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I. INTRODUCTION AND PROCEDURAL HISTORY.

II. The Proposed Rate Increase and Summary of Board Decision

On March #, 2018, the Philadelphia Water Department (PWD or Department)¹ filed with the Philadelphia Water, Sewer and Stormwater Rate Board (Rate Board or Board) its proposal to increase rates to recover additional revenues of \$# million in FY 2019 (reflecting a #% increase in revenues from rates currently in effect), a further \$36.392 million in FY 2020 (reflecting a #% increase in revenues from rates currently in effect), and #% increase in FY2021 (reflecting a #% increase from rates in currently in effect effect). The proposed rate increase was designed to meet a revenue shortfall estimated by the Department to be approximately \$ million during the Fiscal Years 2019 and 2020. As the proposed revenue increase would not fully cover the estimated revenue shortfall, the Department anticipated projected withdrawals from the Rate Stabilization Fund² for the same time-frame total approximately \$# million.

According to PWD, in combination, the resulting rate increases to the typical residential customer were projected to be approximately #% over the three-year period for which PWD requests additional revenues from rates.

Under the proposed schedules of water and wastewater rates, the total monthly bill for the typical customer using 600 cubic feet of water per month³ would increase from \$# to \$#, an increase of \$4.16 or about 6.2 percent in Fiscal Year 2019, to \$75.51, an increase of \$3.91 or about 5.5 percent in Fiscal Year 2020, and to \$#, an increase of \$, or about #% in Fiscal Year 2021.

SOURCE - TABLE C-4

COMBINED UTILITY: COMPARISON OF TYPICAL
BILL
FOR RESIDENTIAL CUSTOMERS
UNDER EXISTING AND PROPOSED RATES
5/8 inches meter size

¹ PWD is a City department, with responsibility for provision of water, sewer and stormwater services in the City. The Department also makes wholesale water sales to neighboring communities. The rates for such off-system sales were not at issue in this review.

² The Rate Stabilization Fund was established in conjunction with the Series 1993 Revenue Bonds to provide funds to cover annual expenditures when the revenues are less than projected, and to prevent the need for large swings in rates year to year.

³ In the City of Philadelphia, the average residential customer has a 5/8-inch meter, and uses approximately 600 cubic feet (6 CCF) of water monthly. A CCF is 100 cubic feet. This is roughly the same as 748 gallons.

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	FY 2018	FY 2019		FY 2020		FY 2021	
	Existing Bill	Proposed Bill	As % of 2018	Proposed Bill	As % of 2019	Proposed Bill	As % of 2020
		\$ 74.80	1.0%	\$ 78.50	4.9%	\$ 82.00	4.5%
Monthly Use 0.6 Mcf	\$ 74.05	2019 > 2018		2020 > 2018		2021 > 2018	
		\$ 0.75		\$ 4.45		\$ 7.95	
		1%		6%		11%	

After the extensive and intensive process conducted by the Board to review PWD's proposed increase, the Board approves a two-year stepped increase as follows:

HERE INSERT SUMMARY OF BOARD REVENUE DETERMINATIONS

The Board also considered proposals regarding cost recovery for the Tiered Assistance Program (TAP). The Board was also asked to make certain cost allocation and rate design decisions, and to consider the relevance of certain customer service questions to the proper level of rates for the Department.

III. Process to Determine Water Rates

This is the second rate proceeding for the Rate Board. In 2012, a new rate process was established in Philadelphia to determine prospective water, sanitary sewer and stormwater rates and charges. In November 2012, Philadelphia voters approved an amendment to the Charter⁴ to allow City Council to establish, by ordinance, an independent rate-making body responsible for fixing and regulating rates and charges for water and sewer services. Under the Rate Ordinance adopted by the Council, the Board replaces the Water Department as the entity responsible for

⁴ View the [amendment to the Charter](#).

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setting water, wastewater and stormwater rates. The Rate Ordinance⁵ became effective January 20, 2014.

The Rate Board members are Irwin (Sonny) Popowsky, Lee Huang, Folasade Olanipekun-Lewis, Abby Pozefsky, and Rasheia Johnson.⁶

A. Open and Transparent Process: Procedures and Public Input

The Ordinance provides that the Board review rates using an open and transparent process.⁷

In its initial actions, in 2015, the Rate Board promulgated regulations governing the rate review process and specifying procedural requirements applicable to rate filings. In 2017, after reviewing the experience of the initial rate case under the new process, the Board revised its procedural regulations.

The review process begins with the filing by the Department of Advance Notice of its intention to file for a proposed rate increase. The Ordinance provides that if the Water Department proposes to change its rates, charges or service rates, it must give written notice⁸ to Council and the Board at least 30 days in advance of the filing. This Advance Notice must be accompanied by “financial, engineering and other data upon which the proposed water, sewer and storm water rates and charges are based.”

No less than thirty days after the Advance Notice, the Department may file its proposal to change its rates, charges or service rates (Final Notice). In furtherance of the requirement that Board “establish open and transparent processes and procedures for public input and comment on proposed water rates and charges,” Board regulations provide that the Department must include in its Notice clear estimates of the effects the proposed increase will have on customer bills, and a summary fact sheet, designed for the layman, that explains the proposed rates and charges, the reasons for the proposed increase, and the information relied on by the Department to develop the proposed rates and charges.

In addition, the regulations provide that the Board shall hold at least 4 public hearings at locations around the City so that the public may voice its opinions on the proposed rate increase.⁹ The Board held a total of # public input hearings, one each [dates and locations]. The public input hearings were advertised consistent with Rate Board Regulations and the Hearing Officer’s directives.

⁵ [View the legislation.](#)

⁶ Short biographies of each Board member can be accessed at <http://www.phila.gov/water/rateboard/Pages/BoardMembers.aspx>

⁷ CITE

⁸ In the Board’s procedural regulations, CITE, this first notice is called the “Advance Notice.”

⁹ Board Regulations, Section II(6)(c).

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The testimony at the public hearings were transcribed, and the transcripts are available on the Board's web site. The Board also took written comments, and posted them to its web site. The Board also received #emails commenting on the PWD rate proposal, the great majority of which opposed the rate increase. Appendix A to this report includes a summary and examples of the comments made by the public on the proposal through these various means.¹⁰

B. Open and Transparent Process: Technical Review Process

The Board regulations also provide for a technical review of the proposed rate increase. To justify its proposed increase, the Department must file with its Advanced and Final Notices¹¹ certain technical information, including the following:

- All financial, engineering and other data upon which the proposed rates and changes are based;
- Evidence demonstrating that the proposed rates were developed in accordance with sound utility rate making practices and consistent with the current industry standards for water, wastewater and storm water rates.
- Material required by Order of the Board in the last rate case.

In support of its filing, the Department presented numerous expert witnesses on various technical aspects of the proposed rate increase. These included:

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

¹⁰ *I think including a short summary of the public comments, both in person and through email, would be advisable.*

¹¹ Based on input to the Advance Notice proposals, the Department may make some changes in its Final Notice, such as clarifications sought by participants commenting on the Advance Notice, or Board instructions to complete the record.

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- David Katz, PWD Deputy Water Commissioner;
- Department consultants Black & Veatch (Prabha Kumar, Brian Merritt, Dave Jagt, and Ann Bui);
- Department consultants Raftelis (Jon Pilkenton Davis, Henrietta Locklear, and Jennifer Fitts);
- Department bond counsel, Ballard Spahr (Valarie Allen, Esq.);
- Department consultant Public Financial Management (“PFM”) (Katherine Clupper); and
- Department consultant Acacia Financial (Peter Nissen).

At a special Public Input hearing, April 17, 2018, Fire Commissioner Adam K. Thiel made a presentation urging Board approval of the proposed transfer of revenue responsibility for fire services to the Department.

