structure components. In addition, in the original filing, PWD proposed a rate rider to reconcile potential variances between the estimated TAP and LiCAP costs embedded in the rates of a test period, and the actual experience with respect to those costs.

As a part of its rebuttal testimony, PWD developed a revised proposal for both the TAP cost recovery mechanism and the reconcilable TAP Rider, thereby moving closer to the Public Advocate’s approach to this subject. Salient aspects of the revised proposal are as follows:

- TAP costs will be recovered via a distinct and reconcilable TAP Surcharge (“TAP-R”) defined in terms of dollars per thousand cubic feet (\$/MCF);
- TAP-R will only recover the TAP bill discount amounts provided (adjusted for collections);
- TAP surcharge rates will be expressed as two sub-components: 1) a “Water TAP-R” added to each declining block rate of the water quantity “base rate” (\$/MCF); and 2) a “Sewer TAP-R” that is added to the uniform sewer quantity “base rate” (\$/MCF);
- TAP-R will be subject to an annual reconciliation process in accordance with the proposed Rate Rider framework;

- The determination of net over or under collection of TAP costs will be based on an examination of both the actual TAP costs experienced, and the actual TAP rider revenues recovered from non-TAP customers; and
- All other TAP related costs including program administration and LiCAP costs will be recovered via “base rates” (i.e. PWD’s existing rates and charges).²⁹⁵

This revised approach addresses certain concerns of the Public Advocate identified in a dialogue that began during the pre-discovery phase of the proceeding and continued to the date of this writing. PWD’s original and the revised TAP Rider approaches align with industry accepted guidelines for cost recovery mechanisms by:²⁹⁶

- Aligning the reconciliation of revenue loss and costs closer to the time in which the Water Department incurs them;
- Establishing a framework that is simple to administer;
- Designing the framework to be flexible to accommodate available data and allow for future refinements;
- Enabling timely updates to adopted rates; and
- Establishing a framework that is legal and defensible.

These guiding principles are also consistent with the rate-setting guidelines described in the AWWA Rate Manual. As discussed in Black & Veatch’s direct testimony, this is one of the manuals that also provides industry guidelines and principles that are used in the development of the Department’s base water rates and charges.

2. TAP Rate Rider

(a) TAP Rate Rider - Basic Framework

The basic formula for derivation of PWD’s proposed TAP-R surcharge rate is as follows:

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

Whereas, each component is defined as follows:

²⁹⁵ PWD Rebuttal Statement 5, Schedule R5-1.

²⁹⁶ See, PWD Statement 9B, Schedule BV-S1 at 3.

Component	Definition
TAP-R	TAP Rider Rate (\$ per MCF).
C	Cost in dollars of the estimated TAP <u>Billing</u> Loss 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 <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. ²⁹⁷

It is important to note that to establish distinct Water TAP-R surcharge rate and Sewer TAP-R surcharge rate, the total TAP revenue loss (C) and reconcilable TAP over or under collection (E) that are determined will be apportioned between water and sewer services, as further described in the following section.

(b) Areas of Agreement.

PWD and the Public Advocate have reached general agreement on specific aspects of the TAP Rate Rider framework. The aspects we have agreed upon are as follows:

- i.** The TAP Rider and associated surcharge will only recover lost revenues associated with TAP discounts provided to TAP customers.
- ii.** All other TAP related costs including program administration and LiCAP costs will be recovered via “base rates”.
- iii.** The TAP Rider Surcharge will be defined in terms of dollars per thousand cubic feet (\$/MCF).
- iv.** The TAP Rate Rider Surcharge will be apportioned between the water and sewer services as follows:

²⁹⁷ See, PWD Rebuttal Statement 5 at 4.

- A portion of the reconcilable TAP costs will be allocated to the water service and the resulting Water TAP-R surcharge rate (\$/MCF) will be added to each declining block rate of the water quantity “base rate” (\$/MCF); and
 - A portion of the reconcilable TAP costs will be allocated to the sewer service, and the resulting Sewer TAP-R surcharge rate will be added to the uniform sewer quantity “base rate” (\$/MCF).
- v.** Both the Water and Sewer TAP-R surcharge rate will be computed based upon the Non-TAP Customer sales (in MCF) for the Projected Rate Period.
- vi.** The Water and Sewer TAP surcharge rate will be reconcilable on an annual basis.
- The actual discounts provided to TAP Customers (i.e. revenue loss) will be reconciled against the TAP-R surcharge revenues collected from Non-TAP Customers.
- vii.** Interest on over and under recovery of TAP-R revenues will be included in the reconciliation of the TAP-R. The interest amount for the reconciliation period will be computed based on the following interest rate:
- The yield to maturity 52-week interest rate of United States Treasury Securities with constant maturities as compiled and published in the Federal Reserve Statistical Release H.15 (519); and
 - The above referenced interest rate will be the rate that exists each year as of the first day of the month, preceding the month of the annual reconciliation submission to the Rate Board.
- viii.** PWD will use a combination of actual and estimated data to determine both the TAP discounts provided and the TAP-R surcharge revenues received for the

reconcilable (current) period, and perform the annual surcharge rate reconciliation.²⁹⁸

- ix.** PWD will not include an emergency adjustment clause as a part of the proposed TAP Rider.

The above areas of agreement reflect the significant progress PWD and the Pubic Advocate have made in addressing mutual concerns and finding common ground.²⁹⁹ The following section presents a discussion on the few remaining areas of disagreement.

(c) Narrowing Areas of Disagreement.

In this section, we present a brief summary of the three areas of disagreement and the rationale as to why PWD's position on each of these issues is appropriate and valid. The three issues are as follows:

- Selection of a Collection Factor for Use in Reconciling the TAP-R Revenues;
- Inclusion of Arrearage Forgiveness in the TAP Rate Rider Surcharge; and
- Apportionment of TAP Revenue Loss between the Water and Sewer Services.

Each issue is addressed in the discussion below.

(i) Selection of a Collection Factor for Use in Reconciling the TAP-R Revenues.

PWD proposes that its system-wide cumulative collection factor of 96.54% should be used in determining the TAP revenue loss and the surcharge revenues recovered from Non-TAP customers.³⁰⁰ This collection factor is based on PWD-specific historical data of billings and receipts.³⁰¹ The collection data represents the effect of multiple factors including the nature of integrated services PWD provides (water,

²⁹⁸ Note the use of estimated data is necessitated by: (1) the need to reconcile TAP discounts provided during the reconciliation period with TAP surcharge revenues collected during that same period; (2) at least 60 days of lead time for filing the rate rider request to the Rate Board; and (3) providing customers with notification of the Board approved changes to PWD's TAP Surcharge rate.

²⁹⁹ Under both approaches, the TAP Rate Rider would go into effect beginning in FY 2019. Specifically, with the implementation of the rider, all revenue losses associated with TAP would be recovered via the associated surcharge rates which would become effective beginning in September 1, 2018. The reconciliation component would begin with the filing of the FY 2020 surcharge rates, which will include a projection for FY 2020 TAP revenue loss and reconcile actual discounts provided to TAP participants with revenue recovered via the TAP-R surcharge from Non-TAP customers.

³⁰⁰ PWD Statement 9A, Schedule BV-E5 (WP-1) at 2, 15, and PWD Rebuttal Schedule R5-1 at 3.

³⁰¹ PWD Statement 9A, Schedule BV-E5 (WP-1) at 2.

sewer, and stormwater); the magnitude of PWD's monthly water, sewer, and stormwater charges; and PWD's customer base. The use of a system-wide collection factor is appropriate because the bill discount being provided to TAP customers represents a "new cost burden" that is imposed on other ratepayers (i.e. the Non-TAP customers).³⁰² The "lost billings" from TAP customers will be billed to and recovered from Non-TAP customers for PWD to meet its revenue requirements.³⁰³ Further, based on Black & Veatch's research there are other rate case proceedings where utilities have used system-wide collection factor specifically in the context of low income customer assistance program cost recovery.³⁰⁴

The Public Advocate disagrees with the Department's proposal. It recommends instead that a low-income uncollectible factor be applied to the annual TAP discount amount to determine the TAP revenue loss.³⁰⁵ In the absence of PWD-specific data for low-income customers, Public Advocate witness Roger Colton, suggests that PWD utilize an average of PECO and Philadelphia Gas Works ("PGW") low-income gross write-off ratios.³⁰⁶ Based upon the foregoing, Mr. Colton estimates that an average low-income uncollectibility rate should be 13.1%. In other words, applying this low-income uncollectibility rate, the Advocate proposes that an 86.9% collection factor be used to calculate the TAP revenue loss. The Department is critical of this recommendation for a variety of reasons including, that the data is not specific to PWD, its derivation is not clearly documented in the record, and it relates to non-water sector utilities.³⁰⁷

³⁰² PWD Rebuttal Statement 5 at 6.

³⁰³ PWD Rebuttal Statement 5 at 6.

³⁰⁴ As noted in the response to TR-1, based on Black & Veatch's research and to the best of their knowledge, in other municipally-owned water utilities, there are currently no water/sewer rate rider mechanisms that have been implemented to solely recover the cost of "low-income" assistance programs. Of particular note, even among electric utility low income rate riders, a system wide collection factor is used in determining revenue loss. For example, the Public Utilities Commission of Ohio allows a collection factor allowance in determining the revenue loss associated with an electric utility's Percentage of Income Payment Plan (PIPP) Plus program. Therefore, Ohio Development Services Agency's (ODSA) Universal Service Fund (USF) Rate Ride, utilizes collection factors, based upon each utility's specific system wide collection experience, for the purposes of determining the actual rate rider revenues collected.

³⁰⁵ PA Statement 3 at 62, line 15.

³⁰⁶ PA Statement 3: at 62, lines 16 through 19.

³⁰⁷ As detailed in the 2016, 2015 and 2014 *Universal Service Programs & Collections Performance Reports of the Pennsylvania Electric Distribution Companies & Natural Gas Distribution Companies* referenced in the Public Advocates' Hearing Exhibit No. 1, the "Gross Write-off Ratios" are based on information for "residential billings". Further the "Gross Write-Offs Ratio" is calculated by dividing the annual total gross dollars written off for residential accounts by the annual total dollars of residential billings." This approach differs from how PWD derives the system-wide collection factors, which reflects payments and collections over multiple years. As noted above, the TAP-R will be billed to all Non-TAP customers, not just residential customers. Beyond that, the write-off policies for PECO and PGW are not the same as PWD as they are governed by the requirements of the Pennsylvania PUC while PWD is subject to the City's write-off policies. See, Response to TR-3.

The record is also silent as to whether PECO or PGW use such low-income write-off data in their respective cost recovery riders for their universal services programs. Mr. Colton offered no confirmation on this point except to indicate that terms related to the respective rate riders may have been the outcome of settlement agreements.³⁰⁸ The point of the foregoing is that the collection factor recommended by the Advocate has a very uncertain empirical foundation.

In this rate proceeding and prior 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.³⁰⁹ Based upon actual historical trends, PWD has determined a cumulative system-wide collection factor of 96.54% is appropriate. This collection factor is data driven and provides a factor that is robust and reliable to be used for TAP revenue loss determination. The collection factor that the Public Advocate recommends is wholly unrelated to PWD and suspicious on its face.

(ii) Inclusion of Arrearage Forgiveness in the TAP Rate Rider Surcharge.

PWD disagrees with the inclusion of any reconcilable arrearage forgiveness in the determination of the reconcilable TAP surcharge rate at the current time, but has noted its willingness to consider the inclusion of arrearage forgiveness in the future pending changes to City policies and after consideration of other implications.³¹⁰ The Advocate's position to the contrary is aspirational at this point in time,³¹¹ as neither the Rate Board, WRB or PWD have the authority to change the City's arrearage forgiveness policies. Pursuant to the Charter, that authority lies with the Law Department.³¹² In any event, inclusion of arrearage forgiveness as part of the TAP-R surcharge at this time, without any additional consideration to its implications on the revenue projection approach and cost of service analysis that are

³⁰⁸ Tr. 114(May 11, 2018).

³⁰⁹ PWD Rebuttal Statement 5 at 7.

³¹⁰ PWD Rebuttal Statement 5 at 8.

³¹¹ The Public Advocate proposes that arrearage forgiveness should be included in the development of the TAP-R in conjunction with a potential change in the arrearage forgiveness policy.

³¹² See, Charter §§1-102(1), 4-100, 6-201, 4-400(b) and 8-410.

already used in the determination of the base rates, could risk a potential overstatement of the impact of arrearage forgiveness.³¹³

(iii) Apportionment of TAP Revenue Loss between the Water and Sewer Services.

PWD proposes to apportion the TAP revenue loss based on the proportion of the water and sewer annual revenue requirements respectively, to the total combined water and sewer revenue requirements.³¹⁴ This approach is appropriate because the TAP revenue loss is essentially a “cost” or “revenue requirement” for the Non-TAP customers.³¹⁵ Consistent with the foregoing, it is only appropriate and reasonable to apportion the TAP costs between water and sewer services based on the proportion of water and sewer revenue requirements to the total water and sewer revenue requirements. In addition, PWD revenues reflect payments (for a given year of billings) received over multiple years. Therefore, using revenue requirements as the basis for apportioning costs better aligns with the timing of when TAP costs are incurred. For consistency and certainty, PWD in its Alternative TAP Proposal, recommends using the FY 2019 Water and Sewer revenue requirement distribution percentages to apportion the FY 2019, FY 2020, and FY 2021 TAP costs between water and sewer services.

The Public Advocate disagrees with the above approach. It proposes instead to apportion TAP revenue losses to water and sewer services based on the proportion of annual revenues of those respective services to total system revenues. Their approach is premised upon the assumption that the TAP bill discount is a revenue loss to those two services. This approach was reasonable when, in the original filing, TAP costs were embedded as lost revenue and were to be recovered via all of the existing rate structure components.³¹⁶ That is no longer the case with the Department’s revised proposal. No portion of the TAP revenue loss will be recovered via base rates and therefore TAP participants will not aid in the recovery of

³¹³ As stated in the record, the cumulative collection factor of 96.54% which PWD uses in determining revenue receipts, already reflects the remaining 3.46%, which PWD deems as not collectible and hence that is akin to money that is forgiven. See, PWD Statement 9A, Schedule BV-E5 (WP-1) at 2, 15.

³¹⁴ PWD Rebuttal Statement 5 at 9.

³¹⁵ PWD Rebuttal Statement 5 at 6.

³¹⁶ PWD Statement 9B, Schedule BV-S1 at 4.

costs assigned to the TAP Rider. The revenue loss is a cost solely to be recovered from non-TAP customers. There is no longer any foundation for this area of disagreement.

The foregoing suggests that the two major remaining disagreements relate to the application of a low-income collectability rate and inclusion of arrearage forgiveness. The Department suggests that the Rate Board resolve both remaining issues based upon the evidence presented and its limited legal authority to set rates and charges.³¹⁷

E. Customer Assistance Programs and Related Activities.

PWD's Motion in Limine should be granted by the Hearing Officer. Issues and proposals on (a) the structure and operation of TAP and (b) shutoff notices are customer service issues, which are beyond the scope of a rate proceeding before the Rate Board and are, therefore, legally irrelevant. Both the Hearing Officer and the Board are authorized to exclude irrelevant information from their respective consideration of the proposed rates and charges.

Even if PWD's Motion is not granted, PWD should not be ordered to undertake any particular actions to improve customer service as a condition of increasing rates or otherwise. Nor should PWD be explicitly directed to include in its annual report to the Council and the Board, under 13-101(10) of the Philadelphia Code, any information relevant to the issues raised by the Public Advocate on (a) the structure and operation of TAP and/or (b) shut-off policies.

1. The Board Has No Authority to Direct Department Business Practices.

The Rate Board's authority is limited to the powers granted to it by City Council and it may not act beyond those powers. The Rate Board lacks the authority to direct the business practices of the Department or WRB since City Council did not grant the Rate Board that authority.

³¹⁷ The Department does not mean to minimize the procedural issues raised by the Advocate related to annual reconciliation. The Rate Board must establish its own procedures to review the TAP Rider which, PWD believes should track analogous reconciliation proceedings which are uniformly carried out without a hearing.

(a) The Board's Authority Limited to Powers Granted by City Council.

Customer service issues are beyond the scope of a rate proceeding before the Rate Board. The Rate Board has authority to fix and regulate rates and charges. Section 13-101 does not expressly authorize the Rate Board to set standards of customer service or to modify or reject a request to increase rates and charges because the customer services rendered by other City departments are found to be inadequate or fail to meet certain standards.

Pursuant to a ballot question in November 2012 which modified Charter § 5-801, City Council was vested with the authority to create an independent rate making body. In January 2014, City Council amended the Philadelphia Code §13-101 to create the Board.³¹⁸ When Council created the Board, it vested it with certain specific powers, specifically, “[to] fix and regulate rates and charges for supplying water, sewer and storm water service for accounts and properties located in the City of Philadelphia.”³¹⁹

The Rate Board's authority is limited to the powers granted to it by Council.³²⁰ Council was unambiguous in its grant of power to the Rate Board: (1) the Board shall fix and regulate rates and charges and (2) the Board may approve, modify, or reject the proposed rates and charges.³²¹ “[The] authority of the [administrative agency] must arise either from the express words of the pertinent statutes or by strong and necessary implication therefrom... It is axiomatic that the [administrative agency's] power is statutory; and the legislative grant of power to act in any particular case must be clear.”³²² Council did not give the Board the authority to direct the business practices of the Department or the Water Revenue Bureau, therefore the Board lacks the authority to do so.

³¹⁸ See, Bill No. 130251-A (approved January 20, 2014).

³¹⁹ See, Philadelphia Code §13-101(3).

³²⁰ See, *City of Pittsburgh v. PUC*, 43 A.2d 348, 348 (1945) (“the commission, created by statutory law, derives its authority from legislative action.”); *West Penn Rys. Co. v. PUC*, 4 A.2d 545, 550 (1939) (“the commission's power is statutory; and the legislative grant of power to act in any particular case must be clear.”).