Pursuant to the Ordinance and the Regulations, the Board chose Community Legal Services to act as Public Advocate to represent the concerns of residential consumers and other small users in the rate proceeding. Community Legal Services provided a team of attorneys led by Robert Ballenger, Esq. CLS also presented the testimony of 3 expert witnesses:

- Lafayette K. Morgan, Exeter Associates, Inc.
- Jerome D. Mierzwa, Exeter Associates, Inc.
- Roger D. Colton, Fisher, Sheehan & Colton

In addition to the input of the Public Advocate, the Board invited interested parties to participate in the technical analysis of the proposed rate increase. Such participants could obtain data from the Department, offer their own technical experts and information, and make argument to the Board summarizing their view of the proposed increase, based on the record compiled by the Board. The following interested parties participated in the technical review process:

- PECO Energy Company and Exelon Generation Co. LLC: (PECO/Exelon)
- Philadelphia Land Bank
- PennEnvironment Research and Policy Center (PennEnvironment)
- Philadelphia Large Users Group (PLUG)
- Michael Skiendzielewski, *pro se*

PennEnvironment sponsored the testimony of Stephanie Wein, Clean Water & Water Conservation Advocate. The Philadelphia Land Bank sponsored the testimony of Angel Rodriquez, Executive Director of the Land Bank and Director of Land Development for the Philadelphia Housing Development Corporation. PLUG sponsored the testimony of Richard A.

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Baudino of J. Kennedy and Associates, Inc. Mr. Skiendzielewski made an oral presentation at the technical hearing on May 17, 2018.

IV. PDW “MOTION IN LIMINE”

On May 7, 2018, the Department submitted a Motion in Limine (“Motion”),¹² requesting that the scope of the technical hearing be limited to (i) exclude certain issues and proposals presented by the Public Advocate regarding the Structure and Operation of the Tiered Assistance Program (“TAP”) and Barring Unfair and Deceptive Shutoff Notices; and (ii) strike Part 1 (Structure and Operation of TAP) and Part 4 (Barring Unfair and Deceptive Shutoff Notices of the Direct Testimony of Roger D. Colton (Public Advocate Statement 3) relating to the listed topics. On May 20, 2018, the Hearing Officer ruled that the motion would be briefed at the conclusion of hearings, and that meanwhile the testimony would be heard. Tr. 5-10 at 3.

A. The PWD Contends That Portions of PA Testimony Should Be Excluded

The Department contends that the issues raised by Mr. Colton concerning both the structure and operation of TAP and shut-off notices are beyond the scope of a rate proceeding before the Board. Motion at 1. The Department argues that the Rate Board’s jurisdiction does not extend to the subjects of its motion to exclude. The Department cites a memorandum from the Law Department provided to the Board during the 2016 rate case, upon the Board’s request for advice regarding the scope of Board authority to direct the Water Department (and by extension the WRB) to take specific actions to take certain actions to improve customer service, such as improving call center operations and program intake. The Law Department advised that the Rate Board does not have the power to direct how the Water Department (and WRB) provide service. The Board accepted the advice of the Law Department. See Report of the Board on PWD Proposed Rate Changes 2017-2018, at 39, and Appendix B at 46.

The Department further argues that the Board’s Hearing Regulations authorize the Hearing Officer to control the receipt of testimony and evidence into the record, including the exclusion of irrelevant testimony or evidence, citing Rate Board Hearing Regulations at §3(b)(4), 8(b)(3).

The Department also cites Commonwealth v. Pikur, 596 A.2d 1253, 1259 (Pa.Cmwlt. 1991), as defining a motion *in limine* 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.

¹² 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.

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B. The Public Advocate

The Public Advocate argues that Mr. Colton's evidence should be included in the record, in full. According to the Public Advocate, granting PWD's Motion *in Limine* would be contrary to the purposes of this evidentiary proceeding and improperly restrict the Public Advocate's ability to present its case and rebut PWD evidence. PA Brief at 33. The PA states that granting PWD's Motion *in Limine* would have the fundamentally unfair consequence of preventing PWD's own evidence from being subject to rebuttal. *Id.* at 34.¹³

The Advocate notes that PWD's own submissions have sought to introduce evidence and testimony concerning customer affairs and Direct Testimony of Joanne Dahme, PWD Statement 5 and the Direct Testimony of Michelle L. Bethel and RaVonne A. Muhammad on behalf of the Water Department, PWD Statement 7. In these statements, the Public Advocate points out, the Department introduced testimony concerning its efforts to implement TAP, its self-described "comprehensive campaign" dedicated to TAP education and public engagement, and the role of the Water Revenue Bureau related to billing, accounting and collection activities for water and wastewater services, as well as the WRB's involvement with the Tiered Assistance Program ("TAP") and other customer assistance and customer service programs that are administered by WRB. PA Brief at 34.

C. Hearing Officer Recommendation

I recommend that the Motion *in Limine* be denied. According to Pennsylvania statute law, Proceedings before the Board need not follow the strict rules of evidence applied in civil courts. As set out in Article II of the Pennsylvania Consolidated Statutes:

§ 554. Evidence and cross-examination.

Local agencies shall not be bound by technical rules of evidence at agency hearings, and all relevant evidence of reasonably probative value may be received.

Philadelphia Water, Sewer and Wastewater rate cases are conducted before a Board specifically chosen for the purpose of reviewing and approving the Department's rates and charges. In addition to public comment, they involve technical hearings where matters of a scientific, engineering, program design, finance, economic, and other specialties are considered. There is

¹³ The Public Advocate points to the fact that the Department filed its Motion *in Limine* 3 days after filing rebuttal testimony on Mr. Colton's topics: Overcomplexity of the TAP Application. PWD St. 4R at 3:14-4:17; Customer harms from unreasonable delays in processing TAP applications. PWD St. 4R at 5:14-6:24; Retroactive adjustments to TAP bills due to delay in approval. PWD St. 4R at 7:1-7:13; Stays of enforcement, including liens on TAP customer properties. PWD St. 4R at 7:15-8:10; Determination of the most affordable bill option. PWD St. 4R at 8:12-8:24; Arrearage forgiveness. PWD St. 4R at 9:1-9:17; PWD St. 5R at 8:20-9:3; Outreach and intake methods; (including LEP customer issues). PWD St. 4R at 9:9-11:16; and the fairness and deceptiveness of PWD shut off notices. PWD St. 4R at 13:20- 14:23. PA Brief at 34-35.

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no jury of lay people who may otherwise need protection against misleading, confusing and irrelevant evidence.

The Department put its own evidence in the record on the issues it contests in Mr. Colton's testimony. Its arguments to restrict the evidence at this point are unpersuasive. The items challenged by the Department in Mr. Colton's testimony will be addressed on their merits. To the extent they are not probative, they will not be relied on.

V. PROCEDURAL HISTORY

The Ordinance provides that the decision by the Board to approve, modify or reject the proposed rates and charges shall be made in a timely manner, but "no later than 120 days from the filing" of the Final Notice.¹⁴ This deadline, together with other timing requirements specified in the Board regulations, necessitates the careful development of the deadlines for action within the Board's overall time limit.

To promote an efficient process, participants from the last rate case consulted together before the filing of the Advance Notice on anticipated scheduling issues. The Public Advocate sent numerous data requests to the Department before the filing of the Advance Notice. In early November, the Board provided the Department with a list of topics developed by its expert, Ed Markus (sp), and the Board advised the Department that such information should be provided. The Department also developed its own list of items that had been sought in the last rate case. The Department tried to include all such items and discovery responses in its Advance Notice.

Formal discovery by participants in the technical review process commenced immediately upon PWD's submission of its Advance Notice, on February 8, 2018. Pursuant to the schedule promulgated by the Hearing Officer, discovery was to conclude by May 3, 2018.

On January 12, active parties participated in a conference call concerning procedural aspects of the rate review process. Participants met in person on January 21, to discuss procedural aspects of the rate proceeding and timelines for and objections to discovery requests, as well as other procedural matters. Procedural guidelines were also verbally addressed by the Hearing Officer.

Technical hearings were held the May 10, 11, 14, 15 and 17, 2018 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 The Department in its Final Notice announced the date of September 1, 2018 as its requested rate-effective date. This date was substantially beyond the 120 day limit. The Board took care to complete its review within the 120 day limit specified in the Ordinance. There is a provision in the Ordinance for establishing emergency rates and charges on a temporary basis pending a final determination of the Board. The Board has not had to use this provision.

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hearings are available on the Board's web site. Consistent with the Board Regulation Section II(6)(f)(1), the record was closed on May 22, 2018.

Technical participants filed their Briefs on June 4, 2018. The Hearing Officer issued her recommendations on June 19, 2018. Exceptions were filed June 26, 2018 by NAME PARTIES WHO FILED EXCEPTIONS.

The Board then deliberated the issues in the case, and rendered its decision on July 12, 2018.

As noted above, the Ordinance and Regulations provide that the Board decision must be issued no longer than 120 days from the Department's filing of the Formal Notice,¹⁵ and the Board's decision must be issued at least 10 days before the effective date of the new rates.¹⁶ The Board issues this decision on July 12, 2018, which is 120 days from the Department's filing of its Formal Notice, and more than 10 days before the proposed rate-effective date, September 1, 2018.

VI. RATE DETERMINATION STANDARDS

A. THE ORDINANCE

Section 13-101 of the Philadelphia Code, provides guidance for the Board in Fixing and Regulating Rates and Charges. Section 13-101(4) sets forth the standards the Board must apply in reviewing and determining rate cases:

(4) Standards for Rates and Charges.

(a) Financial Standards. The rates and charges 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 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.

(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

¹⁵ Board Regulations I(b).

¹⁶ Board Regulations Section II(9)(d).

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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.

(i) In fixing rates and charges the Board shall recognize the importance of financial stability to customers and fully consider the Water Department's Financial Stability Plan. 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 impacts on customer rates.

(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 storm water rates. Industry standards include the current versions of: American Waterworks Association (AWWA) Principles of Rates, Fees and Charges Manual (M-1) and Water Environment Federation's Wastewater Financing & Charges for Wastewater Systems.) ...

(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 nondiscriminatory as to the same class of consumers.¹⁷

Section 13-101(2) provides that the Water Department:

shall develop a comprehensive plan ('Financial Stability Plan') which shall forecast capital and operating costs and expenses and corresponding revenue requirements. It shall identify the strengths and challenges to the Water Department's overall financial status including the Water Fund's credit ratings, planned and actual debt service coverage, capital and operating reserves and utility service benchmarks. It shall compare the Water Department to similar agencies in peer cities in the United States. A Financial Stability

¹⁷ The Ordinance also provides that special rates and charges designated as "charity rates and charges" shall be established for public and private schools, institutions of purely public charity, and places used for actual religious worship. Section 13-101(4)(e). The Ordinance also establishes special "public housing rates and charges" for property of the Philadelphia Housing Authority. Section 13-101(4)(f). In addition, the Ordinance specifies the determination of quantities subject to usage charges for the "Sewer Charge Where City Water Not Used" and the "Sewer Charge Where City Water Not Discharged Into Sewage Disposal System." Sections 13-101(5) and (6). [ADD COMMUNITY GARDENS, AND LAND BANK REQUEST IN THIS DOCKET]

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Plan shall be submitted to Council every four (4) years, and updated prior to proposing revisions in rates and charge.

Together, these provisions of the Ordinance provide guidance to the Board in reviewing a Department general rate increase request. Several considerations must be observed and balanced. The Ordinance directs the Board to consider the impact of its rate decisions on the financial stability of the Department. The Ordinance points to the AWWA water rate manual M-1 and other industry manuals as sources for identifying industry standards applicable to water, wastewater and storm water rates. The Ordinance requires that rates and charges be equitably apportioned among the various classes of consumers. Finally, the Ordinance directs that rates and charges “shall be just, reasonable and nondiscriminatory as to the same class of customers.”

B. BOND AND INSURANCE COVENANTS

As noted above, the Ordinance prescribes that rates and charges must be sufficient to provide “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...” The City and the Department are bound by General Ordinance rate covenants, and bond insurance covenants. As described by Deputy Commissioner for Finance LaBuda, the General Ordinance rate covenant is as follows:

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 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). In addition, the City’s covenants to 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, (C) the annual principal or redemption price of 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)...

PWD Statement No.2 at 12.

Ms. LaBuda explains the bond insurance covenant as follows:

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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).

Id.

In this proceeding, the Rate Covenants and the Insurance Covenant are collectively referred to as the "Bond Covenants." Additional information on the bond covenants is provided in Black & Veatch direct testimony (PWD Statement 9A at 43-46, 46-51.)

VII. USE OF FULLY-PROJECTED-FUTURE-TEST-YEARS

In its request for increased rates and charges, PWD asks that the Board approve a multi-year rate period consisting of three fully-projected future test years (FPFTY).¹⁸ The Department is specifically proposing schedules of retail water, wastewater and stormwater charges for three successive years (2019-2021 FPFTYs). The Department began its estimation of these test year operations and maintenance (O&M) expenses by adjusting the Water Fund's FY 2018 approved budget to reflect the actual to budget spending factors. The Department then uses these adjusted FY 2018 O&M expenditures to project O&M expenses for each FPFTY.¹⁹ To estimate costs for future test years, the adjusted FY 2018 expenditures were further adjusted based upon (a) 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.

The Department intends the resulting revenues and expenses to be representative of what PWD anticipates will be incurred while those rates and charges are in effect.²⁰

A test year in regulation is a sample year chosen to represent the anticipated balance of revenues and costs the utility will experience under GIVEN rates. It is used to estimate the extent to which present rates will not produce sufficient revenues to cover the utility's obligations. For many decades, the practice in utility regulation has been to choose the most recent year (or 12-month period) for which the utility has actual accounting results. These are adjusted for changes in revenues and costs which are both known and measurable at the time of the rate setting. With these few adjustments, the historic test year has been understood to provide a fair representation of the utility's financial situation prospectively. The "test year" is also used for the detailed cost allocation²¹ analysis and rate design.²² Rates are set prospectively, without a termination date,

¹⁸ PWD Statement 9A at 9-11.

¹⁹ PWD Statement 9A at 9-11, 34; PWD Rebuttal Statement 1 at 2-4.

²⁰ PWD Statement 9A at 9-11, 30-31; PWD Rebuttal Statement 1 at 2-4.

²¹ It is the custom in this jurisdiction to use the term "cost of service study" to mean the allocation of the overall required revenues to different classes of customers.

²² PWD Statement 9A at 9.

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and without specifying new rates after some period of time. They remain in effect until changed with authority of the regulator.

A. PUBLIC ADVOCATE

The Public Advocate opposes the use of a three-year rate plan. PA Witness Morgan explains that “the three-year rate plan is not a reasonable approach to use for determining PWD’s rates because ... PWD has demonstrated an inability to accurately forecast its cost of service for ratemaking purposes.” PA Statement 1 at 6. According to Mr. Morgan, the Department has consistently forecasted revenues on the low side and expenses on the high side. *Id.* The Public Advocate also argues that PWD does not adhere to accepted ratemaking principles, and this failure is a contributing factor to the inaccurate forecasts. *Id.* The Public Advocate states that the consequence of this is that ratepayers pay rates that are higher than needed, and those funds do not get refunded.

The Public Advocate maintains that the nature of financial projections and forecasting is that the further out in time one projects the less accurate the forecast. *Id.* Citing the claim that PWD’s forecast is consistently inaccurate, the Advocate posits that the FY 2021 test year is too far out to be reliable for ratemaking purposes. For this reason, the Advocate argues, if the Board finds that a rate increase is justified, the Board should limit the rate increase to a two-year rate plan.

The Public Advocate cites the following as examples of the Department’s lack of adherence to accepted ratemaking practices:

- Use of budgeting tools such as the City’s Five Year Plan in place of appropriate and accepted ratemaking tools.
- Inclusion of speculative year-over-year increases in assumed interest on debt service
 - Such increases are not known and measurable
 - In the past, have not been correct.
- Failure to normalize non-recurring expenditures.

See, e.g. PA Statement 1 at 23 (regarding the use of the City’s Five Year Plan for purposes of projecting power and gas costs); PA Statement 1 at 27 (2016 Rate Case interest expense was projected to increase, but did not); and PA Statement 1 at 30:16-22 (failure to normalize non-recurring expenses).