³²¹ See, Philadelphia Code §§13-101(3) and 13-101(4)(b)(iii).

³²² See, *City of Philadelphia v. Philadelphia Electric Co.*, 473 A.2d 997, 999-1000 (1984).

(b) The Rate Board Has Previously Acknowledged It Has No Authority to Direct Business Practices of the Department.

The Rate Board previously faced this identical issue in the 2016 Rate Proceeding.³²³ At that time, the Rate Board asked the Law Department for its advice regarding the scope of Board authority to direct the Department (and by extension the Water Revenue Bureau) to take specific actions to improve the customer service experience.³²⁴ The Law Department advised,³²⁵ *inter alia*, that: (a) the Rate Board has authority to fix and regulate rates and charges, which includes the power to deny any rate increase above the baseline required by the Home Rule Charter and Code on any reasonable basis, and the power to grant a rate increase for a shorter period than the Water Department has requested; and (b) the Rate Board does not have the power to direct how the Water Department (and WRB) provides service. The Board accepted the advice of the Law Department and did not direct the business practices of the Department or WRB.³²⁶ That being said, PWD and WRB continue to tackle initiatives to improve customer service and the customer experience.

2. The Department's Motion in Limine Should Be Granted.

On April 20, 2018, the Public Advocate filed, *inter alia*, the prepared written testimony of Roger Colton (Public Advocate Statement 3). Mr. Colton's testimony is divided into four parts:

- Part 1 – Structure and Operation of TAP;
- Part 2 – TAP Cost Recovery;
- Part 3 – Public Fire Costs; and
- Part 4 – Barring Unfair and Deceptive Shutoff Notices

On May 7, 2018, the PWD submitted a Motion in Limine ("Motion")³²⁷ to request that the scope of the technical hearing exclude the customer service issues raised by Parts 1 and 4 of Mr. Colton's

³²³ 2016 Determination of Water Department Rates and Charges for FY 2017-2018, at 35-40.

³²⁴ 2016 Determination of Water Department Rates and Charges for FY 2017-2018 at 39-40 and Appendix B. The Rate Board's Determination on the Water Department Rates and Charges for FY 2017-2018 was issued on June 7, 2016, following the Rate Board's vote on June 6, 2016.

³²⁵ 2016 Determination of Water Department Rates and Charges for FY 2017-2018 at 39 and Appendix B.

³²⁶ 2016 Determination of Water Department Rates and Charges for FY 2017-2018, at 39.

³²⁷ A motion *in limine* is a motion made to determine a matter affecting the conduct of the hearing, such as preclusion of testimony or evidence. See, e.g., *Commonwealth v. Pikur*, 596 A.2d 1253, 1259 (Pa. Cmwlth. 1991) (defining an *in limine* motion as a motion or petition submitted to the court in a pending matter either pretrial or during trial whereby exclusion is sought of anticipated prejudicial evidence, keeping extraneous issues out of the underlying proceeding, precluding reference to prejudicial matters, or preventing encumbering the record with immaterial matter.).

testimony as beyond the scope of a rate proceeding before the Rate Board. The Motion would not prevent the Advocate from proffering Parts 2 and 3 of Mr. Colton's testimony.

Issues and proposals on (a) the structure and operation of TAP and (b) shutoff notices are customer service issues. This rate proceeding is related to the Department's proposed rates and charges for Fiscal Years 2019 through 2021. Mr. Colton's testimony includes recommendations regarding both the structure and operation of TAP (Part 1)³²⁸ and shutoff notices (Part 4);³²⁹ such testimony is **not** related to granting or denying (in whole or in part) the proposed rate increase; and is **not** reasonably part of the Advocate's case regarding the proposed rate increase. The only reason for Mr. Colton's testimony on said issues and proposals is to direct how the Department (and by extension the WRB) provides service.

Mr. Colton seeks to have the Rate Board require the PWD to modify particular programs. First, in Part 1 of his testimony, Mr. Colton argues that modifications should be required for TAP to comply with legislation.³³⁰ With regards to TAP, Mr. Colton recommends (a) modifications to the TAP application;³³¹ (b) the removal of any time constraints on the return of any TAP application;³³² (c) that arrearage forgiveness for TAP participants be "improved;"³³³ (d) that PWD enter into certain agreements and contracts with others;³³⁴ and (e) modifications to PWD's outreach to Limited English customers.³³⁵ Second, in Part 4 of his testimony, Mr. Colton recommends³³⁶ that additional conditions/restrictions be placed on PWD's ability to issue shutoff notice(s) to delinquent customer(s).

The issues and proposals in Parts 1 and 4 of Mr. Colton's testimony are beyond the scope of the subject rate proceeding and are, therefore, legally irrelevant.

³²⁸ PA Statement 3 at 7-58.

³²⁹ PA Statement 3 at 103-108.

³³⁰ PA Statement 3 at 17-18, 24, 31-32, 32-35, 45.

³³¹ PA Statement 3 at 23, 27-28.

³³² PA Statement 3 at 23.

³³³ PA Statement 3 at 36-45.

³³⁴ PA Statement 3 at 55.

³³⁵ PA Statement 3 at 57.

³³⁶ PA Statement 3 at 108.

3. The Customer Service Issues and Proposals Raised by the Public Advocate Should Be Rejected.

Even if the Department's Motion is not granted, the Customer Service issues and proposals by the Public Advocate should be rejected. There is no reasonable basis for directing PWD — as part of this rate proceeding and the information presented — to undertake any particular actions to improve customer service as a condition of increasing rates or otherwise. Nor should the PWD be directed to include in its annual report to the Council and the Board, under §13-101(10) of the Philadelphia Code, any information relevant to the issues raised by the Public Advocate on (a) the structure and operation of TAP and/or (b) shutoff notices.

(a) TAP Is a Ground Breaking Customer Assistance Program.

The Tiered Assistance Program is a first of its kind customer assistance program. The Department and the Water Revenue Bureau have worked hand-in-hand to develop, implement, and administer TAP to provide low-income customers meaningful assistance while protecting other ratepayers. Other stakeholders, such as Community Legal Services, the Utility Emergency Services Fund (“UESF”) and the Neighborhood Energy Centers also played integral roles.

(i) PWD/WRB Designed TAP Around Customers.

In December 2015, City Council amended The Philadelphia Code § 19-1605 to create an income-based water rate assistance program.³³⁷ The new program was created to provide low-income customers with affordable bills.³³⁸ Council provided certain standards for the new program, but the Board was charged with determining the basic program design and the rates thereunder. In its decision on the 2016 Rate

³³⁷ See, Bill No. 140607-AA (approved December 1, 2015).

³³⁸ See, Philadelphia Code §19-1605(3)(a).

Proceeding, the Board determined that the program would be a percent of income payment plan³³⁹, set affordability targets,³⁴⁰ and set a minimum bill amount.³⁴¹

The new program had to go into effect, “as soon as practicable after the first decision by the Water, Sewer and Storm Water Board on new rates and charges, but in any event the later of July 1, 2017 or 15 months following such decision by the Board.”³⁴² The Board issued its decision on the 2016 Rate Proceeding on June 7, 2016.³⁴³ Therefore, the new program had to go into effect no later than September 7, 2017.

(ii) Initial Program Design Critical to Success.

While the Board set frameworks for the program such as the affordability targets and minimum bill amount, the Department in tandem with the Water Revenue Bureau and with the assistance of outside consultants designed the affordability program that would become TAP. This team developed policies, operating procedures and internal business processes, modified the City’s billing system, and developed additional information technology resources to support customer application submittals and reviews.³⁴⁴ The program was designed to assist as many customers as possible. In addition to offering assistance to low-income customers whose household incomes were below 150% of the Federal Poverty Level (“FPL”), TAP also provided assistance to customers who faced special hardships.³⁴⁵ Also, unlike its previous assistance program WRAP, the customer did not need to have arrears to qualify for TAP.³⁴⁶

In addition to offering an affordable bill, TAP also provides program applicants and participants robust protections and benefits. When a customer applies for assistance an enforcement hold, including

³³⁹ 2016 Determination of Water Department Rates and Charges for FY 2017-2018 at 33.

³⁴⁰ 2016 Determination of Water Department Rates and Charges for FY 2017-2018, at 31-32. The affordability targets were as follows: For customers with incomes between 0 and 50% Federal Poverty Level (“FPL”) the target would be 2%, for customers with incomes between 50 and 100% FPL the target would be 2.5%, and for customers with incomes between 100 and 150% FPL the target would be 3%.

³⁴¹ 2016 Determination of Water Department Rates and Charges for FY 2017-2018 at 33. The minimum bill was set at \$12/month.

³⁴² See, Philadelphia Code §19-1605(9).

³⁴³ See, 2016 Determination of Water Department Rates and Charges for FY 2017-2018.

³⁴⁴ See, PWD Response to Water Rate Board Discovery Questions, Appendix 4.

³⁴⁵ See, PWD Statement 8 at 7-8. Special hardships include: increase in household size, loss of a job, serious illness, death of a primary wage earner, domestic violence, and other circumstances that threaten the household’s access to water. See, PWD Statement 8 at 8, lines 1-7.

³⁴⁶ See, PWD Statement 8 at 8, lines 1-7.

protection from shut-off, civil actions, and sheriff sales, is placed on their account for fourteen (14) days³⁴⁷ and once the application is submitted, the hold is continued or reinstated and remains in place until a final decision has been made on their application.³⁴⁸ While on TAP, the enforcement hold protects the customer from being subject to collection actions and sheriff sales.³⁴⁹ When a TAP participant has arrears, including any that may have accumulated while the application was under review, the arrears are set aside and protected from enforcement.³⁵⁰ Finally, after a TAP customer makes twenty-four (24) full TAP payments, their pre-TAP penalties are forgiven.³⁵¹

An integral part of the design of TAP is the Customer Assistance Application. This application is universal in nature and offers access (for eligible customers) to all the Department's bill assistance programs, including TAP, senior citizen discount, WRAP recertification, and extended and standard payment agreements.³⁵² The application was developed with input and feedback from several stakeholders including Community Legal Services, the Neighborhood Energy Centers, Utility Emergency Services Fund, and behavioral scientists.³⁵³ Applications can be obtained by calling the Department to have an application mailed or by visiting any WRB customer service center to have an application mailed or printed.³⁵⁴ Customers can also go online to print an application, request an application be mailed to them, or to complete the application.³⁵⁵ As part of the Department's commitment to Philadelphia's limited English proficient households, the application is available in ten (10) languages: Arabic, Cambodian (Mon-Khmer), Chinese (simplified and traditional), Italian, Portuguese, Russian, Spanish, and Vietnamese, in addition to English.³⁵⁶ The most innovative aspect of the application is the unique barcode that provides applicant protection and application tracking and metrics.³⁵⁷

³⁴⁷ Applicants are entitled to three (3) holds in a twelve (12) month period after which no hold is available until the application is submitted. See PWD Statement 8 at 8, lines 12-14.

³⁴⁸ See, PWD Rebuttal Statement 4 at 7-8.

³⁴⁹ See, Philadelphia Water Department Regulations §206.8.

³⁵⁰ See, PWD Rebuttal Statement 4 at 6, lines 18-20.

³⁵¹ See, PWD Statement 8 at 8, line 18.

³⁵² See, PWD Statement 8 at 12, lines 4-24.

³⁵³ PWD Rebuttal Statement 4 at 4, lines 13-17.

³⁵⁴ See, PWD Statement 8 at 10, lines 14-16.

³⁵⁵ See, PWD Statement 8 at 10, lines 11-13 and 17-18.

³⁵⁶ See, PWD Rebuttal Statement 4 at 10, lines 20-22.

³⁵⁷ See, TR-12 and discussion *infra*.

(iii) Program Design Supported with Regulations.

Once the program had been designed, the Department and the Water Revenue Bureau worked together with the Law Department to develop the required program regulations.³⁵⁸ The TAP regulations, an amendment to Chapter 2 of PWD Regulations and new Department of Revenue Income-Based Water Rate Assistance Program Regulations, were submitted to the Department of Records for public comment on November 10, 2016.³⁵⁹ The regulations were provided to constituent groups through the Department's Residential Customer Assistance and Services Committee and to Community Legal Services (acting outside of their role as Public Advocate) for comment and feedback.³⁶⁰ The regulations were also presented at a public hearing with commentary provided by Community Legal Services and City Council.³⁶¹ After the public hearing, the joint Commissioners' Report was filed on March 13, 2017 and became effective on March 24, 2017.³⁶²

(iv) TAP's Information Technology Systems Are the Backbone of the Program.

The Department and Water Revenue Bureau had fifteen (15) months for program development and implementation and required an immense technological effort of developing new software to manage application data and workflow and making numerous changes to the existing billing system.³⁶³ During that time, two new information technology solutions were designed and built: Customer Assistance Management Program (CAMP) and the online application portal.³⁶⁴ CAMP is the workflow and reporting software used by WRB. It accepts data from paper applications that have been processed by Vanguard (a contracted vendor) and data from the online application portal, which was designed by Vanguard.³⁶⁵ CAMP is also integral in developing the reports required by the Philadelphia Code § 19-1605(7) and in rate proceedings.

³⁵⁸ See, Philadelphia Code §19-1605(6).

³⁵⁹ See, PWD Statement 8 at 6, lines 16-18.

³⁶⁰ See, PWD Rebuttal Statement 4 at 3, lines 3-6.

³⁶¹ See, PWD Rebuttal Statement 4 at 3, lines 6-7.

³⁶² See, PWD Statement 8, page 6, lines 18-20.

³⁶³ See, PWD Rebuttal Statement 4 at 5, lines 20-23.

³⁶⁴ See, PWD Response to Water Rate Board Discovery Questions, Appendix 4.

³⁶⁵ See, Response to PA-ADV-90.

These systems are continually being enhanced. There are approximately 400 planned enhancements between the billing system, the online application form, the printed application design and CAMP including; auditing customers for fraud, the ability to interface to the IRS Tax database, monitoring conservation measures taken or not taken by TAP customers, and the ability to save incomplete applications online with a user name and password.³⁶⁶

(v) TAP's Timely Launch Was Successful.

TAP was launched successfully on July 1, 2017.³⁶⁷ The successful launch was due to a comprehensive outreach program which engaged PWD customers with the assistance of many partners. Beginning in July 2016, the Department's Communications team developed a comprehensive campaign dedicated to TAP education and public engagement.³⁶⁸ The efforts were bifurcated between a pre-launch phase which was focused on raising public awareness about the program and a post-launch phase that aimed to drive customers who are struggling to pay their bills to apply.³⁶⁹

Mr. Colton opined that the Department did not engage in a robust outreach program for TAP.³⁷⁰ The Communications team created fact sheets, FAQ flyers, pre-and post-launch posters, posters for payment and partner centers, bill stuffers, a splash page for City websites, and point-of-sale displays.³⁷¹ Additionally, the Department contracted for advertising through print newspapers, local radio stations, a SEPTA campaign that included posters on subway, buses and bus shelters, and email and social media campaigns (including paid Facebook ads).³⁷² Mr. Colton did not acknowledge the hearty communications effort, only criticized one specific method of outreach.³⁷³

As part of the outreach program a TAP Advisory Committee was formed that included Community Legal Services, Utility Emergency Services Fund, Energy Coordinating Agency and their Neighborhood

³⁶⁶ See, Response to PA-IX-6.

³⁶⁷ PWD Statement 7 at 8, line 9.

³⁶⁸ See, PWD Statement 5 at 2, lines 8-9.

³⁶⁹ See, PWD Statement 5 at 2, lines 9-13.

³⁷⁰ See PA Statement 3 at 46, lines 14-15.

³⁷¹ See PWD Statement 5 at 3, lines 6-12.

³⁷² See, PWD Statement 5 at 3.

³⁷³ See, PA Statement 3 at 46, lines 16-17. Mr. Colton takes issue with the Department's use of targeted mailings to customers who were either current or past recipients of bill assistance.

Energy Centers, and the Drexel Center for Hunger Free Communities.³⁷⁴ The TAP Advisory Committee was involved in testing drafts of the program application, reviewing application patterns to understand possible customer impediments, conducting interviews at their locations to gain insight from the customers who are applying, and the Committee developed a map listing all the locations that provide customers assistance in applying for TAP.³⁷⁵ It is clear from Mr. Colton’s commentary on the Department’s use of community based organizations, that he did not review the Department’s filing or its discovery responses.³⁷⁶ Mr. Colton did not undertake any effort to contact any of the known cooperating organizations before making the false assertion that community based organizations (“CBOs”) are not an integral part of the TAP program.³⁷⁷

(vi) TAP is Administered to Deliver Substantial Relief to Low-Income Customers and Insightful Metrics for Stakeholders.

CAMP, the new application workflow and reporting software, is the heart of TAP. CAMP consumes application information from Vanguard (both paper and online applications) and presents it to WRB staff to review.³⁷⁸ Water Revenue Bureau uses a two-stage review process³⁷⁹ to ensure the applicant is placed in the most affordable program and that other rate payers are not unduly burdened by customers receiving assistance for which they do not qualify.³⁸⁰ If an application is incomplete, the applicant is given the opportunity to complete the application so it can be reviewed.³⁸¹ When an application is complete and passed the two-stage review process, CAMP calculates the assistance program that provides the customer with the most affordable bill based on the programs available to that customer.³⁸²

³⁷⁴ See, PA Statement 3 at 46, lines 19-22.

³⁷⁵ See, PA Statement 3 at 2-4.

³⁷⁶ See, Response to PA-ADV-90, PA-III-4, PA-V-13, and PA-V-14.

³⁷⁷ See, PA Statement 3 at 47, lines 15-16.

³⁷⁸ See discussion *supra*

³⁷⁹ The review consists of an evaluation of the application and verification of application data based on supporting documentation. One staff member completes a review, and then the application is reassigned to another staff member, who does an independent review. If the reviews match, the application is decided. If the reviews don’t match, the supervisor is notified and she makes a final decision. See PWD Statement Number 8, page 11, lines 6-11.

³⁸⁰ See, PWD Rebuttal Statement 4 at 5, lines 5-8.

³⁸¹ See, PWD Statement 8 at 11, lines 13-17.

³⁸² See, PWD Statement 8 at 1, lines 19-23.

Mr. Colton contends that CAMP's program selection process is at odds with TAP legal requirements.³⁸³ CAMP calculates a TAP bill as a percent of the applicant's income and compares the TAP bill against all other programs for which the applicant is eligible.³⁸⁴ The TAP bill amount is static since it is based on the applicant's household income. A portion of the TAP bill may or may not include a contribution toward arrears (if any arrears are present) depending on the customer's current usage each month.³⁸⁵ Projected bills under other programs are calculated and compared against the TAP bill. The projected bills are based on eligibility for other programs (senior citizen discount or WRAP), historical usage, and the amount, if any, of arrears.³⁸⁶ CAMP selects, and the reviewer approves, the program with the lowest anticipated monthly bill for the customer. The calculation of a TAP bill does not depend on the customer's arrears, however, determining if a TAP bill is the most affordable option may depend on the presence of an arrearage.³⁸⁷ Mr. Colton insists that, "a TAP alternative involving repayment of an existing arrearage must be compared to a TAP bill that does not involve repayment of those arrearages."³⁸⁸ Again, it appears Mr. Colton did not undertake a thorough review of the program design before opining on it.

In addition to providing the workflow for program selection, CAMP provides in-depth program metrics. CAMP is able to deliver such detailed reporting because each application has a unique bar code.³⁸⁹ The bar code triggers the stay of enforcement³⁹⁰, allows call center staff to update customers on the progress of their application³⁹¹, and provides tracking to assist in work assignments.³⁹² WRB is required to provide annual reporting to the Mayor and City Council on TAP and other assistance programs.³⁹³ Using the bar code, CAMP is able to provide the reports and countless other regular and *ad hoc* reports.³⁹⁴

³⁸³ See, Philadelphia Code §19-1605(3)(c). See, PA Statement 3 at 33, lines 5-6.

³⁸⁴ PWD Rebuttal Statement 4 at 8, lines 15-16.

³⁸⁵ PWD Rebuttal Statement 4 at 8, lines 17-18. If a TAP customer's usage would result in a regular bill that is higher than their TAP bill amount, there would be no contribution towards arrears. Conversely, if the usage is lower there would be a contribution towards arrears.

³⁸⁶ See, Response to PA-ADV-90 at 911-915.

³⁸⁷ PWD Rebuttal Statement 4 at 8, lines 22-24.

³⁸⁸ See, PA Statement 3 at 33, lines 6-8 (emphasis in original).

³⁸⁹ See, Tr. 99, lines 22-23 (May 11, 2018).

³⁹⁰ See, Response to PA-ADV-90 at 814-817.

³⁹¹ See Response to PA-ADV-90 at 798-804.

³⁹² See Response to PA-ADV-90 at 824-827.

³⁹³ See, Philadelphia Code §19-1605(7).

³⁹⁴ See, PWD Statement 8 at 19, lines 6-22.

(b) The Department's Shut-off Policies Are Appropriate and Meaningful.

Before a customer is shutoff for non-payment, the WRB will send notice(s) to the customer.³⁹⁵ The form and content of the shut-off notices were developed by the WRB and PWD by working together and with partners, such as Community Legal Services/Public Advocate. The Departments' shut-off notices and practices are forthright, open, and in compliance with PWD Regulations.³⁹⁶ The regulations direct the language and frequency of the shutoff notices.³⁹⁷ Recently the shut-off notices were updated and now contain language encouraging customers to apply for TAP.³⁹⁸ The updated notices were issued starting on March 1, 2018.³⁹⁹

PWD contends that the issues and proposals by the Public Advocate regarding shut-off notices should be rejected. The Public Advocate, in Part 4 of Mr. Colton's testimony, raises issues and proposals related to issuance of shut-off notice(s) to delinquent customer(s). In his written testimony, Mr. Colton makes an unsupported allegation that the Department's shut-off notices are deceptive and accuses the Department of issuing shut-off notices when it had "no present intent to disconnect."⁴⁰⁰ Additionally, Mr. Colton characterizes the Department's shut-off notices as "wolf like" citing the decades old, non-binding opinion in *Palmer v. Columbia Gas*.⁴⁰¹

(i) Mr. Colton's Underlying Logic Is Flawed.

Mr. Colton's underlying logic is inherently flawed. Mr. Colton notes that aggregate number of shutoff notices issued exceeds the aggregate number of disconnections that actually occur.⁴⁰² From that fact, he (improperly) infers that PWD lacks "present intent" to disconnect when a notice is issued.⁴⁰³ He

³⁹⁵ PWD Rebuttal Statement 4 at 13-14; <https://beta.phila.gov/services/water-gas-utilities/water-sewer-services/water-shutoffs/reasons-for-water-shutoff/>.

³⁹⁶ PWD Rebuttal Statement 4 at 13; See, PWD Rates and Charges, Sections 100.4-6.

³⁹⁷ PWD Rebuttal Statement 4 at 13; See, PWD rates and Charges, Sections 100.4-6.

³⁹⁸ PWD Rebuttal Statement 4 at 14. See, PWD Rebuttal Statement 4 (Schedule R4-4).

³⁹⁹ PWD Rebuttal Statement 4 at 14.

⁴⁰⁰ See, PA Statement 3 at 103, lines 7-9. Mr. Colton incorrectly refers to the Department's notices as "notices of disconnection." The notices issued by the Department are shut off notices; the Department do not disconnect the customers from the City's infrastructure, they simply shut-off access to it.

⁴⁰¹ 479 F.2d 153 (6th Cir. 1973).

⁴⁰² PA Statement 3 at 103.

⁴⁰³ PA Statement 3 at 103.

further (improperly) infers that because many customers have long-term arrears that the notices do not result in an “immediate” payment.⁴⁰⁴ These inferences fail to recognize that (a) after a notice is issued, customers can take action which can prevent or postpone shut-off;⁴⁰⁵ and, (b) such actions (such as a medical certification or TAP application) do not always require that the past due amount be paid in full to prevent or postpone shut-off.

(ii) The Department’s Shut-Off Notice Provides Robust Due Process Protections.

Mr. Colton claims the notices are deceptive based on their language.⁴⁰⁶ The shut-off notices are forthright, open, and in compliance with PWD Regulations.⁴⁰⁷ The regulations direct the language and frequency of the shut-off notices.⁴⁰⁸ Recently the shut off notices were updated and now contain language encouraging customers to apply for TAP.⁴⁰⁹ In *Palmer*, the notice provided to customers did not “provide the customer with the information he needs to quickly and intelligently take available steps to prevent the threatened termination of service. No mention is made in the notice of the fact that a dispute concerning the amount due might be resolved through discussion with representatives of the company, nor is notice given to a customer that special payment programs are available for a customer.”⁴¹⁰

The court found that the notice did not provide sufficient notice for due process.⁴¹¹ In contrast, the Department’s shut-off notice provides robust information regarding the customer’s options for avoiding shut off including: making full payment, entering into a payment agreement, applying for continued service under the Utility Service Tenants Rights Act (“USTRA”)⁴¹² and the right to a hearing before the water is shut-off.⁴¹³ Mr. Colton’s comparison of the notices is disingenuous and inappropriate.

⁴⁰⁴ PA Statement 3 at 106.

⁴⁰⁵ <https://beta.phila.gov/services/water-gas-utilities/water-sewer-services/water-shutoffs/prevent-water-shutoffs/>.

⁴⁰⁶ See, PA Statement 3 at 105.

⁴⁰⁷ See, Water Regulations §§100.4-6.

⁴⁰⁸ See, Water Regulations §§100.4-6.

⁴⁰⁹ See PWD Rebuttal Statement 4 at 14, lines 1-2; Schedule R4-4 (recently updated shut-off notices).

⁴¹⁰ See, *Palmer* at 166.

⁴¹¹ See, *Palmer* at 166.

⁴¹² See, 68 P.S. §§ 399.1, *et seq.*

⁴¹³ See, PWD Rebuttal Statement 4, Schedule R4-4.

For a more modern view of notice requirements, the PUC provides some guidance. The PUC requires termination notices contain seventeen (17) different pieces of information for customers depending on certain circumstances.⁴¹⁴ The Department's notice contains at least ten (10) of the pieces of information.⁴¹⁵ The Department's shut-off notice provides robust due process and Mr. Colton's assertions otherwise are unsupported by modern standards.

(iii) The Department Issues Notices with the Full Intent to Shut-Off Service.

Mr. Colton accused the Department of issuing shut-off notices with no intention of shutting off the customer's water.⁴¹⁶ He again cites to *Palmer*, where the utility, "issue[d] between 120,000 and 140,000 of these notices per year, only about 4% of them are followed by actual terminations."⁴¹⁷ Mr. Colton states that the Department, "fails to disconnect service in 70% to more than 90% of the instances in which it issues a disconnect [sic] notice."⁴¹⁸ Mr. Colton misconstrues the shut off data by not recognizing that shut-offs are not always completed in the same calendar month that notices are issued. On average the Department shuts off 36% of noticed customers, far more than the 4% in *Palmer*.⁴¹⁹ Further, no evidence was presented to show how many customers avoided shut-offs because they paid the delinquency, entered into payment agreements, or applied for TAP after receiving a shutoff notice. Any of these conditions would result in the shut-off not taking place.

Additionally, Mr. Colton fails to examine the actual shut off process of the Department in his testimony.⁴²⁰ The Department's shut-off process is designed to target customers with the highest delinquency and contiguity to maximize efficiency.⁴²¹ The Department also strives to restore water to

⁴¹⁴ See, 52 Pa. Code §56.91(b).

⁴¹⁵ See, 52 Pa. Code §56.91 and PWD Rebuttal Statement 4, Schedule R4-4.

⁴¹⁶ See, PA Statement 3 at 104.

⁴¹⁷ See, *Palmer* at 166.

⁴¹⁸ See, PA Statement 3 at 105, lines 16-17.

⁴¹⁹ See, Response to PA-ADV-61.

⁴²⁰ See, PA Statement 3 at 103-108.

⁴²¹ PWD Rebuttal Statement 4 at 14. Summary of Shut-Off Process -- If payment is not made as required by the notice issued to a delinquent customer, a shutoff work order is sent by WRB to PWD. The pool of available shutoff work orders received from WRB each day outnumber the amount of work orders PWD can complete in any given day. Accordingly, there must be a reasonable method of selecting work orders from the pool. Here, the performance standard for each Field Service Representative ("FSR") is 30 completed jobs each day. The 30 completed jobs are a combination of shutoffs and restores. Restore work orders are given priority, which means that restore work orders reduce the number of shutoffs the FSR can complete each day. So, a FSR can only

customers the same day a work order to restore service is created.⁴²² This commitment decreases the number of shut-off that can be done in any given day.⁴²³

Taken together, Mr. Colton recommends the Board direct the Department to take several actions regarding shut off notice practices. As discussed above, the Board lacks the authority to direct the Department's business practices and further, the current practices are sound.

F. Other Issues Raised By Participants.

1. PLUG.

PLUG responded to the cost and revenue allocation proposals sponsored by the Public Advocate in proffering the testimony of Richard Baudino.⁴²⁴ As noted above, PLUG supported the maximum day factor and the appropriate customer demand factors in PWD's cost of service analysis⁴²⁵ and recommended against the Advocate's analysis of those factors.⁴²⁶ As stated above, the Department supports the position of PLUG with regard to cost allocation and rate design issues advanced in its rebuttal testimony.

2. Land Bank.

The Land Bank is seeking a full exemption from all water, sewer, and stormwater charges for all vacant properties owned by the Land Bank.⁴²⁷ The Land Bank contends that the requested exemptions would not have any financial impact on the WRB or result in any rate increase for PWD customers.⁴²⁸

The Land Bank advances two justifications for its exemption: First, the Land Bank contends that it should be given the same treatment as the City, Philadelphia Redevelopment Authority ("PRA"), and Philadelphia Housing Development Corporation ("PHDC") when it comes to water, sewer, and stormwater

be assigned up to 30 shutoff work orders in any given day. The sequence of work orders is determined by the system. The first shutoff order has the highest delinquent balance. The system then chooses the remaining 29 work orders for that FSR by contiguity to the first work order. It is done this way to minimize the travel time between shutoff work orders and to increase efficiency. *Id.*

⁴²² See, PWD Rebuttal Statement 4 at 14, lines 16-17.

⁴²³ See, PWD Rebuttal Statement 4 at 14, lines 19-20.

⁴²⁴ PLUG Statement 1 at 2.

⁴²⁵ PLUG Statement 1 at 2-5.

⁴²⁶ PLUG Statement 1 at 6-8.

⁴²⁷ Land Bank Statement 1 at 2. The Land Bank indicates that it is making this request consistent with City Code §16-705(5), which provides that: "For the duration of the time a property is held by the Land Bank, the Land Bank is authorized to exempt such property from all real estate taxes, water, sewer, stormwater and other municipal charges to the extent permitted by law."

⁴²⁸ Land Bank Statement 1 at 9-10 and at Exhibit A.

charges for vacant properties.⁴²⁹ The Philadelphia Code and ordinances provide for the abatement of water, sewer and stormwater charges for vacant or unoccupied City property and properties acquired by PRA and PHDC. Nevertheless, the Land Bank argues that properties held by it should receive the same abatement because the Land Bank is a City-related entity with the similar purpose of eliminating blight and revitalizing neighborhoods.⁴³⁰ An argument can be reasonably made that the more properties that are in productive use, the greater potential there is for increased revenues from such properties.

Second, the Land Bank contends that paying charges creates a financial burden on the Land Bank that impedes its ability to fulfill its mission.⁴³¹ It explains that a substantial portion of the Land Bank's budgeted stormwater charges are the direct result of the Land Bank acquiring and consolidating the City's, PRA's, and PHDC's surplus property, which totals 1,910 properties as of April 4, 2018.⁴³² The Land Bank argues that, as it continues to acquire and consolidate vacant or surplus property, the financial burden will continue to grow and substantially reduce the Land Bank's ability to move properties into productive use.⁴³³

3. Penn Environment.

Penn Environment presented testimony to describe why a rate increase is justified to maintain and expand the Department's green infrastructure program.⁴³⁴ Penn Environment explains that the benefits of the SMIP and GARP grant programs, and the prioritization of green infrastructure projects in Philadelphia by the Water Department, are far reaching.⁴³⁵ The proposed rate increases would help expand SMIP and GARP grant-making ability, which is necessary for the City to reduce combined sewer overflow, minimize flooding and protect our water.⁴³⁶ Penn Environment wisely concludes that "if we want the infrastructure to keep our waterways clean, we have to support it."⁴³⁷

⁴²⁹ Land Bank Statement 1 at 5-8.

⁴³⁰ Land Bank Statement 1 at 5-6. The water, sewer and stormwater management service charges established in the PWD's regulations are applied to all General Customers, except for specified groups of Special Customers. See, PWD Rates and Charges at §5.2.

⁴³¹ Land Bank Statement 1 at 7.

⁴³² Land Bank Statement 1 at 6.

⁴³³ Land Bank Statement 1 at 6.

⁴³⁴ Penn Environment Statement 1 at 2.

⁴³⁵ Penn Environment Statement 1 at 2-5.

⁴³⁶ Penn Environment Statement 1 at 5.

⁴³⁷ Penn Environment Statement 1 at 5.

4. Mr. Skiendzielewski.

Mr. Skiendzielewski is not entitled to any relief by the Rate Board. Mr. Skiendzielewski is raising a personal dispute⁴³⁸ (which is more than 3 years old), and is not raising any issues related to the proposed rates and charges.⁴³⁹

Mr. Skiendzielewski is representing himself.⁴⁴⁰ He indicated that he wants to be treated fairly, equitably and reasonably when compared to his neighbor.⁴⁴¹ He testified⁴⁴² as to his personal experience with a HELP loan.⁴⁴³ One of his neighbors obtained a HELP loan in 2010 for a failed lateral, and following an appeal to the Tax Review Board (“TRB”), was given a 55% discount on paper for the loan.⁴⁴⁴ A few years later (around 2014),⁴⁴⁵ when his lateral failed, Mr. Skiendzielewski obtained a HELP loan (for \$12,000).⁴⁴⁶ However, following his appeal to the TRB, Mr. Skiendzielewski was not given the same discount as his neighbor.⁴⁴⁷ Nor was he given the same (or any) discount by PWD.⁴⁴⁸ Beyond the HELP loan, Mr. Skiendzielewski believes that the work performed on a City inlet in front of his property was not performed safely⁴⁴⁹ or properly.⁴⁵⁰ Notwithstanding the foregoing, the current rate proceeding is not the venue to seek redress for a private dispute.

⁴³⁸ Tr. 67 (May 17, 2018).

⁴³⁹ Mr. Skiendzielewski also failed to follow the Hearing Officer’s direction to file written direct testimony by April 20, 2018 and any rebuttal testimony by May 4, 2018 (which directions were followed by all other participants).

⁴⁴⁰ Tr. 27-73 (May 17, 2018).

⁴⁴¹ Tr. 50-51 (May 17, 2018). Stated otherwise, he is seeking consistency. See also, Tr. 63-64 (May 17, 2018). That being said, the circumstances on Monroe Street are not analogous to Mr. Skiendzielewski’s circumstances for a variety of reasons, including that no one on Monroe Street took a HELP Loan. Tr. 69 (May 17, 2018).

⁴⁴² Mr. Skiendzielewski made oral statements/ presentations at the public input hearing on April 23, 2018 and at the technical hearing on May 17, 2018. See Public Hearing Transcript (April 23, 2018) at 27-32; Tr. 28-73 (May 17, 2018). He did not prepare written testimony. *Id.* See also, Tr. 27-28, 38 (May 17, 2018).