According to the Public Advocate, PWD countered with the assertion that its reserves and credit rating demonstrate its ratemaking practices are not unacceptable. PWD St. 1R at 6:23-7:2; PWD Response to TR-21. The Advocate argues that “credit rating agencies do not set ratemaking standards” and that PWD’s assertion cannot justify a projection of future revenue requirements that is certain to be wrong. PA Brief at PAGE.

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In addition, the PA contends that PWD's revenue and O&M projections have been overly conservative. PA Brief at PAGE. According to witness Morgan's analysis, over the six-year period 2012-2017, the approved rates have understated revenues by \$68.576 million and overstated expenses by a total of \$73.336. *See* PA St. 1 at 12:1-4. The Public Advocate cites PWD's projections of revenue requirements for the prior two proceedings, as well as this 2018 Rate Case, as confirming that the further out PWD projects its needs, the more unreliable its projections become. PA Brief at PAGE.

In its 2016 Rate Case, PWD projected a need for \$736.593 million in total service revenue in FY 2019. In this proceeding, a mere two years later, PWD estimates its total service revenue requirements as \$712.767 million. PA Hearing Ex. 7 at 41. PWD's 2016 Rate Case projection was approximately \$24 million off in the third year. Over a longer period, the disparity between PWD's projected and actual revenue requirements increases. In the 2012 rate proceeding (which sought increased rates for FY 2013-2016), PWD indicated that, at the time of filing, it was projecting a need for service revenue of \$731.252 million beginning in FY 2017. PA Hearing Ex. 7 at 48. In fact, at the time PWD filed its 2016 Rate Case, PWD acknowledged that its total estimate of necessary service revenue for FY 2017 had declined to \$675.376 million. PA Hearing Ex. 7 at 49. PWD's 2012 rate case projection was thus approximately \$56 million off in the fifth year.²⁸

PA Brief at PAGE.

The Advocate notes that PWD's responds that the disparity can be attributed to "different assumptions" and "different levels of revenue increases in years prior" as well as the difference between PWD's financial plan and Board approved rates. 5/14 Tr. at 164:1-22. The PA argues that the PWD statement proves the point that assumptions about expenses and revenues do and should adjust over time, and take into account actual experience. PA Brief at PAGE.

According to the PA, when examining the issue of the reliability of projections, the Board should also take into consideration the amount of PWD reserves. The PA states that PWD has historically overestimated its use of the Rate Stabilization Fund, projecting higher withdrawals than actually occur. PA Brief at PAGE. The Advocate points to the 2016 Rate Case, in which PWD projected spending down the Rate Stabilization fund to \$111 million by the end of FY 2018. The PA observes that instead, "PWD now projects having nearly \$190 million in that fund as of the end of FY 2018." PA Brief at PAGE.

The Advocate contends that the Department's projections regarding its expenditure of reserves to offset the need for higher rates "are flawed from the outset, and remain understated throughout the period." *Id.* The Advocate points to the PWD's estimation that it would draw almost \$37 million from the Rate Stabilization Fund to avoid a higher rate increase than it requested; in fact, the Advocate notes, PWD withdrew less than \$2 million from that fund. PA Brief at PAGE. The PA points to another example of the difference between the Department's projection of need and its actual use of reserves, in that PWD did not implement a rate increase for FY 2016, despite its projected need for an additional \$42.702 million in service revenues for that fiscal year. PA Brief at PAGE, citing Hearing Ex. 7 at 48.

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According to the PA, PWD acknowledges that the M1 and other rate manuals are intended as guidance, and that specific circumstances of the utility must also be considered.²⁹ PWD St. 1R at 6:4-11. PA also argues that the Department concedes that establishing cost-based rates is an important component in a well-managed and operated water utility, as specifically addressed in the M1 manual. PA Brief at PAGE, citing TR 5-14 at 111:21-112:2. The Advocate also notes that PWD agrees that fairness and equity are cornerstones of the establishment of cost based rates. *Id.*, citing TR 5-14 at 112:3-6.

The Advocate disputes PWD's contention that local law, including the provisions of the Rate Board Ordinance, provides support for a three-year rate period, and that this is consistent with the AWWA's guidance regarding government-owned utilities. PA Brief at PAGE, citing PWD St. 1R at 7:13-8:6. The PA argues that the provisions of the Philadelphia Code do not express any stronger support for a three-year rate period than they do for a two-year rate period. PA Brief at PAGE. PA also dismisses as immaterial and unfounded PWD's claim that a three-year rate period should be approved in order to give PWD time to conduct a rate design study. PA Brief at PAGE.

PWD now argues that the Code clearly contemplates the three- year stepped rate increases it proposes, but according to the Public Advocate this interpretation is not supported by historical operations, and was not shared by prior PWD personnel overseeing rate increases closer in proximity to the inclusion of that language in the ordinance.

Section 13-101(1), of which paragraph (c) is a part, pertains exclusively to an independent examination of operations that must be periodically conducted by qualified consultants who will advise City Council directly. No part of Section 13-101(1) (titled "Councilmanic Examination") establishes any standard relevant to establishing rates and charges, as those standards are separately articulated under Section 13-101(4) (titled "Standards for Rates and Charges"). See PA Hearing Ex. 7 at 22-23.

The Public Advocate submits that neither the M1 manual, nor the Philadelphia Code provide any greater or lesser support for a three-year rate proceeding than a two-year rate proceeding. The PA concludes that, given the clear demonstration that PWD will not be correct about the amount of revenues it needs from customers in FY 2021, based on the study performed for this 2018 Rate Case, the Board should, if it approves any increase or change in rates and charges, not exceed a two-year rate period. PA Brief at PAGE.

B. PWD

The Department observes that it does not use a historic test year; rather, it uses three fully projected future test years ("FPFTY"). Based on its analysis of these three years, (FPFTY 2019-2021), the Department requests authorization to recover additional revenues over this period. PWD Brief at PAGE. The Department states this phased-in rate increase provides the following benefits:

- (a) future rate filings will occur with less frequency;

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- (b) greater financial stability can be achieved over this reasonable period;
- (c) the Department can balance its capital and operating activities 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.

PWD Brief at 11, citing PWD Statement 2 at 21 and WEF Manual at 85.

The Department also states that multiyear rate plans have become an accepted form of ratemaking for water utilities. See e.g. TR 5-15, at 58 (line 15). According to the Department, government-owned utilities typically select a future test year and 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. PWD Brief at 10.

The Department points to three manuals published by two industry groups as guiding principles for municipal ratemaking are set forth in three manuals: the American Water Works Association's *Principles of Water Rates, Fees, and Charges M1 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. These manuals provide industry accepted principles and guidelines for the reasonable projection of revenues and revenue requirements and the cost of service allocation process. These principles and guidelines were applied in the cost of service study as well. PWD Statement 9A at 19 (lines 22-25).

According to the Department, 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." PWD Brief at 10, citing AWWA Rate Manual at 11-12, 16; PWD Statement 9A at 10. CHECK CITE – SHOULD BE PAGE 19??

The Department argues that a three-year time horizon for future rates is also consistent with Section 13-101 of the Philadelphia Code²³ and prior rate decisions in Pennsylvania. PWD Brief at PAGE. The Department states that its use of future test periods has been sustained by Pennsylvania courts.²⁴

The Department also criticizes the Public Advocate's preference for a ratemaking methodology applicable to investor owned utilities used by the Pennsylvania Public Utility Commission ("PUC").²⁵ 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

²³ Section 13-101 sanctions the establishment of rates over a reasonable number of years.

²⁴ 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).

²⁵ See, PA Statement 1 at 7-10.

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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.²⁶ 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 accounting. In this accounting framework, revenues are recorded on a receipts basis, except revenues from other governments and interest, which are accrued as earned.²⁷ 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.

The Department states that rates can be fairly set within a variety of accounting frameworks (including using a cash basis of accounting).²⁸ The test is whether this accounting method (or any other) is fairly and appropriately applied.²⁹ 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.³⁰ The Rate Board should also note that revenue requirements (tied to the budget process) are vetted by City Council³¹ 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

²⁶ See, *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

²⁷ 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).

²⁸ 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).

²⁹ 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.

³⁰ PWD Statement 9A at 34.

³¹ 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.

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

The Department argues that rate setting is prospective.³² 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 states its 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).³³ 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.³⁴

PWD submits that a three-year rate period (with separate FPFTYs) is reasonable. A three-year rate period is optimal for this rate proceeding.³⁵ In the past few rate proceedings, the rate periods have ranged from two to four years, with rate increases phased in over multiple years.³⁶ Base rate proceedings involve significant time and expense.³⁷ The City budgets approximately \$2 million for each base rate proceeding before the Rate Board.³⁸ 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.³⁹ In addition, the use of three year period (as proposed by PWD) will provide (a) an indicator of financial stability (which is viewed as a "credit positive" by the rating agencies);⁴⁰ and (b) time for PWD to fully evaluate alternative rate structure options ahead of the next rate proceeding.⁴¹

³² PWD Rebuttal Statement 1 at 1.

³³ PWD Statement 2 at 31.

³⁴ PWD Statement 2 at 31.

³⁵ PWD Statement 2 at 20.

³⁶ PWD Statement 2 at 20.

³⁷ PWD Statement 2 at 20.

³⁸ PWD Statement 2 at 20-21.

³⁹ PWD Statement 2 at 21.

⁴⁰ PWD Rebuttal Statement 1 at 5.

⁴¹ PWD Rebuttal Statement 1 at 5.

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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.⁴² 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.⁴³

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 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 2017.⁴⁴ 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.⁴⁵

PWD argues that the "known and measurable standard" is not appropriate when considering the entirety of the 2021 FPFTY. PWD Brief at PAGE. According to PWD, certainty is not the correct standard for projections made for a FPFTY. As the Department puts it on PAGE, note 45:

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.

The correct standard is whether the projections are reasonable. PWD Brief at PAGE.

Finally, the Department rejects the Advocate's assertion, PA Hearing Exhibit 7, that the Board should be guided by the treatment of FPFTYs by the PUC. PWD Brief at PAGE. The Department argues that the 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." PWD Brief at PAGE, citing AWWA Manual at 11.

⁴² See, PA Statement 1 at 11-15.

⁴³ 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.

⁴⁴ See, PA Statement 1 at 11-15.

⁴⁵ 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.

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C. HEARING OFFICER RECOMMENDATION

The “known and measurable” concept does not apply in the case of a future test year. The concept is used to adjust a historic test year, to bring it as far into the future as can be done with certainty. Aside from changes that are known to be certain beyond the test year, and whose impact on revenue requirements can be measured at the time of decision making, the historic test year is not adjusted. It is used as the test of the impact of today’s rates and of possibly increased (or changed) rates, on the assumption that the balance of costs and revenues in that year will persist into future years.

The primary benefit of the use of a historic test year is that the costs on which revenue requirements are estimated are drawn from actual accounts. They are not estimates or forecasts, and they are not subject to arguments about their accuracy or the likelihood of their persistence. The “known and measurable” concept has developed in ratemaking to accommodate the reality that decision makers can anticipate certain developments in the near future with great certainty, and can take them into account to update the historic accounting data. An example of a true “known and measurable” adjustment would be the impact of a signed labor agreement with certain compensation rates due to take effect in the year after the test year. The passage of a new tax rate, to take effect in the year after the test year, is another example. Note that the concept is generally limited to changes known to be taking place in the year following the test year. Anything beyond that period is often considered unknowable, as too susceptible to being changed in the interim.

The Public Advocate’s arguments based on the “known and measurable” concept are misplaced. The Advocate does, however, raise the important question of how far out into the future a projection can be made and still be reliable as the basis for ratemaking.

It is axiomatic that the further into the future one attempts to forecast, the less certain the forecast, and the more likely reality will not match the forecast. Three years in the future is too long a period to forecast revenue requirements at a detailed and reliable enough level to warrant setting rates that far out, at least without some mechanism to true-up or adjust those out-year rates if circumstances deviate too far from the forecast. This is especially the case where, as here, the historic record of forecasts shows a pattern of over-forecasting expenses and under-forecasting revenues. The result has been a Rate Stabilization Fund higher than that which the Department considers necessary. Many members of the public, in testimony at public input hearings, pointed to the present RSF of around \$200 million, and asked why rates were rising when those funds are available to cover rising costs.

The Department points out that it has made progress in recent years in tightening its forecasting and budgeting. PWD claims that actual-to-budget results justify reliance on the Department’s budget (based on an adjusted City-approved Five Year Plan) to set rates into the future. The Advocate disputes this claim. Even if one could find that the Department’s budgeting has improved as claimed, however, that fact would not take care of the unanticipated changes that arise from time to time. The City’s recent move of certain pension costs over to the Department is an example of a change that could not have been anticipated in 2016, when rates were last set.

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The regulatory cases using multi-year forecast test years cited by the Department have openers or circuit-breakers, or some other method to see if the reality three years out or more continues to justify the rates set today. A common form of reopener for investor-owned utilities is the bounded return on equity. The utility's net revenues are calculated periodically (say, annually), and if the result falls too far above or too far below the allowed return set today, the rates will be adjusted. A similar concept could be applied in the case of a municipal water utility, although return on equity would likely not be the metric chosen. Reconciling clauses are another tool (although these violate the regulatory prohibition on retroactive ratemaking, where this rule applies).

In any event, the Department does not propose that its out-year rates be subject to any reopener or reality check. It asks the Board to set rates today for FY 2021 on its projections of what reality will be during that year. These projections are too subject to uncertainty to be a reasonable basis for deciding today the water, sewer and wastewater rates that customers will be required to pay. The Ordinance is silent on the question of reopeners. However, the emphasis on matching revenue requirements to the Department's actual needs, and the absence of language authorizing any such tools, suggests that the Board may not approve such a method of obviating the potential mismatch of out-year revenues and costs.

In the absence of a method for measuring the extent to which the projections remain viable in FY 2021, the Department's rates should be set for two years, not three.

Setting rates based on forecasts two years out, and allowing a phase-in of the overall revenue requirement, does not mean that the Department will either have to charge nothing or come in for a rate case in time to match the end of the FY 2020 test year. Rather, rates set for FY 2020 will remain in effect until changed with the approval of the Board. Closer to the time, the Department can determine if the rates set for FY 2020 will allow it to recover sufficient net revenues beyond that period. It need come in for new rates only if it finds at that time that FY 2020 rates will not be satisfactory beyond that period, or some period soon after the end of that fiscal year.

The Department points out that rate cases are expensive. The Department also fairly notes that the Board is obliged under the Ordinance to consider the stability of rates over time, such that a sudden jump to new and much higher rates in FY 2021 would be problematic. Nevertheless, customers today should not be tied to future rates that are based on remote forecasts.

The presence of the Rate Stabilization Fund cuts for and against the use of remote forecasts. On the one hand, if it becomes necessary to draw down the fund more than forecast, or if the fund grows more than forecast on account of favorable developments, the Department can book the differences in the Rate Stabilization Fund, to be replenished or used to stabilize rates after the unanticipated imbalance in revenues and expenses resolves (or new rates are put into effect prospectively). However, the Rate Stabilization Fund should serve more as a "rainy day" fund than a balancing vehicle. Neither the Department nor the Board should casually assume that deviations of reality from forecasts can, without unusual circumstances, be made up by tapping or contributing to the RSF. To do otherwise is to subject consumers to rates that can deviate considerably from those needed to supply the Department's net revenue requirement.

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There is nothing in the Ordinance or the regulations of the Board that permits the fashioning of a reopener or other circuit breaker for out-year deviations. Accordingly, I recommend that the Board set rates in this proceeding for FY 2019 and set rates to begin in FY 2020, but to leave them in place until new rates are established under the Ordinance.