⁴⁴³ The HELP loan has been around for 27 years. Tr. 71 (May 17, 2018). “There are about a thousand HELP loan jobs a year for water and/or sewer laterals. It was designed as a bill financing program and there are basically three parts to it. It’s the City enters a contract with the plumber, who we have a list of plumbers and we just rotate through the plumbers. The customer enters a contract with the City with a commitment to pay back that loan over a five year period. And the plumber gives a warranty to the owner of the property, as well as the City. It’s a one year warranty. It’s intended to be a revolving fund.” *Id.*

⁴⁴⁴ Public Hearing Transcript at 28 (April 23, 2018); Tr. 45, 54-57 (May 17, 2018).

⁴⁴⁵ Tr. 67 (May 17, 2018).

⁴⁴⁶ Public Hearing Transcript at 28 (April 23, 2018); Tr. 52, 60, 69 (May 17, 2018).

⁴⁴⁷ Public Hearing Transcript at 28 (April 23, 2018).

⁴⁴⁸ Tr. 69-70 (May 17, 2017).

⁴⁴⁹ Public Hearing Transcript at 29-30 (April 23, 2018); Tr. 35, 46-48, 50, 54 (May 17, 2018).

⁴⁵⁰ Public Hearing Transcript at 30-32 (April 23, 2018); Tr. 52, 53 (May 17, 2018).

V. CONCLUSION

For all of the reasons stated in this Brief — together with the Proposed Findings of Fact and Conclusions of Law (which are attached and incorporated herein by reference) — the Department respectfully requests that the Hearing Officer and the Board (1) approve the proposed rates and charges, subject to the modifications set forth herein and shown in revenue requirement set out in Table C-1 which is attached as Appendix D; (2) reject any remaining issues, proposals, modifications and/or adjustments proposed by the other participants hereto; and (3) permit the Department to prepare and submit regulations to include rates and charges and other issues consistent with the foregoing discussion.

Respectfully submitted,

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Appendix A - SUMMARY IMPACT ON KEY FINANCIAL METRICS

(PWD's Proposed Approach versus Public Advocate's (CLS) Adjustments)

	PWD Scenario	CLS Scenario	Notes
Revenue Adjustments ¹			
FY 2018	N/A	N/A	The Public Advocate’s proposal provides no base rate relief during the rate period. Revenue Adjustments for FY 2019 through FY 2021 in their scenario are fully attributable to the TAP Rate Rider Surcharge, as the TAP revenue loss is to be recovered through a separate surcharge (and not part of the base rates).
FY 2019	1.34%	1.34%	
FY 2020	3.97%	0.53%	
FY 2021	3.86%	0.45%	By comparison, PWD’s scenario reflects the additional revenues needed to provide the funding for the difference in revenues and revenue requirements outlined below.
FY 2022	7.10%	0.00%	
FY 2023	7.11%	9.01%	
Debt Service Coverage			
FY 2018	1.37 x	1.38 x	The Public Advocate’s scenario reduces the debt service coverage from the 1.30x target to 1.20x ² in FY 2019. This represents a significant shift in debt service coverage, which may have both immediate and long-term impacts to PWD’s credit rating. Coverage in FY 20 through FY 22, under the Public Advocate’s Scenario, has to be higher than 1.20x in order to generate the \$45 million of cash financing for capital. In other words, net revenues available based on the minimum 1.20x coverage are not sufficient to fund the \$45.0 million for cash financing of capital.
FY 2019	1.28 x	1.20 x	
FY 2020	1.30 x	1.24 x	
FY 2021	1.30 x	1.23 x	
FY 2022	1.30 x	1.21 x	
FY 2023	1.30 x	1.20 x	

¹ These increases are subject to change based upon the proposed annual TAP reconciliation process. In addition, because of the reconcilable nature of the TAP Rider, TAP surcharge revenues will not contribute toward meeting other operating expenses, debt service coverage requirements and capital financing. For all intents and purposes, the Public Advocate's proposal proffers no increase to base rates, outside of the TAP Rider reconciliation, showing no rate action during the requested rate period.

² Note that the 1.20x debt service coverage requirement represents only a minimum, based on the 1989 General Bond Ordinance, which was written at a time in which the City was under financial strain and meant to provide protection to bond holders. Further Rating Agencies recognize bond covenants as minimums, and most Cities establish financial policies above those minimum requirements. Financial policies are developed to create liquidity and financial sustainability. (Refer to Technical Hearing Transcript for May 15, 2018 at 108 to 110).

Appendix A - SUMMARY IMPACT ON KEY FINANCIAL METRICS

(PWD's Proposed Approach versus Public Advocate's (CLS) Adjustments)

	PWD Scenario	CLS Scenario	Notes
Total CIP Spending			
FY 2018	318,292	268,780	The Public Advocate Scenario, reflects an actual to budget ratio of 76%, and represents a total reduction in CIP spending of \$205.7 million from FY 2018 through FY 2021 when compared with PWD’s capital expenditure needs and obligations. The Public Advocate’s Scenario significantly underfunds PWD’s capital improvements. This will result in a growing backlog of capital projects, may contribute to additional main breaks and service disruptions. In addition, this drastic reduction in allowable spending may jeopardize PWD’s regulatory compliance requirements and result in fines. Without recognizing the planned CIP expenditures and obligations in setting rates and charges, this will result in increased revenue requirements and significant rate increases in future proceedings in order to realign rates with cost of service.
FY 2019	328,255	277,193	
FY 2020	338,518	285,860	
FY 2021	349,342	295,000	
Estimated Bond Proceeds			
FY 2018	N/A	N/A	The estimated bond issuance amounts under the Public Advocate Scenario reflect 1) their proposed overall reduction in CIP spending and 2) their target Cash Financing of \$45 million annually. The result understates capital expenses, the estimated bond proceeds and the resulting debt service needed to sufficiently fund CIP.
FY 2019	278,432	169,048	
FY 2020	287,374	248,600	
FY 2021	302,973	283,404	
Cash Financing			
FY 2018	62,561	62,561	The Public Advocate proposes annual cash financing of \$45 million during the rate period. FY 2019 cash financing is slightly higher than the stated position as the proposed \$45 million amount would not meet minimum coverage requirements.
FY 2019	55,767	46,745	
FY 2020	62,083	45,055	
FY 2021	62,141	45,004	

Appendix A - SUMMARY IMPACT ON KEY FINANCIAL METRICS

(PWD's Proposed Approach versus Public Advocate's (CLS) Adjustments)

	PWD Scenario	CLS Scenario	Notes
% Cash Financing			
FY 2018	19.7%	23.3%	The Public Advocate fixes cash financing at approximately \$45 million during the rate period. This has the effect of reducing cash financing on a percentage basis during this period and requires additional borrowing and associated debt service. This sends a negative signal to the rating agencies, as this financial metric is eroded. In addition to the immediate impact on credit rating, taken as a financial target, this recommendation will trigger increases in bond issuance and debt service costs in the future.
FY 2019	17.0%	16.9%	
FY 2020	18.3%	15.8%	
FY 2021	17.8%	15.3%	
Total Operating Expenses			
FY 2018	(463,159)	(463,159)	Both scenarios reflect previously agreed upon adjustments. The Public Advocate’s adjustments are detailed in the response to TR-23A. Their adjustments include reduction in escalation factors, normalization of TAP Implementation and Rate Case Expenses as well as the <u>elimination</u> of additional SMIP/GARP funding in FY 2019 to FY 2021. The Public Advocate’s Scenario does not accurately capture known expenses (i.e. SMIP/GARP) and in turn significantly understates revenue requirements. Their approach to funding SMIP/GARP requires PWD to rely on over performance and does not accurately portray costs to the utility. This approach is not a good financial planning practice. SMIP/GARP costs are related to compliance with COA milestone requirements, which represent a legal requirement. Under the Public Advocate’s scenario, expenses are understated and the Rate Stabilization Fund is overstated by \$10 million annually because the SMIP/GARP obligations cannot be eliminated.
FY 2019	(483,684)	(470,668)	
FY 2020	(498,318)	(483,017)	
FY 2021	(512,152)	(494,397)	
FY 2022	(526,452)	(519,982)	
FY 2023	(541,087)	(534,421)	

Appendix A - SUMMARY IMPACT ON KEY FINANCIAL METRICS

(PWD's Proposed Approach versus Public Advocate's (CLS) Adjustments)

	PWD Scenario	CLS Scenario	Notes
Revenues Under Existing Rates ³			
FY 2017	684,856	688,671	This reflects the over estimation of revenues under existing rates resulting from the inappropriate application of the Public Advocate’s collection factor approach, which increases revenues attributable to Non-Stormwater Only customers but fails to address Stormwater Only Customers.
FY 2018	711,670	715,602	
FY 2019	703,564	707,416	
FY 2020	699,115	702,935	
FY 2021	693,929	697,718	
FY 2022	688,950	692,711	
FY 2023	684,032	687,765	
Net Revenues After Operations			
FY 2017	267,082	270,904	Net revenues in the Public Advocate scenario reflect adjustments presented earlier in this table. Such adjustments reduce O&M expenses as well as overestimate revenues under existing rates (based on an incomplete analysis excluding stormwater only customers). Note that the FY 2017 result reflected in the CLS Scenario based on the Public Advocate’s recommendations exceed the actual year end results.
FY 2018	301,468	305,407	
FY 2019	254,603	233,478	
FY 2020	268,472	245,673	
FY 2021	268,921	238,714	
FY 2022	290,242	255,727	
FY 2023	321,114	283,647	

³ Note – Recovery of Public Fire Protection Costs from the General Fund as proposed by the Public Advocate is not reflected in the table above.

Appendix A - SUMMARY IMPACT ON KEY FINANCIAL METRICS

(PWD's Proposed Approach versus Public Advocate's (CLS) Adjustments)

	PWD Scenario	CLS Scenario	Notes
Residual Fund Balance			
FY 2018	15,000	22,790	In the CLS scenario, the balance in FY 2018 (above the required \$15 million) is drawn down in FY 2019 to provide cash financing for construction.
FY 2019	15,043	15,075	
FY 2020	15,008	15,041	
FY 2021	15,044	15,034	
FY 2022	15,063	15,108	
FY 2023	15,080	15,108	
Rate Stabilization Fund			
FY 2018	188,998	188,998	Under the Public Advocate Scenario, during the study period, the RSF is drawn down well below PWD’s stated target of \$150 million dollars. This will negatively impact liquidity. In addition, since the RSF balance is the primary source of liquidity and days cash on hand, the Public Advocate’s proposal would impact the Department’s ability to address emergencies. PWD’s ability to mitigate future rate increases would also be limited. While there is an apparent build-up in the RSF during the rate period, this is the result of their over-estimation of revenues and significant understatement of both O&M and capital financing requirements.
FY 2019	179,721	217,821	
FY 2020	159,393	222,793	
FY 2021	145,162	215,042	
FY 2022	139,762	159,942	
FY 2023	140,762	110,142	As stated above, the SMIP/GARP assumption alone overstates available fund balances by \$10 million in each year of the rate period. The Public Advocate’s Scenario inaccurately portrays PWD’s anticipated costs and revenues.

APPENDIX B

PROPOSED FINDINGS OF FACT

INTRODUCTION AND PROCEDURAL HISTORY

Background

1. The Philadelphia Water Department (“PWD” or “the Department”) is one of the City’s ten operating departments. It serves the City of Philadelphia by providing an integrated water and wastewater system. The wastewater system includes conveyance and treatment facilities for stormwater and sanitary wastewater. The Department operates, maintains, repairs and improves these systems. PWD Statement 1 at 4:8-14.
2. The water system provides water service to approximately 480,000 active retail accounts, as well as to Aqua Pennsylvania pursuant to an agreement for wholesale water service. PWD Statement 1 at 4:16-23.
3. The wastewater system serves approximately 545,000 retail accounts, including approximately 50,000 stormwater-only accounts, as well as ten municipalities or municipal authorities pursuant to wholesale service contracts for wastewater. PWD Statement 1 at 5:1-4.
4. The Department’s water system includes three water treatment plants, approximately 3,200 miles of water mains, approximately 25,000 fire hydrants, and multiple finished water storage facilities and water pumping stations. PWD Statement 1 at 5:9-14.
5. The Department’s wastewater system includes: three wastewater treatment plants, approximately 3,700 miles of sewers, 19 pumping stations, over 94,000 manholes, 26 storm relief structures, 72,000 stormwater inlets, 175 combined sewer overflow structures, 56 flow-monitoring stations, and a privately managed centralized biosolids recycling center. The sewer system includes approximately 1,850 miles of combined sewers, 760 miles of sanitary sewers, and 740 miles of stormwater sewers, 13 miles of force mains (sanitary and storm) and 350 miles of appurtenant piping. PWD Statement 1 at 5:16-24.
6. The Department’s assets also include green stormwater infrastructure, such as stormwater tree trenches, stormwater trees, stormwater bump-outs, stormwater planters, rain gardens and permeable materials. PWD Statement 1 at 6:3-6 and Schedule DM-2.
7. The Department also operates a sophisticated testing laboratory and a range of technical and administrative support services. PWD Statement 1 at 6:1-3.

Overview of Request for Relief

8. The Department is requesting rate increases over three years to generate a proposed cumulative total revenue increase of approximately \$116 million or 10.6% beginning on September 1, 2018. The 10.6% cumulative total annual revenue increase represents the mathematical sum of the proposed annual revenue increases. PWD Statement 2 at 3:12-14.

9. The Department is proposing to make withdrawals from the Rate Stabilization Fund over the same period totaling \$43.7 million to absorb some of the projected cost increases and protect rate payers from rising rates. PWD Statement 2 at 3:14-17.

10. The Department is proposing an alternative cost recovery mechanism for the Tiered Assistance Program (a TAP Rider) which would adjust water and sewer charges in Fiscal Years 2019-2021. PWD Rebuttal Statement 5, Schedule R5-1.

11. The Department needs additional revenues to address unavoidable increases in operating costs in several areas and to continue to achieve the financial metrics necessary to maintain our financial status, in addition to ensuring current favorable bond ratings and avoiding increased borrowing costs that customers would have to bear in the future if the rating agencies downgraded our bond rating. PWD Statement 2 at 4:10-16.

12. The Department has experienced unavoidable increases in workforce costs and costs related to satisfying ongoing obligations under the Consent Order and Agreement (the COA) with the Pennsylvania Department of Environmental Protection and related long-term control plan projects, permits and regulations. PWD Statement 2 at 4:20-25.

13. The Department also needs additional revenues to fund a portion of its capital program through current revenues, thereby reducing borrowing needs and the costs that customers will have to bear over the life of the typical 30-year bond. PWD Statement 2 at 5:1-4.

14. The Department is no longer able to procure certain vehicle types with capital funds and must use operating funds, which will result in a shift of approximately \$3 million from capital costs to operating costs beginning in Fiscal Year 2019. PWD Statement 2 at 5:15-23.

15. The Department continues to experience a decline in usage per account from 2012 to 2016 for 5/8-inch meter General Service Customers of about 1.75% annually when measured on an historical two-year average, which results in a projected decrease in revenue for the Department of approximately \$11.3 million for the rate period. PWD Statement 2 at 6:3-14.

Procedural History

16. On February 12, 2018, pursuant to Section 13-101(7) of the Philadelphia Code and Section II.2(a) of the Rate Board's regulations, the Department notified City Council and the Rate Board of its intent to file proposed changes in rates and related charges for water and wastewater service to become effective September 1, 2018 ("Advance Notice").

17. On March 14, 2018, pursuant to Section 13-101(7) and (8) of the Philadelphia Code, and Section II.2(b) of the Rate Board's regulations, PWD filed the Formal Notice of its application for rate relief with the Rate Board and the Department of Records, including proposed schedules of rates and charges ("Formal Notice").

18. Both the Advance Notice and Formal Notice were transmitted with supporting engineering, financial and accounting documentation as well as direct written testimony and

related schedules and exhibits of the Department, the Water Revenue Bureau (“WRB”)¹, Black & Veatch Management Consulting (“Black & Veatch”), and Raftelis Financial Consultants (“Raftelis” or “RFC”). These documents included (1) estimates of the effects of the proposed rates and charges on customer bills (PWD Exhibits 1 and 2); (2) financial, engineering and other data upon which the proposed rates and charges are based (PWD Statements 1 through 9B); (3) direct testimony demonstrating that the proposed rates and charges were developed in accordance with sound utility rate making practices, are consistent with current industry standards for such rates and charges, and are consistent with the Department’s bond covenants and other legal requirements (PWD Statements 1 through 9B); and (4) a summary fact sheet (PWD Exhibit 2).

19. The Rate Board appointed Nancy Brockway, Esquire (“Hearing Officer”) to preside over the rate hearings and to prepare a report to the Board summarizing the hearing record and proposing findings of fact and conclusions of law. The Rate Board also appointed Community Legal Services to serve as Public Advocate in the rate hearings.

20. In addition to the Department and the Public Advocate, the Philadelphia Large Users Group (“PLUG”), the Philadelphia Land Bank, PECO Energy Company (“PECO”), Penn Environment and Michael Skiendzielewski (pro se) participated in the technical review hearings of this proceeding.

21. Pursuant to the Rate Board’s regulations and the schedule established by the Hearing Officer, the Department presented testimony on various technical aspects of its proposed rates and charges from the following witnesses:

- Debra A. McCarty, Water Commissioner;
- Melissa LaBuda, PWD Deputy Water Commissioner for Finance;
- Stephen J. Furtek, PWD General Manager of Engineering and Construction;
- Donna Schwartz, PWD Deputy Commissioner and General Manager of Operations Division;
- Joanne Dahme, PWD General Manager of Public Affairs;
- Erin Williams, PWD Manager of Stormwater Billing and Incentives Program;
- Michelle Bethel, WRB Deputy Revenue Commissioner;
- RaVonne A. Muhammad, Assistant to the Director of Finance, Water Revenue Assistance Division;
- David Katz, PWD Deputy Commissioner;
- Department consultant Black & Veatch (Ann Bui, Brian Merritt, Prabha Kumar and David Jagt);
- Department consultant Raftelis (Jon Davis, Henrietta Locklear and Jenifer Fitts)
- Department bond counsel Ballard Spahr (Valarie Allen, Esq.)
- Department consultant Public Financial Management (“PFM”) (Katherine Clupper); and
- Department consultant Acacia Financial (Peter Nissen);

See PWD Statements 1, 2, 3, 4, 5, 6, 7, 8, 9A and 9B; and PWD Rebuttal Statements 1, 2, 3, 4 and 5.