VIII. FINANCIAL STABILITY

A. PWD's FINANCIAL STABILITY PLAN

The Ordinance requires, among other things, that the Board take into account the stability of the Department's finances, and of rates:

In fixing rates and charges the Board shall recognize the importance of financial stability to customers and fully consider the Water Department's Financial Stability Plan. 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 impacts on customer rates.

13-101(4)(b)(i)

The Department's analysis of its financial situation and its prerequisites for stability is provided in its Financial Plan. PWD Statement 2 at 14, and Schedule ML-2. Deputy Commissioner for Finance Melissa LaBuda describes the Plan as follows:

The Financial Plan contains three major sections which provide the information required by the Rate Ordinance. 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.... 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. ... 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 14-15.

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Ms. LaBuda stated that the Department is focusing its Financial Plan on 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.

Id. at 15.

The Public Advocate disputes the reasonableness of a number of items in the Department's Financial Plan.

B. DEBT SERVICE COVERAGE

1. Defined

As the Department states, debt service coverage is “simply cash flow that is used to support the system by funding certain actions such as capital projects.”⁴⁶ Any funds used for capital projects also allow the system to manage future leverage.⁴⁷ And “adequate debt service coverage ensures that reserves are maintained at levels that can mitigate unforeseen expenses and capital needs or dips in expected revenue.”⁴⁸

Coverage is calculated on the basis of net revenues after operations. PWD St. 9A, Sch. BV-E1, Table C-1, line 23. PWD's affordability programs are accounted for in the rate model as reductions to other operating revenues, and so are factored into net revenues prior to the

calculation of coverage. PWD St. 9A, Sch. BV-E1, Table C-3. In addition, only withdrawals from the Rate Stabilization Fund to the Revenue Fund are counted toward coverage. PWD St. 9A, Sch. BV-E1, Table C-1. The definition of “net revenues” in the General Bond ordinance specifically *excludes* “the amounts, if any, transferred from the Revenue Fund to the Rate Stabilization Fund.” PA-I-21 (Attachment 1).

⁴⁶ PWD Rebuttal Statement 2 at 11.

⁴⁷ PWD Rebuttal Statement 2 at 11.

⁴⁸ See, PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3.

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2. The Public Advocate

According to the Advocate, PWD propounds multiple views, which often conflict, regarding the purposes and import of increasing debt service coverage. On the one hand, PWD's Deputy Commissioner in charge of finance refers to increasing coverage as a lever to direct funds toward capital expenditures. 5/15 Tr. at 101:1-5. On another hand, debt service coverage is presented as a crucial indicator of creditworthiness which impacts PWD's credit rating. The credit rating agency reports attached as exhibits to PWD's testimony confirm that coverage is a significant focus in determining PWD's credit rating. PWD St. 2, Sch. ML-4.

In yet another PDW view identified by the Advocate, the Department appears to submit that coverage is a panacea, enabling PWD to accomplish any myriad of worthy goals, such as paying for affordability programs, funding the Rate Stabilization Fund to mitigate future increases, and contributing to paygo. 5/15 Tr at 83:4-11. This last view of coverage is a "broad misconstruction, as increasing coverage does not increase funds available for affordability programs nor direct dollars toward the Rate Stabilization Fund to mitigate rate increases." PA Brief at PAGE

The Advocate states that, as correctly understood, PWD's coverage depiction is the reflection of a calculation that takes into account decisions made by PWD, including where to direct additional funds among various possible spending goals, as well as how much funds to direct to or from the Rate Stabilization Fund. For purposes of its rate presentation, PWD's coverage numbers are "solved for" through a combination of revenue and expense projections, including additional revenues from increased rates, Rate Stabilization Fund deposits or withdrawals, the effect of the Capital Account Deposit, and debt service projections. 5/14 Tr. at 216:19-218:11. Changing any of these assumptions modifies the depiction of coverage, in some way, big or small. See, e.g., 5/14 Tr. at 131:1-145:23.

As a result, the Public Advocate submits that the Board's obligation is to ensure that legally mandated coverage requirements are satisfied.⁴¹ The Board may enable PWD to depict higher coverage. But it must not mandate that a particular, predetermined higher coverage level be attained, as doing so would necessarily involve sustained operational oversight of PWD actual spending that is outside of the Board's capacity and is administratively unworkable. As shown in Appendix A, of the Public Advocate's Brief, after accepting all of the Public Advocate's recommendations, and not accounting for the virtual certainty of continued outperformance, PWD would meet or exceed its legally mandated coverage requirements, with the capability to further exceed those requirements by spending down the significant reserves that have accumulated.

⁴¹ Mr. Morgan observed that PWD has, in prior rate proceedings, based its revenue requirement upon attaining its legally-mandated 1.20x coverage. See PA St. 1 at 34:22-25. In rebuttal, PWD expresses flat disagreement, indicating that PWD has not in fact previously based its revenue requirement upon attaining 1.20x coverage. PWD St. 2R at 10:20-23. During the technical hearings, after significant back and forth, PWD effectively acknowledged that its disagreement was based solely on the 2016 Rate Case. 5/15 Tr. at 75:3-17. n. 41

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PWD's direct testimony verifies Mr. Morgan's statement, affirming that the Water Department has utilized the Rate Stabilization Fund balances in the past several years to "manage" its revenue increases such that they are effectively used to provide the minimum required 1.20 coverage level stipulated in the 1989 General Ordinance. PWD St. 9A at 48:22-25.

3. DEPARTMENT

In its Financial Plan the Department has targeted debt service coverage to trend to 1.3 times.⁴⁹ 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 support maintaining PWD's existing credit ratings for the foreseeable future.⁵⁰ All three of the rating agencies have mentioned the PWD's increased debt service coverage of 1.3 times as a credit positive.⁵¹ This increased coverage will result in stronger liquidity and will ultimately allow for increased pay-go funding.⁵² This is critical given the reality of PWD's increasing required capital needs.⁵³ As with older urban systems, ongoing maintenance of assets is critical. PWD has historically had low margins and a higher debt burden.⁵⁴ Consistent reasonable rate increases will allow PWD to address capital needs without over-burdening future ratepayers.⁵⁵ The current and past debt service coverage for PWD are below national trends for "A" rated utilities.⁵⁶ 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).⁵⁷

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.⁵⁸ PWD's bond investors also derive benefit from a "safety" margin above minimum amount of revenues to meet ongoing principal and interest payments.⁵⁹ 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.⁶⁰ In other words, coverage reduces the need for financial leverage and reduces credit risk for bond investors and lenders.⁶¹ The reduced credit risk enables utilities, like the PWD, to sell bonds at lower interest rates and

⁴⁹ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3.

⁵⁰ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3.

⁵¹ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 8.

⁵² PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 8.

⁵³ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 8.

⁵⁴ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 8.

⁵⁵ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 8.

⁵⁶ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3.

⁵⁷ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3.

⁵⁸ PWD Rebuttal Statement 2 at 12.

⁵⁹ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3.

⁶⁰ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3.

⁶¹ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3.

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obtain credit at lower costs.⁶² The accumulation of coverage above the PWD's stated minimums requires modestly higher rates today, the Department acknowledges, but leads to lower future debt payments and rates.⁶³ So, from both an operational and a credit rating perspective, the Department maintains it is essential 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 Department opines that the Public Advocate seems to recommend setting the debt service coverage at the legal requirement of 1.2 times.⁶⁴ If that is the case, the Department avers, the Advocate's 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.⁶⁵ 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.⁶⁶ Therefore, from both an operational and a credit rating perspective, the Department argues, it is essential for the Department to sustain debt service coverage levels significantly above the minimum required levels throughout the Rate Period.⁶⁷

The Department also emphasizes 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.⁶⁸

4. RECOMMENDATION

The Department urges that the Board approve its target of 1.3 senior debt service coverage. The Department is correct that merely allowing the legal minimum coverage, as required by the bond covenants, is likely to signal to the credit rating agencies some doubt about the Board's intention to support strong financial metrics for the Department. There are, however, a number of criteria by which bond rating agencies determine what rating to give to a municipality's bonds. In each case, the Department has sought a decision from the Board that would increase the Department's metrics. When taken as a whole, the result is higher current rates than are likely necessary to satisfy the rating agencies. The Board need not pre-determine the desired coverage ratio. After

⁶² PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3.