22. Pursuant to a schedule established by the Hearing Officer, testimony filed on behalf of other participants consisted of written statements by Lafayette Morgan, Jerome D.

¹ WRB is within the City of Philadelphia Department of Revenue. The Rate Board’s regulations define the “Department” to include both the Philadelphia Water Department, established pursuant to Section 8-500 and following of the Philadelphia Home Rule Charter; and for purposes related to water, sewer and storm water rates and collections, the City of Philadelphia Revenue Department, established as the Department of Collections under Section 6-200 and following of the Home Rule Charter. See Rate Board Regulations, Section I(f).

Mierzwa and Roger Colton on behalf of the Public Advocate; Stephanie Wein on behalf of the PennEnvironment Research & Policy Center; Angel Rodriguez on behalf of the Philadelphia Land Bank; and Richard Baudino for PLUG. See Public Advocate Statements 1, 2 and 3; PennEnvironment Statement 1; Philadelphia Land Bank Statement 1; and PLUG Rebuttal Statement 1.

23. Nine public input hearings were held in this rate case. These hearings were held at the following locations on the following dates: (1) the Free Library in Center City on April 16 2018; (2) White Rock Baptist Church in West Philadelphia on April 17, 2018; (3) Holy Family University in Northeast Philadelphia on April 19, 2018; (4) City Council Chambers on April 20, 2018; (5) Taller Puertorriqueño in North Philadelphia on April 23, 2018; (6) Roxborough Memorial Hospital in Northwest Philadelphia on April 24, 2018; (7) Zion Baptist Church in North Philadelphia on April 25, 2018; (8) Protestant Home Social Hall in Lower Northeast Philadelphia on April 30, 2018; and (9) EOM Athletic Association Banquet Hall in South Philadelphia on May 2, 2018.

24. Five days of technical hearings were held in this rate case. The technical hearings were held on May 10, 11, 14, 15 and 17 at 1515 Arch Street, 18th Floor, Philadelphia, Pennsylvania. All hearings were open to the public and were advertised consistent with Rate Board Regulations and the Hearing Officer's directives.

Proposed Rates and Charges

25. The Department provided its proposed rates and charges for retail service with its rate filing as PWD Exhibits 3A through 3F. These exhibits set forth the proposed increases in basic water, sewer (sanitary wastewater) and stormwater rates, as well as related increases in miscellaneous charges. PWD Statement 2 at 34:3-10 and PWD Exhibits 3A through 3F.

26. The Department's proposed rates, as proposed with its filing of the Formal Notice, would have resulted in annual increases on typical residential customer bills of 1.1% beginning September 1, 2018, 5.0% beginning September 1, 2019, and 4.5% beginning September 1, 2020 for a total proposed increase of 10.6% spread over three years. PWD Statement 2 at 4:1-6

27. The Department is proposing a new rate rider which, if approved, would implement a surcharge to recover the cost of lost revenue related to the Tiered Assistance Program (TAP) and enable the Department to reconcile actual lost revenues with surcharge revenue. The rate rider would be added to Rates and Charges in Section 10.0 through 10.2. PWD Statement 2 at 34:12-22; PWD Rebuttal Statement 5; and PWD Exhibits 3A through 3F.

28. The Department is proposing to continue the existing discounts for special customers, which include discounts of: (i) 25% for public and private schools, institutions of purely public charity and places used for actual religious worship (referred to in Section 13-101 of the Philadelphia Code as "charity water rates and charges"); (ii) 25% for eligible senior citizens (as authorized by Section 19-1902 of the Philadelphia Code); (iii) 5% for property of the Philadelphia Housing Authority (referred to in Section 13-101 of the Philadelphia Code as "public housing water rates and charge"); and (iv) a 100% discount on stormwater charges for eligible community gardens (as authorized by Section 19-1603 of the Philadelphia Code and

approved by the Rate Board in the 2016 Special Rate Proceeding). PWD Statement 2 at 34:24-35:9.

29. Section 19-1602 of the Philadelphia Code provides that when any vacant or unoccupied premises are acquired by the City, charges for water and sewer, including charges relating to storm water management and disposal, shall terminate on the date that such premises are acquired. PWD Statement 2 at 35:11-18.

30. Section 16-503 of the Philadelphia Code states that the Revenue Commissioner is authorized to abate all water, sewer and other municipal charges while the property is held by the City or The Redevelopment Authority, in accordance with and pursuant to Chapter 16-400 of the Philadelphia Code. PWD Statement 2 at 36:9-21

31. An ordinance approved on October 2, 1968, provides that upon acquisition of any property by the Philadelphia Housing Development Corporation (“PHDC”), all water, sewer and other municipal charges which relate to the specific property so acquired or held by PHDC shall be abated. PWD Statement 2 at 36:23-37:7.

32. The Department is proposing to add two subparagraphs to Section 5.2 of Rates and Charges to codify the existing practices pertaining to vacant or unoccupied property acquired by the City and property acquired by the Redevelopment Authority or PHDC. PWD Statement 2 at 35:11-37:15.

33. Section 6.7 of the Department’s current Rates and Charges sets forth permit requirements and related charges for water connections. PWD Statement 2 at 37: 17-20; Section 6.7 of Rates and Charges.

34. Section 13-501 of the Philadelphia Code states that the Department, rather than the Rate Board, is responsible for issuing regulations for fixing fees for water connection permits and charges for water connection services. PWD Statement 2 at 37: 17-20; Section 13-101 of the Philadelphia Code.

35. The Department proffered testimony that it intends to enact the charges for water connection permits in Section 6.7 of its Rates and Charges through an amendment to Chapter 4 of the Department’s regulations and proposes that upon the effective date of the amended regulation, the water connection charges in the regulations will supersede the water connection in Section 6.7 of Rates and Charges. PWD Statement 2 at 37:17-38:5.

GOVERNING LEGAL STANDARDS

Ratemaking Requirements

36. In November 2012, Philadelphia voters approved an amendment to the Philadelphia Home Rule Charter (“Charter”) to allow City Council to establish, by ordinance, an independent ratemaking body responsible for fixing and regulating rates and charges for water and wastewater services. Charter, Section 5-801, note 101.

37. An ordinance effective on January 20, 2014 (the “Rate Ordinance”) created the Philadelphia Water, Sewer and Storm Water Rate Board (“Rate Board”). The substantive provisions of the Rate Ordinance are set forth as part of Section 13-101 of the Philadelphia Code. PWD Statement 2 at 9:22-24; See also Philadelphia Code, Section 13-101, note 2.

38. The Charter requires the Rate Board to fix and regulate rates and charges in accordance with standards established by Philadelphia City Council, and provides that such standards must enable the City to yield from rates and charges an amount at least equal to operating expense and debt service requirements on any debt incurred or about to be incurred for water supply, sewage and sewage disposal purposes. It further provides that in computing operating expenses, there shall be a proportionate charge for all services performed for the Department by all officers, departments, boards or commissions of the City. PWD Statement 2 at 9:3-18 and Charter, Section 5-801.

39. Section 13-101(4) of the Philadelphia Code, entitled “Standards for Rates and Charges,” contains the ratemaking standards established by City Council and applicable to this rate proceeding. This section, among other things, requires the Board to establish rates and charges sufficient to fund budgeted operating expense and annual debt service obligations from current revenues and to comply with rate covenants and the debt service reserve requirement. It further requires that the rates and charges be developed in accordance with sound utility rate making practices and consistent with industry standards for water, wastewater and stormwater utilities (including standards published by the American Water Works Association and the Water Environmental Federation). PWD Statement 2 at 10:14-23

40. Section 13-101(4) of the Philadelphia Code further requires that the rates and charge be equitably apportioned among the various classes of customers and be just, reasonable and nondiscriminatory as to the same class of customers. Philadelphia Code, Section 13-101(4)(c) and (3)

41. Section 13-101(4) of the Philadelphia Code also requires the Board to establish special rates and charges for certain categories of customers. PWD Statement 2 at 10:23-25.

42. Section 13-101(2) of the Philadelphia Code requires the Department to develop a comprehensive plan (“Financial Stability Plan” or “Financial Plan”) in which the Department forecasts capital and operating costs and expenses and corresponding revenue requirements. The Financial Stability Plan must identify the strengths and challenges to the Department’s overall financial status including the Water Department’s credit ratings, planned and actual debt service coverage, capital and operating reserves and utility service benchmarks. In the plan the Department also must compare itself to similar agencies in peer cities in the United States. The Department must submit an updated Financial Stability Plan to City Council every four years and update the plan prior to proposing revisions in rates and charges. PWD Statement 2 at 10:1-12.

43. The proposed rates comply with these requirements of Section 13-101 of the Philadelphia Code. PWD Statement 2 at 10:25-11:2 and PWD Statement 9A at 43:12-47:4.

44. Section 13-101(4)(i) of the Philadelphia Code requires the Board to: (i) fully consider the Water Department's Financial Plan, (ii) determine the extent to which current revenue should fund capital expenditures and the minimum level of reserves to be maintained during the rate period based on all relevant information presented including, but not limited to, peer utility practices, best management practices and projected impacts on customer rates, and (iii) set forth such determinations in the Board's written report. PWD Statement 2 at 11:4-10.

Bond Covenants

45. The City has covenanted with the bondholders that it will impose, charge and collect rates and charges in each fiscal year sufficient to produce annual net revenues which are at least 1.20 times the debt service requirements, excluding the amounts required for subordinated bonds (as defined in the 1989 General Ordinance). PWD Statement 2 at 11:14-18.

46. The City has also covenanted with its bondholders that net revenues in each fiscal year must be equal to 1.00 times (A) annual debt service requirements for such fiscal year, including the amounts required for subordinated bonds; (B) annual amounts required to be deposited in the debt reserve account; (C) the annual principal or redemption price of and interest on General Obligation Bonds payable; (D) the annual debt service requirements on interim debt; and (E) the annual amount of the deposit to the Capital Account (less amounts transferred from the Residual Fund to the Capital Account). The covenants in this paragraph and the preceding paragraph are referred to as "Rate Covenants." PWD Statement 2 at 11:14-12:2.

47. The City's bond insurance policies contain an insurance covenant which requires the City to establish rates sufficient to produce net revenues (excluding amounts transferred from the Rate Stabilization Fund into the Revenue Fund for a given year) equal to at least 90% of debt service requirements (as defined by the 1989 General Ordinance). This covenant is referred to as the "Insurance Covenant" and together with the Rate Covenants, as the "Bond Covenants." PWD Statement 2 at 12:4-11

RATEMAKING STANDARDS AND PRINCIPLES

48. The guiding principles for municipal ratemaking and Cost of Service analysis are set forth in three major industry manuals. The manual for the water cost of service is AWWA's "Principles of Water Rates, Fees, and Charges Manual of Water Supply Practices M1," commonly referred to as the M1 Manual. The manual for the wastewater cost of service is WEF's "Financing and Charges for Wastewater Systems" Manual of Practice M27, also known as MoP 27. The manual for stormwater cost of service is WEF's "User Fee Funded Stormwater Programs." PWD Statement 9A at 19:15-25.

49. Cost of Service analysis is the process by which net revenue requirements (operation, maintenance and capital costs) of the water and wastewater systems determined for a specific fiscal year (test year) are allocated to the users of the system in proportion to the services the user receives. PWD Statement 9A, Schedule BV-ES: WP-4 at p. 2.

50. A Cost of Service analysis consists of three parts: (1) Revenue & Revenue Requirements, (2) Cost of Service Allocations, and (3) Rate Design. PWD Statement 9A at 20:7-11.

51. The final step in conducting a Cost of Service study involves developing the rate structure that allows the utility to recover its costs for a given test year. PWD Statement 9A at 22:4-6.

52. Industry rate practitioners use the AWWA and WEF manuals identified above in developing Cost of Service studies and collectively, they serve as generally accepted industry guidelines for such studies. PWD Statement 9A at 19:22-24.

53. Black & Veatch used the principles and guidelines from these manuals in performing the Cost of Service study. PWD Statement 9A at 19:24-25.

54. The three-year rate period or future rates is also consistent with Section 13-101 of the Philadelphia Code and prior rate decisions which have consistently employed multiple future test years since 1993. See *Public Advocate v. Brunwasser*, 22 A.3d 261 (Pa. Commw. 2011)(4-year rate period approved by the Water Commissioner) and *Public Advocate and CEPA v. City of Philadelphia* (Pa. Commw. 662 A.2d 686 (Pa. Commw. 1995)(4-year rate period approved by the Water Commissioner and the Commissioner's decision upheld by the Court).

FINANCIAL PLANNING AND RATEMAKING

55. The Department's rates are set using the cash basis of accounting. Under this basis, revenues are recorded on a receipt basis, except revenues from other governments and interest. Expenditures are recognized and recorded as expenses at the time they are paid or encumbered, except debt service which are recorded when paid. PWD Statement 2 at 6:18 and note 3.

56. The Department has no shareholders and does not pay a dividend or rate of return to the City as the owner of the water and wastewater system. Virtually all the funds needed to run the operations of the Department come from ratepayers or from borrowing. The cost of borrowing also must be paid by ratepayers. PWD Statement 2 at 6:18-7:1 and 20:3-6.

57. The Department's proposed rates are set by determining the appropriate level of cash and other financial metrics necessary to pay all the Department's operating expenses, payment of debt service, provide sufficient funding for the capital program, meet 1989 General Bond Ordinance provisions, maintain current rating levels and provide efficient access to debt capital markets at reasonable rates. PWD Statement 2 at 7:1-6 and 20:7-10.

58. Since the last rate proceeding, the Department has reduced debt and other costs where it is possible to do so. However, the Department needs additional revenues to address unavoidable increases in operating costs in several areas and to continue to achieve the financial metrics necessary to maintain our financial status, in addition to ensuring current favorable bond

ratings and avoiding increased borrowing costs that customers would have to bear in the future if the rating agencies downgraded the Department's bond rating. PWD Statement 2 at 4:10-16.

Financial Plan

59. The Department's current Financial Plan is attached to PWD Statement 2. PWD Statement 2 at 14:14-20 and Schedule ML-2.

60. The Financial Plan contains three major sections which provide the information required by the Section 13-101(2) of the Philadelphia Code. PWD Statement 2 at 14:24-25. Ordinance.

61. The first section of the Financial Plan summarizes information on revenues and expenses, debt service coverage, and cash balances in recent years and describes the Department's current bond ratings. PWD Statement 2 at 14:25-15:13.

62. The second section of the Financial Plan describes the Department's goals and key policies with respect to capital funding from current revenues, debt service coverage, debt issuance and cash revenues. As explained in this section, the Department is focusing on the following four key financial policy goals: (1) funding at least 20% of the Department's capital program from current revenues; (2) improving debt service coverage; (3) using strategic debt issuance to relieve cash flow pressures and better align debt payments over the lifetime of assets; and (4) utilizing cash reserves to offset the level of rate increases. Projections of future costs and revenue requirements and the strengths and challenges to the Department's overall financial status, including planned debt service coverage, debt issuance, and cash reserves are also addressed in this section. PWD Statement 2 at 15:15-25.

63. The third section of the Financial Plan is a peer utility review and includes a comparison of credit ratings, financial metrics for revenue and debt, debt service coverage, reserve levels, debt to revenue ratios, and asset conditions. PWD Statement 2 at 16:2-4.

Financial Challenges and Risk Factors

64. The Financial Plan identifies the strengths and challenges to the Water Department's overall financial status. PWD Statement 2, Schedule ML-2 at p. 14.

65. In addition to the challenges mentioned by the bond rating agencies, the most significant challenge the Department faces during the proposed rate period and into the foreseeable future is the ongoing implementation of the Department's Long-Term Control Plan for controlling combined sewer overflows, also known as *Green City, Clean Waters*. PWD Statement 2 at 21:21-22:2.

66. The Department is obligated to implement its Long-Term Control Plan (*Green City, Clean Waters*) under a Consent Order and Agreement (COA) negotiated in 2011 with the Pennsylvania Department of Environmental Protection. PWD Statement 1 at 20:19-24; PWD Statement 2 at 4:20-23; PWD Exhibit 7.

67. The COA requires the Department to eliminate and remove the mass of pollutants that otherwise would be removed by the capture of 85% by volume of combined sewer overflows by 2036. The COA requires interim milestones at the end of the fifth, tenth, fifteenth and twentieth years in four categories: (1) Total Greened Acres from green stormwater infrastructure projects; (2) Overflow Reduction Volume; (3) Miles of Interceptor Lined; and (4) Wastewater Treatment Plant Upgrades. PWD Statement 1 at 21:4-10.

68. The COA uses “Greened Acres” as a metric that accounts for the conversion of highly impervious urban landscape through the implementation of projects that reduce stormwater runoff. A Greened Acre is a quantitative expression of the volume of stormwater that can be managed by a green stormwater infrastructure project. One Greened Acre is equivalent to one inch of managed stormwater runoff from one acre of impervious drainage area. PWD Statement 1 at 21:12-17.

69. The COA also includes significant penalties for non-compliance with the various 5-year milestones. Penalties start at \$25,000 per month for each violation (for the first 6 months) and increase up to \$100,000 monthly for uncured violations of 13 months or more. PWD Statement 1 at 21:19-22.