⁶³ PWD Statement 2, Memorandum from Financial Advisory (Schedule ML-6) at 3.

⁶⁴ PA Statement 2 at 34-36.

⁶⁵ PWD Rebuttal Statement 2 at 12.

⁶⁶ PWD Rebuttal Statement 2 at 12-13.

⁶⁷ PWD Rebuttal Statement 2 at 12-13.

⁶⁸ PWD Rebuttal Statement 2 at 11.

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deciding revenue requirement disputes, the Board will have its inputs factored into the Black & Veatch model. Depending on the results, the Board can revisit this issue.

C. PAYGO – FUND CAPITAL PROGRAM 20% FROM CURRENT REVENUES

1. The Public Advocate Argues that \$45 Million is a Suitable Minimum Capital Account Deposit

The Public Advocate points out that the Philadelphia Code requires the Board to determine “the extent to which current revenues should fund capital expenditures.” Phila. Code §13-101(4)(b)(i). Accordingly, the Board must determine the appropriate mix of current customer contributions to PWD capital work from the Capital Account Deposit and from other available sources of funds. PA Brief at PAGE. According to the Public Advocate, the Board must look to the Residual Fund to determine the extent to which it can establish paygo funding targets, “given that the Board cannot modify the mandatory Capital Account Deposit.” PA Brief at PAGE

Under the flow of funds in PWD’s rate model, which mirrors Section 4.06 of the General Bond Ordinance, after all required and discretionary transfers (including, e.g., transfers to/from the Rate Stabilization Fund) are made, any inter-fund loans are repaid, and the Capital Account Deposit is made, any remaining project revenues (i.e., revenues from rates and charges) are transferred to the Residual Fund. See PA-I-21 (Attachment 1).

CITE

For ratemaking purposes, then, the PA argues the Board must consider the availability of funds from the Residual Fund for construction purposes, together with a Capital Account Deposit, for purposes of satisfying the “extent to which current revenues should fund capital expenditures.” Phila. Code §13-101(4)(b)(i). *Id.* (?)

The PA advocates that the Board should establish a threshold of \$45 million per year for paygo capital, “with the explicit recognition that PWD’s outperformance may result in exceeding that standard.” CITE According to the Public Advocate, under the Public Advocate’s assumptions, including an aggregate annual minimum funding of \$45 million in paygo, the Black & Veatch ratemaking model shows a \$15 million ending balance in the Residual Fund, and more than \$225 million remaining in the Rate Stabilization Fund, at the end of FY 2019, FY 2020 and FY 2021. CITE, citing PA Brief Appendix A. The PA concludes that using the \$45 million paygo assumptions, the Department will have access to excess funds from the Rate Stabilization Fund

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to be transferred to the Revenue Fund for other purposes, including potential transfer to the Construction Fund. See Appendix A; 5/14 Tr. at 137:5-18 (demonstrating that excess funds flow to the Residual Fund); 154:18-155:4 (discussing transfers from the Residual Fund to the Construction Fund).

The Advocate argues that the Department has consistently outperformed its net revenue projections. CITE. The PA states that, “recognizing both that the Public Advocate’s assumptions increase the availability of funds for potential discretionary uses and the certainty that PWD will continue to outperform its projections,” a \$45 million paygo assumption is appropriate. CITE. Under the flow of funds in PWD’s rate model, which mirrors Section 4.06 of the General Bond Ordinance, after all required and discretionary transfers (including, e.g., transfers to/from the Rate Stabilization Fund) are made, any inter-fund loans are repaid, and the Capital Account Deposit is made, any remaining project revenues (i.e., revenues from rates and charges) are transferred to the Residual Fund. See PA-I-21 (Attachment 1).

2. The Department Supports a 20% Paygo Minimum

The Department states that it anticipates needing increased borrowing to fund Capital Improvement Program and COA obligations.⁶⁹ CITE The Department points out that the Public Advocate does not dispute that more investment will be needed by PWD to maintain the system.⁷⁰ Beyond maintaining the system, PWD also anticipates increasing capital and operating requirements associated with the COA during the Rate Period.⁷¹ CITE The Department states that it 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.”⁷² CITE

Given these funding needs, the Department maintains that Capital and Construction Accounts are appropriately used to provide “pay-go” financing for capital improvements. CITE Pay-go financing reduces borrowing needs, thereby reducing costs that customers will have to bear over the life of the typical 30-year bond.⁷³ CITE The Department argues that 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.⁷⁴

The Department also posits that pay-go financing is mathematically necessary “to improve debt service coverage to industry standards.” CITE The Department thus argues that pay-go financing is just and reasonable as a principle of both finance and ratemaking.⁷⁵ CITE

⁶⁹ PWD Statement 2 at 17, 21, 32.

⁷⁰ PWD Statement 2, Financial Plan (Schedule ML-2) at 30.

⁷¹ PWD Statement 2 at 22.

⁷² PWD Statement 2 at 22.

⁷³ PWD Statement 2 at 5.

⁷⁴ 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.

⁷⁵ PWD Statement 2 at 17-19.

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According to the PWD, its goal of 20% “is on the weaker side” and “should be achieved, and even strengthened, in the future. CITE ⁷⁶ PWD cites its rapidly growing capital program.⁷⁷ PWD acknowledges that it will not meet the 20% threshold over the next few years.⁷⁸ CITE The Department states that this shortfall is “the result of striking an appropriate balance between the above objective (more internal generated funding for the capital program) and rate increase mitigation.”⁷⁹ CITE.

3. RECOMMENDATION

The discussion of pay-go in this docket is one of the many unsatisfying arguments that appear to be more about optics than actualities. The Department does not intend to finance its capital program 20% with ratepayer funds for some years. CITE. The Board need not pull this metric out of the bundle that indicates financial stability to approve the particular goal the Department has set for itself.

D. CAPITAL ACCOUNT DEPOSIT

1. The Department

2. The Advocate

3. Recommendation

As in the case of the pay-go target, the issue of the capital account deposit is theoretical, but does not have a direct bearing on the revenue requirement in this docket. The amounts being considered for capital spending exceed the 1% currently required to be deposited. And they exceed the 1.5% the Department recommends. It is not necessary to resolve this debate in order to determine just and reasonable rates in this docket, including rates that meet the needs of the Department for financial stability.

E. CAPITAL PROGRAM SPEND RATE

⁷⁶ 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.*

⁷⁷ 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.

⁷⁸ PWD Statement 2, Financial Plan (Schedule ML-2) at 18.

⁷⁹ PWD Statement 2, Financial Plan (Schedule ML-2) at 18.

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Projected Capital Improvement Program expenditures for the Rate Period are \$328 million, \$339 million and \$349 million in 2019, 2020 and 2021 FPFTYs, respectively. PWD St. 9A, Sch. BV-E1, Table C-7, line 11, PWD Statement 9A, Schedule BV-E5 (WP-1) at 10. The Department projected capital program total annual expenditures for the Rate Period using a capital spend rate of 90% of the annual inflated capital program budget. PWD Brief at 36. The inflated capital program budget reflects an annual inflation of 2.5% based upon industry construction cost indices.⁸⁰ PWD p 36.

1. PUBLIC ADVOCATE

The PA argues that PWD's use of a 90% capital program spend rate estimate is unsupportable. CITE The Advocate's witness, Mr. Morgan, compared PWD's actual, historical rate of capital spending to the Department's capital budgets. He determined that historic spend rates have been much lower than budgets. Mr. Morgan testified that

the data shows that the actual to budget ratios for capital spending to be well below the 90% claimed by the Department. Therefore, I believe the 90 percent claimed by the department is not reasonable for ratemaking purposes.