70. The Department anticipates that over the next 20 years, compliance with the COA will significantly increase capital and operating expenditures related to Green City, Clean Waters. As of the most recent projections, the total cost of the 25-year program is approximately \$4.5 billion, of which approximately \$3.5 billion are capital related costs and \$1 billion are operation and maintenance costs. PWD Statement 1 at 21:24-22:6.

71. Since the 2016 Rate Proceeding, the Department has revised its Financial Plan and strategies to address the increasing capital and operating requirements. Additional pressures will arise in future rate periods due to the performance metrics in the COA. PWD Statement 2 at 22:4-7.

72. Among the financial challenges the Department faces in connection with its revised financial plan are the following: (i) managing cash reserves with the dual intent of covering expenditures when revenues are not sufficient and to prevent the need for large swings in rate increases, (ii) targeting higher coverage levels above the minimum required by the 1989 General Ordinance, and (iii) increasing internally generated funds for the Department’s Capital Improvement Program to provide (A) for financial stability for the Department both in the near and medium terms and (B) more closely mirror coverages of other municipal water and wastewater utilities. PWD Statement 2 at 22:7-15.

Financial Planning and Metrics

Debt Service Coverage

73. Debt service coverage is simply cash flow which is used to support the system by funding certain actions such as capital projects. PWD Rebuttal Statement 2 at 11:2-3.

74. Any funds used for capital projects also allows the system to manage future leverage. PWD Rebuttal Statement 2 at 11 :4-5.

75. Adequate coverage also ensures that reserves are maintained at levels which can mitigate unforeseen expenses and capital needs or dips in expected revenue. PWD Statement 2, Schedule ML-6 at p. 3.

76. PWD has legal requirements of debt service coverage, which is 1.2 times coverage of senior debt, including contributions from the Rate Stabilization Fund. PWD Statement 2 at 11:14-18 and Schedule ML-6 at p. 3.

77. The Department has targeted debt service coverage to trend to 1.3 times, which is included in its Financial Plan. PWD Statement 2, Schedule ML-2 at p. 19 and Schedule ML-6 at p. 3.

78. All three of the recent rating agency reports have emphasized the need for the Department to improve coverage. PWD Statement 2 at 18:10-11 and Schedule ML-6 at pp. 7-8; PWD Rebuttal Statement 2 at 12:5-7.

79. Increased coverage results in stronger liquidity and will ultimately allow for increased pay go funding. This is critical given the reality of PWD's increase in required capital needs. PWD Statement 2, Schedule ML-6, p. 8.

80. As with older urban systems, ongoing maintenance of assets is critical. PWD has historically had low margins and a higher debt burden. Consistent reasonable rate increases will allow PWD to address capital needs without over-burdening future rate payers. PWD Statement 2, Schedule ML-6, p. 8.

81. The current and past debt service coverage for PWD is and has been below national trends for peer utilities. PWD Statement 2, Schedule ML-6, p. 3.

82. Coverage, also referred to as margin or internally generated funds, is a municipal utility's only real alternative to issuing debt to fund capital program costs. PWD Statement 2 at 18:5-9; PWD Rebuttal Statement 2 at 12:1-5.

83. The PWD's bond investors also derive benefit from coverage as one of the financial ratios that indicate credit strength and provide greater assurance that there is a safety margin above minimum amount of revenues to meet ongoing principal and interest payments. Coverage accrues only to the benefit of rate payers when it is used to fund a portion of the PWD's capital investments, reduce the need for future increased debt, and provide liquidity protection from unforeseen financial stresses. In other words, coverage reduces the need for financial leverage and reduces credit risk for bond investors and lenders. The reduced credit risk enables utilities, like the PWD, to sell bonds at lower interest rates and obtain credit at lower costs. The accumulation of coverage above the PWD's stated minimums requires modestly

higher rates today, but leads to lower future debt payments and rates. PWD Statement 2, Schedule ML-6, p. 3.

84. Increasing the extent to which current revenues fund capital expenditures is mathematically necessary to improve debt service coverage to industry standards. PWD Rebuttal Statement 2 at 12:22-24.

Rate Stabilization Fund and Residual Fund

85. "Days Cash on Hand" is calculated by totaling current unrestricted cash and investments, plus any cash reserves generally available to support the system, divided by operating expenditures (minus depreciation), divided by 365. PWD Statement 2, Schedule ML-6 at p. 4; and PWD Rebuttal Statement 2 at 6:14-17.

86. Days Cash on Hand is an indicator of a system's financial flexibility and ability to swiftly address unforeseen financial requirements. The number of days of cash on hand is a "key ratio" used by the rating agencies in assessing credit quality, meaning it is a highly important in determining a credit rating for all three credit agencies. Days of cash on hand is also consistent with references to terms such as "cash reserves" and "liquidity" that commonly appear in the Rating Agencies' ratings reports on individual municipal utilities. PWD Rebuttal Statement 2 at 6:14-24.

87. Adequate cash reserves allow systems to contribute to increasing capital projects, mitigate system disruptions, and fund unexpected operating expenses. PWD Statement 2, Schedule ML-6 at p. 4.

88. PWD has targeted \$150 million for the Rate Stabilization Fund to cover annual expenditures when revenues are less than projected. PWD Statement 2, Schedule ML-2 at p. 21.

89. PWD has targeted \$15 million for the Residual Fund, which is established to maintain the remaining revenues after all other payments. PWD Statement 2, Schedule ML-2 at p. 21.

90. The Residual Fund is the last Fund into which Project Revenues are transferred from the Revenue Fund. Money in the Residual Fund may be used to pay Operating Expenses or debt service, or for almost any other purpose in support of the System. PWD Statement 2, Schedule ML-3 at p.6.

91. The Capital Account holds Project Revenues accumulated over time primarily to pay capital expenditures, though such moneys may be used for certain other purposes. PWD Statement 2, Schedule ML-3 at p.6.

92. For emergency capital expenditures, the only sources available are the Residual Fund and the Capital Account, and not the Rate Stabilization Fund. To be prepared for emergency capital expenditures, the Department needs to make ongoing and consistent deposits to the Residual Fund and the Capital Account. PWD Rebuttal Statement 2 at 9:1-5.

93. Municipal utilities need a reserve of cash on hand to pay current obligations as they come due. Municipal water and wastewater utilities incur costs to provide the service (labor, materials, supplies, services, etc.) in advance of bills being rendered and revenue collected for providing the service. The timing of the costs necessary to run the business precede the timing of the receipt of revenues to cover those costs, which means a reserve of cash always must be available to handle basic day-to-day utility operations. Utility revenue also can fall short of expenditures, causing negative cash flow due to the inherent lag in the regulatory process of adjusting rates to match costs that have been impacted by inflation and other increases over time. PWD Rebuttal Statement 2 at 2:15-3:6.

94. The Public Advocate's proposed target for the Rate Stabilization Fund would result in only a fraction of cash reserves necessary to meet the required medians for an "A" rated credit on all accounts. PWD Rebuttal Statement 2 at 5:5-22.

Capital Funding from Current Revenues

95. The Department expects to finance its Capital Improvement Program during the rate period with the proceeds of debt totaling \$885 million, current revenues (i.e. coverage), and possibly alternate sources of funding during the FY 2019 to FY 2021 rate period. The City expects all such debt to be in the form of new money revenue bonds issued in several transactions, as necessary. PWD Statement 2 at 17:1-9.

96. The Department anticipates increased borrowing to fund the Capital Improvement Program during each year of the rate period. PWD Statement 9A at 38:14-19.

97. PWD infrastructure has a shorter remaining useful life compared to other utilities, which indicates that more investment will be needed to maintain the system. PWD Statement 2, Schedule ML-2, p. 30.

98. Increased borrowing also will be needed to address the increased capital requirements associated with the COA during the rate period. PWD Statement 2 at 22:4-7.

99. "Pay-Go" financing is simply funding capital needs with current revenues. PWD Statement 2, Schedule ML-6 at p.4.

100. Funding a portion of the capital program from current revenues will reduce borrowing needs, thereby reducing the costs that customers will have to bear over the life of the typical 30-year bond. PWD Statement 2 at 5:1-4.

101. PWD is working toward the goal of funding at least 20% of its capital program from current revenues, but does not anticipate meeting the 20% threshold during the rate period. PWD Statement 2, Schedule ML-2 at p. 18 and Schedule ML-6 at p.4.

Capital Account Deposit

102. Amounts deposited in the Capital Account may be applied to payments for the costs of renewals, replacement and improvements of the combined water and wastewater system. PWD Statement 2, Schedule ML-3, p. 6.

103. The 1989 General Bond Ordinance defines the “Capital Account Deposit Amount” as “an amount equal to one percent (1%) of the depreciated value of property, plant and equipment of the System or such greater amount as shall be annually certified to the City in writing by a Consulting Engineer as sufficient to make renewals, replacements, and improvements in order to maintain adequate water and wastewater service to the areas served by the System.” The amount of one percent of the depreciated value is the minimum. Greater amounts are allowable based on the certification of a Consulting Engineer. PWD Rebuttal Statement 1 at 22:7-23:6.

104. The Water Department proposes that the amount to be deposited to the Capital Account Deposit of the Construction Fund be set at 1.5 percent. PWD Statement 9A at 42:10-15.

105. Since FY 2010, the Water Department’s annual capital expenditures have increased. The rate of capital spending during FY 2010 through FY 2016 is 1.62 times that of the capital spending during FY 2004 through FY 2009. Commensurate with this increase in average annual capital expenditure, the adjusted level of annual Capital Account Deposit Amount would be approximately 1.56 percent of the FY 2016 depreciated value of property, plant, and equipment of the water and wastewater assets. PWD Statement 9A at 42:17-24; and PWD Rebuttal Statement 1 at 23:9-24:2.

106. Adjusting the recommended Capital Account Deposit Amount to approximately 1.5 percent of Net Capital Assets would better align the Capital Account Deposit Amount to the enhanced levels of capital spending that are occurring and are likely to continue during the foreseeable future. PWD Rebuttal Statement 1 at 23:23-24:2.

107. Increasing the Capital Account Deposit Amount from 1.0% to 1.5% will not increase the annual System revenue requirement. The level of revenues needed to fund the Capital Account Deposit Amount based on 1.5% is less than the level of revenues necessary to meet the General Ordinance rate covenant requirements. PWD Rebuttal Statement 1 at 24:4-8.

108. The increase in the Capital Account Deposit is accompanied by a corresponding decrease in the Transfer to the Residual Fund. PWD Rebuttal Statement 1 at 24:8-12.

Peer Utility Comparisons

109. PWD has selected certain peer systems to provide important benchmarking critical to organizational best practices. The selected peers are of similar size, service areas of industrial urban centers and are located largely in the mid-Atlantic and Midwestern regions of the country. PWD Statement 2, Schedule ML-6, p. 8.

110. Peer comparisons and benchmarking performance indicators are a component of best practices and are specifically mentioned as a factor the Board must consider in the rate making decision. PWD Statement 2, Schedule ML-6, p. 8.

111. PWD, as compared to its peers, remains on the weaker side of certain key financial ratios, including long-term credit standing, debt service coverage, reserves (days cash on hand) and asset condition. PWD Statement 2, Schedule ML-2, pp. 24-30 and Schedule ML-6, pp. 8-9.

112. PWD's goal is to maintain its "A" rating. PWD Statement 2, Schedule ML-2, p. 31.

113. The PWD has set its financial plan to maintain its existing credit ratings over the next five fiscal years. PWD Statement 2, Schedule ML-6, p. 3.

REVENUE AND REVENUE REQUIREMENTS

Time Horizon for Rates

114. AWWA's "Principles of Water Rates, Fees, and Charges Manual of Water Supply Practices M1" acknowledges that government owned utilities can set policies regarding test-year periods and acknowledges the projected test year period as one of the three general types of test periods. AWWA also acknowledges that government owned utilities may separate a multiple-year rate period into separate annual test year periods to phase in rates over the rate period. PWD Statement 9A at 10:10-25.

115. The AWWA Manual specifically refers to three-year rate periods with three separate 12-month test-year periods in situations where government-owned utilities project revenue requirements over a 36-month period. PWD Statement 2 at 20:21-24, citing AWWA Manual, 2017, p. 16.

116. Similar standards for using a multi-year rate methodology to have gradual changes in rates from year to year are set forth for wastewater systems in the Water Environment Federation's "*Financing and Charges for Wastewater Systems Manual of Practice No. 27.*" PWD Statement 9A at 10:10-25.

117. In the past few PWD rate proceedings, the rate periods have ranged from two to four years, with the rate increases phased in over multiple years. PWD Statement 2 at 20:15-16.

118. There are many recent examples of other municipally-owned utilities adopting multi-year rate increases. PWD Rebuttal Statement 1 at 4:5-25; See also PWD Response to TR-11.

119. Base rate proceedings involve significant time and expense. The City budgets approximately \$2 million for each base rate proceeding before the Board. PWD Statement 2 at 20:24-21:1.

120. Multi-year rate proceedings provide customers with transparency about the Department's planned expenses, revenues and rate increases over a reasonable number of years while reducing the administrative burden and expense of having to litigate base rate filings on a more frequent basis. PWD Statement 2 at: 21:1-4.

121. Multi-year rate increases provide financial stability and are a financial management indicator that is credit positive as far as the rating agencies are concerned. PWD Rebuttal Statement 1 at 5:3-5.

122. Adoption of three-year horizon for rates will allow time for PWD to evaluate alternative rate structure options ahead of the next rate proceeding. PWD Rebuttal Statement 1 at 5:15-24; Tr. at 231:20-232:2 (5/14/2018).

123. In this proceeding, Black & Veatch developed proposed rates and charges for three successive fully-projected future test years effective September 1st of each fiscal year. PWD Statement 9A at 19:24-10:8.

124. The Water Fund's approved FY 2018 budget adjusted to reflect the actual to budget spending factors is used as the beginning base budget for the projections of Operation and Maintenance (O&M) expenses for the rate period. These adjusted FY 2018 O&M expenditures serve as the basis for projecting O&M expenses for each fully-projected future test year. PWD Statement 9A at 34:3-8.

Agreed Upon Adjustments

125. The Department has agreed to reduce its proposed revenue requirements by accepting certain adjustments by the Public Advocate. Response to TR-23A.

Contested Revenue and Revenue Requirement Issues

Collection Factor

126. The Cost of Service analysis used a total collection factor of 96.54% for water and wastewater (non-stormwater only) bills. Tr. 11:19-12:9 and 193:12-16 (5/14/2019); Errata Sheet for PWD Rebuttal Statement 5.

127. The collection factors represent the multi-year payment pattern for the following periods: (1) Billing Year – All payments associated with a given fiscal year's billing and received within the 12 months following the beginning of the fiscal year; (2) Billing Year Plus 1 - All payments associated with a given fiscal year's billing and received within 13-24 months following the beginning of the fiscal year; and (3) Billing Year Plus 2 and Beyond - All

payments associated with a given fiscal year's billing and received after 24 months following the beginning of the fiscal year. PWD Statement 9A, Schedule BV-E5:WP1, at pp. 2 and 15.

128. The total collection factor of 96.54% for water and wastewater (non-stormwater only) bills consist of 85.90% in the Billing Year; 9.08% in Billing Year Plus 1; and 1.56% in Billing Year Plus 2 (for a total of 96.54%). PWD Statement 9A, Schedule BV-E5:WP1, at pp. 2 and 15; Tr. 11:19-12:9 and 193:12-16 (5/14/2018); Errata Sheet for PWD Rebuttal Statement 5.

129. In calculating the collection factor, the Department's Cost of Service analysis used a five-year average for the Billing Year, a four-year average for Billing Year Plus 1, and a three-year average for Billing Year Plus 2. PWD Statement 9A, Schedule BV-E5:WP1, at 15; PWD Rebuttal Statement 1 at 8:20-9:2; and Tr. 195:15-197:18 and 236:21-239:15 (5/14/2018).

130. The approach used in the Cost of Service analysis to calculate collection factors effectively uses data that is available on actual payment patterns and reflects potential payment volatility that could occur due to customer's economic conditions and other factors. PWD Rebuttal Statement 1 at 8:12-9:2.

SMIP/GARP

131. The Water Department launched its first stormwater grants program called the Stormwater Management Incentives Program (SMIP) in 2012. This program provides grants to non-residential property owners to design and build stormwater retrofit projects resulting in a Greened Acres that the Department can count toward compliance with the performance requirements in the Consent Order and Agreement with PaDEP. PWD Statement 6 at 6:24-7:8

132. Beginning in Fiscal Year 2015, the Department launched its second stormwater grants program called the Greened Acre Retrofit Program (GARP). GARP provides grant funding to companies or contractors to construct stormwater projects across multiple properties in Philadelphia's combined sewer area. PWD Statement 6 at 7:10-20.

133. PWD expects to provide an annual grant amount of \$25.0 Million towards SMIP and GARP during the rate period, which would result in an increased program budget of \$10 million annually compared to the budgeted amount of \$15 million annually in FY17 and FY18. PWD Statement 6 at 8:14-19; and PWD Statement 9A at 36:22-37:2.

134. SMIP and GARP grants are important components of the *Green City Clean Waters* program and are necessary for the Department to comply with the requirements in the Consent Order and Agreement. PWD Statement 6 at 8:22-24.

135. The grants also allow businesses, institutions and other non-residential customers to directly implement stormwater management projects and provides a pathway for the Department to take compliance credit for "Greened Acres" on project sites that would otherwise be inaccessible and at a cheaper price than it would cost the Department to build equivalent projects on public property. PWD Statement 6 at 8:24-9:4.

136. As of September 2017, 301 Greened Acres have been constructed using funds provided by SMIP or GARP, and many more are expected to come on-line by the end of this fiscal year. PWD Statement 6 at 9:4-6.

137. The Public Advocate's witness, Lafayette K. Morgan, Jr., recommended that the Board not authorize the Department's proposed \$10 million annual increase in SMIP and GARP expenditures and suggested that these programs be funded by PWD's ability to control cost from which it has the discretion to direct funds. PA Statement 1 at 18:19-19:15.

138. Without SMIP and GARP, the Department would not have met the 5-year milestone of the Consent Order and Agreement, which required the Department to achieve a performance standard of 744 Total Greened Acres by June of 2016. As of that deadline, the projects constructed and in operation with funding from SMIP or GARP accounted for 234 Greened Acres, or approximately 31% of the total Greened Acre requirement for the 5-year milestone. PWD Statement 6 at 9:11-16.

139. The COA requires the PWD to accelerate its pace in obtaining Greened Acres during the Rate Period by achieving a cumulative total of 2,148 Total Greened Acres on or before June 2021. This is almost triple the number of Greened Acres that PWD was required to achieve by June 2016. PWD Statement 1 at 22:8-13; PWD Statement 6 at 9:11-16; and PWD Exhibit 7, COA, Appendix I, p.3, Table 1.

140. The Department has three ways of generating Greened Acres: (1) PWD stormwater regulations applicable to new development and which require stormwater management on site; (2) building green infrastructure in the street to manage runoff from streets; and (3) utilizing grant programs to manage large volumes of stormwater on commercial and industrial sites. PWD Rebuttal Statement 1 at 16:2-10.

141. The number of Greened Acres produced from stormwater regulations and private development falls far short of the requirements of the COA. PWD Rebuttal Statement 1 at 16:4-5.

142. GARP is essential for the Department to meet its commitments to achieve 2,148 Greened Acres by 2021 under the COA. Without the GARP program, the Department will be unable to achieve the required Greened Acres by 2021 resulting in violation of the COA with DEP as well as a federal Consent Order. PWD Rebuttal Statement 1 at 15:16-24.

143. PWD has tracked the costs per Greened Acre achieved for private and public projects and has found that the cost of constructing green stormwater infrastructure is lower for projects on private land than for projects constructed by the City on public land. PWD Statement 6 at 11:12-15.

144. SMIP and GARP projects provide cost savings as compared to projects constructed by the City on public land. PWD Rebuttal Statement 1 at 14:8-12.

145. After almost seven years of experience in attempting to meet the Consent Order mandates, the Department has found that GARP is by far and away the least expensive, most efficient, most timely and simplest way for PWD to produce greened acres. PWD Rebuttal Statement 1 at 16:10-14.

146. GARP provides relief to the most highly impacted industrial and commercial customers. Many of these customers saw their stormwater bills dramatically increase from 10 to 100 times when the Department moved to a land-based method of allocating stormwater costs. GARP provides rate relief to these customers while at the same time providing the Department with its most economical method of producing greened acres. PWD Rebuttal Statement 1 at 16:17-22.

147. Relying on future cost savings and efficiencies in areas not already known to PWD would not allow for effective planning and may potentially delay project implementation by not taking advantage of the current demand for the program. PWD Rebuttal Statement 1 at 14:16-19.

Capital Program Spend Rate

148. Projected Capital Improvement Program expenditures for the Rate Period are \$328 million, \$339 million and \$349 million in Fiscal Year 2019, 2020 and 2021 Fully Projected Future Test Years, respectively. PWD Statement 9A, Schedule BV-E5 (WP-1) at 10.

149. The projected capital program total annual expenditures for the Rate Period are estimated at 90% of the annual inflated capital program budget to track anticipated expenditure levels during each Fully Projected Future Test Year. PWD Statement 9A, Schedule BV-E5 (WP-1) at 9; PWD Rebuttal Statement 2 at 14:20-15:16.

150. The inflated capital program budget reflects annual inflation of 2.5% based upon industry construction cost indices. PWD Statement 9A, Schedule BV-E5 (WP-1) at 9; Appendix 7.

151. The Public Advocate disagrees with the projected Capital Program spend rate proposed by the Department. Public Advocate witness, Lafayette Morgan, specifically recommends that a 76% spend rate be used instead, reflecting average spending levels over the past three years. PA Statement 1 at 28:9-29:6.

152. The Department reviewed recent capital obligations by fiscal year together with expenditures. Expenditures lagged behind obligations for a variety of reasons including, (i) the timing of obligations during the fiscal year; (ii) the timing of the start of construction; and (iii) the duration of construction. PWD Rebuttal Statement 2 at 14:13-18.

153. As obligations increase future expenditures will increase as the projects (for which the obligations were made) are constructed and paid for. PWD Rebuttal Statement 2 at 14:18-19.

154. Over the past six years, bidding related to capital projects has been steadily increasing as demonstrated by the increase in fiscal year obligations since FY 2013. In FY 2017 the Department expenditures as a percent of budget ratio increased to 82.12%. PWD Rebuttal Statement 2 at 14:20-15:7.

155. Based upon the high level of obligations in FY 2016-2018, the Department reasonably anticipates expenditures in FY 2019-2021 will continue to rise, and may even surpass 90% of the capital budget. PWD Rebuttal Statement 2 at 15:9-11; Response to PA-IX-20.

156. Since obligations in FY 2016-2018 are considerably higher than obligations in preceding years, longer term historical performance (relied upon by Mr. Morgan) will not be a good indicator of future expenditure levels. PWD Rebuttal Statement 2 at 15:11-14.

Escalation Factors

157. Operating expenses for each Fully Projected Future Test Year are projected utilizing escalation factors which are applied to FY 2018 operating expenses by category. Escalation factors for labor costs are based upon the City's Five Year Financial and Strategic Plan for FY 2018-2022 and prior year labor agreements. The escalation factors for Power and Gas are based upon the City Energy Office estimates. The escalation factors for Chemicals for FY 2019 and 2020 are based upon PWD's recent experience. PWD Statement 9A, Schedule BV-E: WP-1 at pp. 4-5.

158. The Public Advocate contested the escalation factors for (i) Power and Gas, (ii) General Costs and Other Class 200 Expenses, (iii) Chemicals and (iv) Transfers. PA Statement 1 at 22:4-8.

159. For both Power and Gas costs, the escalation factors used reflect the judgment of the City's Office of Sustainability, Energy Office which coordinates energy purchase across City departments. Consistent with the Energy Office's recommendation, no escalation factors were applied in (i) FY 2019-2020 for Power costs and (ii) FY 2020 for Gas costs. As the Energy Office has already accounted for current hedges and its recent experience in the energy market (which has favorably impacted gas and power costs projected in FY 2019-2020), the escalation factors used in FY 2021 should be considered as reasonable projections – based upon the same reasonable judgment and experience. PWD Rebuttal Statement 1 at 18:4-16 and PWD Statement 9A, Schedule BV-E5: WP1, Appendix 8.

160. For General Costs and Other Class 200 Expenses, the escalation factor used by the Department is consistent with its historical two-year average increase experience. PWD Rebuttal Statement 1 at 18:8-19:4.

161. For Chemical costs, the Department's escalation factor is based on its recent experience in procuring chemicals. PWD Statement 1 at 19:6-20:10.

162. The total expenses used to derive the Department's 2.47% escalation factor for Transfers (Class 800) are in the range of \$6.24 million to \$8.10 million. As such, the

Department's escalation factor for transfers is correct. PWD Rebuttal Statement 1 at 21:10-18; PWD Statement 9A, Schedule BV-E5: WP-1 at Appendix 4.

Normalization Adjustments

163. The Public Advocate recommended that costs referred to Rate Case Expense and TAP Implementation Costs be amortized for ratemaking purposes. PA Statement 1 at 30:14-32:3.

164. For Rate Case Expense, the costs that are budgeted and projected for FY 2019 are the costs that are expected to be incurred in that year. Tr. 96 (May 14, 2018). As budgeted, the category of expense characterized as "rate case" expenses by the Advocate are not limited to expenses incurred in the preparation or presentation of this rate proceeding. This category of expenses, rather than being limited to expenses incurred for this rate proceeding, is related to ongoing expenses for the same teams of people/consultants who are providing, and will continue to provide, other services to the Department. Many of the consultants have been selected and contracted to provide such service over multiple years. Between rate proceedings, the Department and its consultants do rate-related tasks that the Department cannot do during a rate proceeding. Those tasks are "captured" in the same accounting category as more traditional rate case expenses. Tr. at 96:8-99:19 and 254:1-255:22 (5/14/2018); and PWD Rebuttal Statement 1 at 12:12-19.

165. TAP Implementation Costs are ongoing annual expenses and will continue throughout the life of the program. There are still parts of the program that need to be fully-implemented. A major component, and specific driver, of continued "implementation" costs is the requirement to have electronic applications. This requirement is ongoing and will continue in the test period. Those costs alone are \$3 million dollars. In addition, the TAP ordinance contains certain reporting requirements that require tracking of applications, and the way WRB obtains those tracking metrics is through bar-coded applications. Tr. at 104:8-106.:4 (5/14/2018); and Response to Transcript Request ("TR") 12.

COST OF SERVICE, COST ALLOCATION, RATE DESIGN AND OTHER ISSUES

Cost Allocation and Rate Design

166. The Department submitted the testimony and accompanying cost of service study prepared and presented by Black & Veatch. PWD Statement 9A at 8:15-19.

167. Black & Veatch's cost of service analysis consists of three parts: (1) Revenue and Revenue Requirements (how much money the utility needs to meet its fiscal year operating and capital obligations); (2) Cost of Service Allocations (allocation of costs to functional cost components); and (3) Rate Design (development of a rate structure). PWD Statement 9A at 20:5-22:13.

168. The two most widely used methods of allocating costs are the base-extra capacity method and the commodity-demand method. AWWA Manual M1 at p. 61; PWD Statement 9A at Schedule BV-E5: WP-4, p. A-1.

169. Black & Veatch used the base-extra capacity method to allocate costs. PWD Statement 9A at 58:9-60:22.

169. Black & Veatch performed its cost of service analysis using accepted industry rate-making practices. PWD Statement 9A at 19:12-25 and PWD Rebuttal Statement 3 at 2:7-13.

Public Fire Protection

171. Currently, the Fire Department pays from its General Fund allocation to the Water Department for the cost of maintaining a water distribution system capable of providing fire protection across the City. Public Advocate Statement 3, Appendix D, letter from First Deputy Managing Director to PWD.

172. PWD proposes to recover prospective costs for public fire protection from retail water customers through a meter size based service charge. PWD Statement 9A at 26:20-27:7.

173. Rate payers directly benefit from fire protection services. Public Advocate Statement 3, Appendix D, letter from First Deputy Managing Director to PWD.

174. The American Water Works Association's (AWWA) Manual M1: Principles of Water Rates, Fees, and Charges (AWWA Manual M1) provides an overview of historic water system public fire protection cost recovery mechanisms. Common recovery methods include recovery from the General Fund and recovery from water system customers. PWD Statement 9A, Schedule BV-E5: WP-2; Testimony of Fire Commissioner Adam K. Thiel (5/11/2018), and AWWA Manual M1, 2017, p. 158.

TAP RATE RIDER

175. PWD, in its original filing, proposed a cost recovery approach along with a rate rider to recover the costs and anticipated revenue loss associated with the Department's Tiered Assistance Program (TAP) and the Low-Income Conservation Assistance Program (LiCAP). The TAP revenue loss and LiCAP costs were represented as an integral component of the water, sewer, and stormwater "net revenue requirement" and consequently, the recovery of those costs was embedded in all of the existing water, sewer, and stormwater rate structure components. In addition, in the original filing, PWD proposed a rate rider to reconcile potential variances between the estimated TAP and LiCAP costs embedded in the rates of a test period, and the actual experience with respect to those costs. PWD Statement 9B.

176. As a part of its rebuttal testimony, PWD developed a revised proposal for both the TAP cost recovery mechanism and the reconcilable TAP Rider, thereby moving closer to the Public Advocate's approach to this subject. Salient aspects of the revised proposal are as follows:

- (i) TAP costs will be recovered via a distinct and reconcilable TAP Surcharge (“TAP-R”) defined in terms of dollars per thousand cubic feet (\$/MCF);
- (ii) TAP-R will only recover the TAP bill discount amounts provided (adjusted for collections);
- (iii) TAP surcharge rates will be expressed as two sub-components: 1) a “Water TAP-R” added to each declining block rate of the water quantity “base rate” (\$/MCF); and 2) a “Sewer TAP-R” that is added to the uniform sewer quantity “base rate” (\$/MCF);
- (iv) TAP-R will be subject to an annual reconciliation process in accordance with the proposed Rate Rider framework;
- (v) The determination of net over or under collection of TAP costs will be based on an examination of both the actual TAP costs experienced, and the actual TAP rider revenues recovered from non-TAP customers; and
- (vi) All other TAP related costs including program administration and LiCAP costs will be recovered via “base rates” (i.e. PWD’s existing rates and charges). PWD Rebuttal Statement 5, Schedule R5-1.

177. The formula for PWD’s proposed TAP-R surcharge rate, as revised, is:

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

Component	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 <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.

PWD Rebuttal Statement 5, Schedule R5-1.

178. PWD and the Public Advocate have reached general agreement on the following specific aspects of the TAP Rate Rider framework:

- i.** The TAP Rider and associated surcharge will only recover lost revenues associated with TAP discounts provided to TAP customers.
- ii.** All other TAP related costs including program administration and LiCAP costs will be recovered via “base rates.”
- iii.** The TAP Rider Surcharge will be defined in terms of dollars per thousand cubic feet (\$/MCF).
- iv.** The TAP Rate Rider Surcharge will be apportioned between the water and sewer services as follows:
 - A portion of the reconcilable TAP costs will be allocated to the water service and the resulting Water TAP-R surcharge rate (\$/MCF) will be added to each declining block rate of the water quantity “base rate” (\$/MCF); and
 - A portion of the reconcilable TAP costs will be allocated to the sewer service, and the resulting Sewer TAP-R surcharge rate will be added to the uniform sewer quantity “base rate” (\$/MCF).
- v.** Both the Water and Sewer TAP-R surcharge rate will be computed based upon the Non-TAP Customer sales (in MCF) for the Projected Rate Period.
- vi.** The Water and Sewer TAP surcharge rate will be reconcilable on an annual basis.
 - The actual discounts provided to TAP Customers (i.e. revenue loss) will be reconciled against the TAP-R surcharge revenues collected from Non-TAP Customers.
- vii.** Interest on over and under recovery of TAP-R revenues will be included in the reconciliation of the TAP-R. The interest amount for the reconciliation period will be computed based on the following interest rate:
 - The yield to maturity 52-week interest rate of United States Treasury Securities with constant maturities as compiled and published in the Federal Reserve Statistical Release H.15 (519); and
 - The above referenced interest rate will be the rate that exists each year as of the first day of the month, preceding the month of the annual reconciliation submission to the Rate Board.
- viii.** PWD will use a combination of actual and estimated data to determine both the TAP discounts provided and the TAP-R surcharge revenues received for the reconcilable (current) period, and perform the annual surcharge rate reconciliation.
- ix.** PWD will not include an emergency adjustment clause as a part of the proposed TAP Rider.

179. PWD and the Public Advocate disagree on the following three issues with respect to the proposed TAP Rider: (1) Selection of a Collection Factor for Use in Reconciling the TAP-R Revenues; (2) Inclusion of Arrearage Forgiveness in the TAP Rate Rider Surcharge; and (3) Apportionment of TAP Revenue Loss between the Water and Sewer Services.

180. PWD proposes that its system-wide collection factor of 96.54% should be used in determining the TAP revenue loss and the surcharge revenues recovered from Non-TAP customers. This collection factor is based on PWD-specific historical data of billings and receipts. PWD Rebuttal Schedule R5-1, p. 3; Errata Sheet for PWD Rebuttal Statement 5; and Tr. 11:19-12:9 and 193:12-16 (5/14/2019).

181. PWD disagrees with the inclusion of any reconcilable arrearage forgiveness in the determination of the reconcilable TAP surcharge rate at the current time, but has noted its willingness to consider the inclusion of arrearage forgiveness in the future pending changes to City policies and after consideration of other implications. PWD Rebuttal Statement 5 at 8:20-9:3.

182. Neither the Rate Board, WRB or PWD have the authority to change the City's arrearage forgiveness policies. Pursuant to the Charter, that authority lies with the Law Department. PWD Response to TR-3, citing Charter §§1-102(1), 4-100, 6-201, 4-400(b) and 8-410.

183. PWD proposes to apportion the TAP revenue loss based on the proportion of the water and sewer annual revenue requirements respectively, to the total combined water and sewer revenue requirements. This approach is appropriate because the TAP revenue loss is essentially a "cost" or "revenue requirement" for the Non-TAP customers. PWD Rebuttal Statement 5 at 9:5-21.

CUSTOMER ASSISTANCE PROGRAMS AND RELATED ACTIVITIES

184. In the 2016 Rate Proceeding, the Board asked the Law Department for its advice regarding the scope of Board authority to direct the Department (and by extension the Water Revenue Bureau) to take specific actions to improve the customer service experience. 2016 Determination of Water Department Rates and Charges for FY 2017-2018, at p. 39.

185. The Law Department advised, inter alia, that: (a) the Rate Board has authority to fix and regulate rates and charges, which includes the power to deny any rate increase above the baseline required by the Home Rule Charter and Code on any reasonable basis, and the power to grant a rate increase for a shorter period than the Water Department has requested; and (b) the Rate Board does not have the power to direct how the Water Department (and WRB) provides service. 2016 Determination of Water Department Rates and Charges for FY 2017-2018, at p. 39 and Appendix B (Memorandum from the City Solicitor, June 6, 201).

186. The Board accepted the advice of the Law Department and did not direct the business practices of the Department or the Water Revenue Bureau. 2016 Determination of Water Department Rates and Charges for FY 2017-2018, at p. 39.

OTHER ISSUES RAISED BY OTHER PARTICIPANTS

PLUG

187. PLUG's expert witness, Richard A. Baudino, responded to the cost and revenue allocation proposals proffered by Mr. Jerome Mierzwa on behalf of the Public Advocate. PLUG Statement 1 at 2:11-12.

188. PLUG supported the maximum day factor and the customer demand factors in PWD's cost of service analysis and recommended against the Public Advocate's analysis of those factors. PLUG Statement 1 at 2:13-8:10.

Philadelphia Land Bank

189. The Philadelphia Land Bank ("Land Bank") has requested a one-hundred percent (100%) abatement of water, sewer and stormwater charges for all vacant real property owned by the Land Bank. Land Bank Statement at 10:11-13.

190. The Land Bank's witness, Angel Rodriquez, testified that any reference in his testimony to vacant property acquired, or to be acquired, by the Land Bank means that the property is unoccupied. Tr. 15:17-21 (5/17/18).

191. PWD has not taken a position for or against this request, but has proposed that if the Rate Board approves the request, Paragraph (l) in Section 5.2(1) of the Department's proposed Rates and Charges should provide as follows: "(l) When any vacant or unoccupied premises are acquired by the City or the Philadelphia Land Bank, charges for water and sewer, including charges relating to storm water management and disposal, shall terminate on the date that such premises are acquired." PWD Statement 2 at 35:20-36:7.

Penn Environment

192. PennEnvironment presented testimony to describe why a rate hike is justified to maintain and expand the Department's green infrastructure program. PennEnvironment Statement at 2:20-21.

193. PennEnvironment explained the benefits of the Department's SMIP and GARP grant programs and testified that these programs are effective in furthering storm water management objectives. PennEnvironment Statement at 2:26-5:23; and Tr. 18:23-19:1 (5/17/18).

194. PennEnvironment believes that the propose rate increase is necessary to expand the SMIP and GARP grant-making ability, which is necessary for Philadelphia to reduce combined sewer overflow, minimize flooding and protect our water. PennEnvironment Statement at 5:16-23.

Mr. Skiendzielewski

195. Mr. Skiendzielewski testified as to his personal experience with a \$12,000 loan under the Department's Homeowner Emergency Loan Program (HELP) and his appeal to the Tax Review Board (TRB) of loan repayment bills. Tr. 51:20-52:19 (5/17/18). See also Section 100.7(b)(2) of PWD's Regulations, which provides that the TRB has jurisdiction to hear appeals of decisions and determinations relating to the liability of any person for any unpaid money or claim collectible by the Department of Revenue on behalf of the City. PWD Regulations, Section 100.7(b)(2), available at: <http://www.phila.gov/water/PDF/PWDregCH1.pdf>.

196. The Department's HELP loan program is a no-interest, installment payment loan program available to homeowners who need to make emergency repairs of defective water service and sewage drainage pipes. This program, which began in 1991, provides emergency loans and allows customers to avoid shut-off of service because of a notice of defect issued by the City. In Fiscal Year 2017, the Department provided approximately \$6.1 million in HELP loans for approximately 1,300 water and sewer repair jobs. PWD Statement 1 at 25:3-10; and Tr. 70:24-71:4 (5/17/18). See also PWD's Regulations, Chapter 2, Sections 200.0-200.5, for regulations applicable to the Homeowner Emergency Loan Program (HELP). PWD Regulations, Chapter 2, Sections 200.0-200.5, available at: <http://www.phila.gov/water/PDF/PWDregCH2.pdf>.

197. The HELP loan program was designed as a bill financing program that has three parts. The City enters a contract with the plumber to perform the repair work at the customer's premises; the customer enters a contract with the City with a commitment to pay back the loan over five years; and the plumber gives a warranty to the owner of the property and the City. Tr. 71:4-17 (5/17/18).

198. The HELP loan funding is intended to be a revolving fund that is replenished as the customer repays the loan. The Department believes that it is important to collect repayments so that program may continue and not be a burden on rate payers. Tr. 71:18-72:8 (5/17/18).

199. Mr. Skiendzielewski did not provide any testimony recommending an increase or decrease in the proposed amount of funding for the HELP loan programs.

APPENDIX C

PROPOSED CONCLUSIONS OF LAW

1. The Department initiated the process to establish new rates pursuant to Section 5-801 of the Charter, Section 13-101 of the Philadelphia Code and Section II.2 of the Rate Board's regulations.

2. The Board must establish rates consistent with applicable legal requirements prescribed by Section 5-801 of the Charter, Section 13-101 of the Philadelphia Code., the 1989 General Ordinance and the Bond Covenants. See, Governing Legal Standards, *supra*.

3. The Rate Ordinance was enacted and became effective on January 20, 2014, and its substantive provisions are set forth as part of Section 13-101 of the Philadelphia Code.

4. Section 13-101(4) of the Philadelphia Code, entitled "*Standards for Rates and Charges*," contains the aforesaid ratemaking standards which prescribe how new rates are to be set (a) applying the prescriptive legal and accounting requirements, (b) giving due consideration to the Department's Financial Plan, (c) utilizing industry ratemaking standards, (d) making peer utility comparisons and (e) authorizing rates to recover necessary additional revenues consistent with the "just and reasonable" standard.

5. The specific standards for rates and charges applicable in this proceeding are set forth below:

Standards for Rates and Charges.

(a) The rates and charges shall be such as shall yield to the City at least an amount equal to operating expenses and debt service, on all general obligations of the City in respect of the water, sewer, stormwater systems and, in respect of Water and Wastewater Revenue Bonds, such additional amounts as shall be required to comply with the Rate Covenant and the Debt Reserve Requirement , and proportionate charges for all services performed for the Water Department by all officers, departments, boards or commissions of the City.

(b) The rates and charges shall yield not more than the total appropriation from the Water Fund to the Water Department and to all other departments, boards or commissions, plus a reasonable sum to cover unforeseeable or unusual expenses, reasonably anticipated cost increases or diminutions in expected revenue, less the cost of supplying water to City facilities and fire systems and, in addition, such amounts as, together with additional amounts charged in respect to the City's sewer system, shall be required to comply with the Rate Covenant and Debt Reserve Requirement in connection with the issuance of Water and Wastewater Revenue Bonds. Such rates and charges may provide for sufficient revenue to stabilize them over a reasonable number of years.

(i) In fixing rates and charges, the Board shall recognize the importance of the financial stability to customers and fully consider the Water Department's Financial Stability Plan (defined herein). In addition, the Board shall determine the extent to which current revenues should fund capital expenditures and minimum levels of reserves to be maintained during the rate period. When determining such levels of current funding of capital expenditures and minimum levels of reserves, the Board shall consider all relevant information presented including, but not limited to, peer utility practices, best management practices and projected on customer rates. The Board shall set forth any such determinations in a written report.

(ii) Rates and charges shall be developed in accordance with sound utility rate making practices and consistent with the current industry standards for water, wastewater and stormwater rates.

(iii) Whenever the Water Department has proposed changes to the rates and charges, the Board, shall issue a written report incorporating the information used by the Board in reaching a decision to approve, modify or reject the proposed rates and charges.

(iv) The decision to approve, modify or reject the proposed rates shall be made in a timely manner, but no later than 120 days from the filing of notice of any proposed change in rates and charges.

(c) The rates and charges shall be equitably apportioned among the various classes of consumers.

(d) The rates and charges shall be just, reasonable and non-discriminatory as to the same class of customers.

(e) Special rates and charges, to be designated as "charity water rates and charges," shall be established for public and private schools, institutions of purely public charity, and places used for actual religious worship.

(f) Special rates and charges to be designated as "public housing water rates and charges" shall be established for property of the Philadelphia Housing Authority and shall be set so that Philadelphia Housing Authority receives a five percent (5%) reduction off of the Water Department's service and quantity charges.

6. The Rate Ordinance also requires the Department to develop a comprehensive plan ("Financial Plan"), pursuant to which the Department shall forecast capital and operating costs and expenses and corresponding revenue requirements. In this plan, the Department is required to identify the strengths and challenges to its overall financial status including the utility's credit ratings planned and actual debt service coverage, capital and operating reserves and utility service benchmarks.

7. The Department is also required to compare itself with similar agencies in peer cities in the United States.

8. Taken together, the foregoing governing legal standards constrain the Board to fix and regulate rates and charges to meet operating requirements and obligations to investors through creation of a stable revenue stream over a reasonable number of years.

9. The instant rate filing must comply with all the above legal requirements and the just and reasonable standard.

10. The Department has supported its request for increase rates over three years with substantial evidence.

11. The Department's rate request is just and reasonable, equitably apportioned, nondiscriminatory, and consistent with the requirements contained in the Charter and the Philadelphia Code.

12. The Department's use of a three-year rate period is just, reasonable and in accord with the above legal requirements.

13. The Department's proposed method of allocation of public fire protection costs is just, reasonable and in accord with the above legal requirements.

14. The Department's proposed TAP Rider is just, reasonable and in accord with the above legal requirements.

15. The Rate Board's rate setting authority does not include the authority to grant conditional rate increases. Nor does that authority include the right to require the Department to undertake or modify any particular customer service program, other than implementation of rates and charges.

APPENDIX D

PROPOSED ORDERING PARAGRAPHS

Therefore, it is Ordered:

1. That the Philadelphia Water Department's request for relief for Fiscal Years 2019 through 2021 is granted consistent with this Rate Determination.
2. That the Department's proposed addition of subsections (l) and (m) to Section 5.2 of Rates and Charges is approved.
3. That upon the effective date of amendments to the Department's regulations to add a provision regarding charges for water connection charges, the water connection charges in the Department's regulations shall supersede the water connection charges in Section 6.7 of the Rates and Charges, and the Department shall revise its Rates and Charges to state that water connection charges have been relocated to Chapter 4 of the Department's regulations.
4. That the TAP Rider proposed by the Department as revised by the revisions agreed upon by the Department and Public Advocate during the Rate Proceeding is approved.
5. That the Department shall prepare new Rates and Charges consistent with this Rate Determination and effective as of September 1, 2018, September 1, 2019 and September 1, 2020.
6. That the Department shall file the above-referenced Rates and Charges with the Department of Records at least ten days prior to their effective dates.
7. That Rates and Charges effective as of September 1, 2018 shall include a TAP Surcharge rate calculated in compliance with this Rate Determination. The Department shall file any TAP Rate Rider Adjustments for subsequent years with the Rate Board and City Council by July 1 of each year and with the Department of Records at least ten (10) days before the effective date of the TAP Rate Rider Adjustment.

APPENDIX E

Schedules C-1 and C-8

TABLE C-1: PROJECTED REVENUE AND REVENUE REQUIREMENTS
(in thousands of dollars)

Line No.	Description	Fiscal Year Ending June 30,							
		2017 (a)	2018	2019	2020	2021	2022	2023	
OPERATING REVENUE									
1	Water Service - Existing Rates	271,124	280,852	272,455	270,409	268,152	266,038	263,948	
2	Wastewater Service - Existing Rates	413,732	430,818	431,108	428,705	425,776	422,912	420,084	
3	Total Service Revenue - Existing Rates	684,856	711,670	703,564	699,115	693,929	688,950	684,032	
	Additional Service Revenue Required (b)								
	Percent Increase	Months Effective							
4	FY 2019	1.34%	10	7,884	9,461	9,461	9,461	9,461	
5	FY 2020	3.97%	10		23,429	28,400	28,223	28,048	
6	FY 2021	3.86%	10			23,511	28,512	28,331	
7	FY 2022	7.10%	10				44,695	54,276	
8	FY 2023	7.11%	10					47,660	
9	Total Additional Service Revenue Required	-	-	7,884	32,890	61,371	110,891	167,776	
10	Total Water & Wastewater Service Revenue	684,856	711,670	711,448	732,005	755,300	799,840	851,809	
	Other Income (c)								
11	Other Operating Revenue	32,287	39,647	16,526	13,482	10,614	10,536	10,459	
12	Debt Reserve Fund Interest Income	-	-	-	-	-	-	-	
13	Operating Fund Interest Income	386	408	370	360	371	395	419	
14	Rate Stabilization Interest Income	733	702	667	617	557	523	515	
15	Total Revenues	718,260	752,427	729,010	746,463	766,842	811,293	863,201	
OPERATING EXPENSES									
16	Total Operating Expenses	(455,742)	(463,159)	(483,684)	(498,318)	(512,152)	(526,452)	(541,087)	
NET REVENUES									
17	Transfer From/(To) Rate Stabilization Fund	4,563	12,200	9,277	20,328	14,231	5,400	(1,000)	
18	NET REVENUES AFTER OPERATIONS	267,082	301,468	254,603	268,472	268,921	290,242	321,114	
DEBT SERVICE									
	Senior Debt Service								
	Revenue Bonds								
19	Outstanding Bonds	(193,841)	(185,756)	(133,964)	(123,040)	(115,891)	(109,229)	(105,309)	
20	Pennvest Parity Bonds	(11,816)	(11,500)	(11,682)	(11,636)	(11,636)	(11,636)	(11,636)	
21	Projected Future Bonds	-	(22,770)	(53,201)	(71,803)	(79,272)	(102,371)	(130,022)	
22	Total Senior Debt Service	(205,657)	(220,026)	(198,847)	(206,479)	(206,798)	(223,236)	(246,967)	
23	TOTAL SENIOR DEBT SERVICE COVERAGE (L18/L22)	1.30 x	1.37 x	1.28 x	1.30 x	1.30 x	1.30 x	1.30 x	
24	Subordinate Debt Service	-	-	-	-	-	-	-	
25	Transfer to Escrow	(11,000)	(19,000)	-	-	-	-	-	
26	Total Debt Service on Bonds	(216,657)	(239,026)	(198,847)	(206,479)	(206,798)	(223,236)	(246,967)	
27	CAPITAL ACCOUNT DEPOSIT	(22,302)	(23,061)	(35,767)	(36,983)	(38,241)	(39,541)	(40,885)	
28	TOTAL COVERAGE (L18/(L22+L24+L27))	1.17 x	1.24 x	1.08 x	1.10 x	1.09 x	1.10 x	1.11 x	
RESIDUAL FUND									
29	Beginning of Year Balance	15,189	15,065	15,000	15,043	15,008	15,044	15,063	
30	Interest Income	54	54	54	54	54	54	54	
	Plus:								
31	End of Year Revenue Fund Balance	28,122	39,381	19,989	25,011	23,882	27,465	33,263	
32	Deposit for Transfer to City General Fund (d)	1,866	756	722	733	744	786	858	
	Less:								
33	Transfer to Construction Fund	(28,300)	(39,500)	(20,000)	(25,100)	(23,900)	(27,500)	(33,300)	
34	Transfer to City General Fund	(1,866)	(756)	(722)	(733)	(744)	(786)	(858)	
35	Transfer to Debt Service Reserve Fund	-	-	-	-	-	-	-	
36	End of Year Balance	15,065	15,000	15,043	15,008	15,044	15,063	15,080	
RATE STABILIZATION FUND									
37	Beginning of Year Balance	205,761	201,198	188,998	179,721	159,393	145,162	139,762	
38	Deposit From/(To) Revenue Fund	(4,563)	(12,200)	(9,277)	(20,328)	(14,231)	(5,400)	1,000	
39	End of Year Balance	201,198	188,998	179,721	159,393	145,162	139,762	140,762	

(a) FY 2017 is projected and subject to change.

(b) Includes TAP Surcharge Revenue. The TAP Surcharge Revenue reflects billings adjusted for collections.

(c) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund. Includes Debt Service Reserve Fund Release in FY 2017 and FY 2018. Other operating revenue (Line 11) includes projected contra revenue credits for Affordability Program Discounts in (also referred to as TAP Loss) FY 2018 to FY 2023. TAP Loss in FY 2019 to FY 2023 is adjusted for collections.

(d) Transfer of interest earnings from the Bond Reserve Account to the Residual Fund as shown in Line 32 to satisfy the requirements for the transfer to the City General Fund shown on Line 34.

TABLE C-8: PROJECTED FLOW OF FUNDS - CAPITAL IMPROVEMENTS FUND
(in thousands of dollars)

Line No.	Description	Fiscal Year Ending June 30,						
		2017	2018	2019	2020	2021	2022	2023
Disposition of Bond Proceeds								
1	Proceeds From Sale of Bonds	313,651	-	280,000	295,000	305,000	340,000	335,000
	Transfers:							
2	Debt Reserve Fund (a)	11,888	-	-	5,974	319	22,975	17,194
3	Cost of Bond Issuance (b)	1,762	-	1,568	1,652	1,708	1,904	1,876
4	Construction Fund (c)	300,000	-	278,432	287,374	302,973	315,121	315,930
5	Total Issue	313,651	-	280,000	295,000	305,000	340,000	335,000
Construction Fund								
6	Beginning Balance	283,140	392,111	137,331	143,780	155,256	171,615	178,482
7	Transfer From Bond Proceeds	300,000	-	278,432	287,374	302,973	315,121	315,930
8	Capital Account Deposit	29,458	23,061	35,767	36,983	38,241	39,541	40,885
9	Penn Vest Loan	-	-	-	-	-	-	-
10	Transfer from Residual Fund	28,300	39,500	20,000	25,100	23,900	27,500	33,400
11	Interest Income on Construction Fund	1,213	951	505	537	587	629	647
12	Total Available	642,111	455,623	472,035	493,774	520,957	554,406	569,345
13	Net Cash Financing Required	250,000	318,292	328,255	338,518	349,342	375,924	387,540
14	Ending Balance	392,111	137,331	143,780	155,256	171,615	178,482	181,805
Debt Reserve Fund								
15	Beginning Balance	218,617	219,505	200,505	200,505	206,479	206,798	229,773
16	Transfer From Bond Proceeds	11,888	-	-	5,974	319	22,975	17,194
17	Debt Service Reserve Release	(11,000)	(19,000)	-	-	-	-	-
18	Ending Balance	219,505	200,505	200,505	206,479	206,798	229,773	246,967
19	Interest Income on Debt Reserve Fund	1,866	756	722	733	744	786	858

(a) Amount of Debt Reserve Fund estimated based on outstanding and proposed debt service payments.

(b) Cost of bonds issuance assumed at 0.56 percent of issue amount. FY 2017 based on actual issuance costs.

(c) Deposits equal proceeds from sale of bonds less transfers to Debt Reserve Fund and Costs of Issuance.