PA Brief at 58, citing PA Statement 1 at 28 (lines 10-25)

To estimate a reasonable spend factor, Mr. Morgan calculated an actual-to-budget ratio of 76 percent for the most recent three-year period, using the data provided in response to PA-VI-27. On this basis, he recommended an adjustment to reduce the 90 percent spend rate claimed by the Department to 76 percent. PA Brief p. 58. Based on a model run by Black & Veatch that substituted this lower actual-to-budget rate, the PA states that this adjustment would reduce PWD's projected net funding requirement over FY 2019 and FY 2020 for capital projects by approximately \$100 million. *Id.*

The Advocate noted that PWD affirmed these historical results in rebuttal testimony, demonstrating that its actual-to-budget expenditure ratio was 62.13% for FY 2013, 60.82% for FY 2014, 67.45% for FY 2015, 65.90% for FY 2016 and 82.12% for FY 2017. PWD St 2R at 15:3-7. The Advocate argues that PWD has never attained a 90% ratio of actual to budget expenditures for capital, and that it is unreasonable to assume for ratemaking purposes that PWD will attain that rate in the future. PWD Brief at 58. Based on the history of capital budgeting and spending, the Public Advocate says that it is a "near certainty" that PWD will spend less than its 90% projections. PA Brief at 59. The Public Advocate argues that those "net revenues in excess of projections" which PWD attains will be "an incentive to prudently direct funds to

⁸⁰ PWD Statement 9A, Schedule BV-E5 (WP-1) at 9; Appendix 7.

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certain efforts, such as SMIP/GARP ... and to the Residual Fund for construction purposes.” PA Brief at 59, citing PA St. 1 at 39:10-11.

As a result, the Capital Account Deposit and available Residual Fund transfers to the Construction Fund represent a larger percentage contribution toward capital projects from current revenues during the FY 2019 and FY 2020 rate period. PA St. 1 at 28:10-25.

According to the Advocate, PWD calculates its net cash financing, and the requested amounts of paygo capital, as follows:

	FY 2019	FY 2020	FY 2021
Total CIP Inflated	\$364,728,000	\$376,131,300	\$388,157,700
Total Net Funding (After Inflation) @ 90%	\$328,255,000	\$338,518,000	\$349,342,000
PWD Paygo (PWD St. 2, ML-2 at 18)	\$55,900,000	\$62,600,000	\$62,700,000
PWD Paygo % of Net Funding	17.03%	18.49%	17.95%

The Advocate notes in passing that increasing the Capital Account Deposit drives down total coverage. PWD St. 9A, Sch. BV-E5:WP-3 at 4 (increasing the Capital Account Deposit Amount would result in “a decrease in Total Debt Service coverage by FY 2023 from approximately 1.17 to 1.12”). This depiction of reduced coverage would be at odds with the long-held financial presentation imposed by the General Bond Ordinance. Indeed, increasing PWD’s Capital Account Deposit, contrary to the actions of City Council in rejecting an amendment to do the same, would fundamentally alter the depiction of coverage in the PWD financial model.

The Advocate states that PWD argues the amount it has “obligated” or “encumbered” for capital expenditures has increased in recent years, and so its 90% expenditure level is appropriate. PWD St. 2R at 15:9-16. However, PWD’s data does not indicate that increased obligations increase its rate of expenditure against its capital paygo amounts, compared to the \$45 million target recommended by the Public Advocate, to the reasonably anticipated expenditure of 76% of PWD’s inflated capital budget, demonstrates the following rates of paygo contributions:

PA CONTRAST OF DWP AND PA ESTIMATED FUNDING PERCENTAGE

FY 2019	FY 2020	FY 2021
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Total CIP Inflated	\$364,728,000	\$376,131,300	\$388,157,700
Total Net Funding (After Inflation) @ 76%	\$277,193,280	\$285,859,788	\$294,999,852
PWD Paygo (PWD St. 2, ML-2 at 18)	\$55,900,000	\$62,600,000	\$62,700,000
PWD Paygo % of Net Funding	20.17%	21.90%	21.25%
Public Advocate Paygo (PWD St. 2, ML-2 at 18)	\$45,000,000	\$45,000,000	\$45,000,000
Public Advocate Paygo % of Net Funding	16.23%	15.74%	15.25%

Again the Advocate argues that PWD's outperformance must be assumed. CITE. For this reason, the Public Advocate's recommendation constitutes a reasonable floor on the amount of paygo contributions that can be expected based on the PWD's historical operating results. As Mr. Morgan explains:

Because the amount that may actually be available for such purposes is, to an extent, determined by PWD's operational choices during the fiscal year, I believe current revenues can fund reasonable and appropriate contributions toward capital expenditures, including as a result of PWD's likely "outperforming" of its projections and utilization of accumulated reserves.

PA. St. 1 at 28:25-29:5.

Basing his conclusion on what he characterizes as the "near certainty that PWD will outperform its projections," Mr. Morgan identifies those net revenues in excess of projections which PWD attains as an incentive to prudently direct funds to certain efforts, such as SMIP/GARP (discussed below) and to the Residual Fund for construction purposes. PA St. 1 at 39:10-11.

4. The Department

The Department argues that use of a 90% spend rate of the capital program budget are needed to track anticipated expenditure levels during each FPFTY.⁸¹ Brief 36.

The Department states that Public Advocate witness, Lafayette Morgan, specifically recommends that a 76% spend rate be used instead, reflecting average spending levels over the past three years. CITE 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

⁸¹ PWD Statement 9A, Schedule BV-E5 (WP-1) at 9; PWD Rebuttal Statement 2 at 14-15.

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fiscal year; (ii) the timing of the start of construction; and (iii) the duration of construction.⁸² But the two are correlated. As obligations increase, according to PWD, future expenditures will likewise increase as the projects (for which the obligations were made) are constructed and paid for.

The Department shows in the table below that, 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, PWD avers, 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).

Capital Budget Obligations/Expenditures (FY 2013-2018)⁸³

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%		

The Department argues that based upon the high level of obligations in FY 2016-2018, it reasonably anticipates expenditures in FY 2019-2021 will continue to rise, and may even surpass 90% of the capital budget.⁸⁴ Given the experience of the recent past (obligations in FY 2016-2018 are considerably higher than preceding years), the Department states, longer term historical performance (relied upon by Mr. Morgan) will not be a good indicator of future expenditure levels. Stated differently, the Department argues that in view of increasing PWD obligations (which will lead to future increases in spending), it is reasonable to reflect this trend in the

⁸² PWD Rebuttal Statement 2 at 14.

⁸³ PWD Rebuttal Statement 2 at 15.

⁸⁴ PWD Rebuttal Statement 2 at 15; Response to PA-IX-20.

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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.⁸⁵

4. RECOMMENDATION

This item requires a judgement call. On the one hand, a longer view of actual experience supports the Advocate's 3-year average figure of 76%. On the other hand, the Department is persuasive that capital costs will continue to rise, and that to keep up with operational and legal obligations, the Department's spending rate must rise, as well. Having said that, 90% is higher than the most recent year, and is a speculative number. I recommend the Board select the highest actual rate in the recent past, which was 82.12% in 2017.

II. PLUG ON RSF

The Board must reject PWD's proposal to increase the target balance for its Rate Stabilization Fund ("RSF").

PWD has not provided credible support for increasing its targeted RSF balance by 36% - from \$110 million to \$150 million. The Board should reject PWD's proposal and require PWD to utilize excess RSF funds for debt service coverage and make RSF funds available to offset rate increases. As demonstrated on the record, PWD ended FY 2017 with RSF funds totaling \$201 million - approximately \$48 million in excess of the projections submitted with its 2016 rate case and more than \$90 million in excess of the \$110 million target balance. PLUG Brief at PAGE, citing Public Advocate Statement No. 2, at 16.

Historically, the Department has accumulated reserves well in excess of its current target and even in excess of the proposed \$150 million target. Therefore, historical experience does not merit an increase to the targeted RSF balance. To the contrary, increasing the target balance would exacerbate PWD's modeling inaccuracies because the higher target would become the new target balance, which PWD's actual fund balances for FYs 2019, 2020, and 2021 would undoubtedly exceed as they have in prior years.

Instead of allowing PWD to continually set unreasonable RSF balances, the Board should maintain the current \$110 million target balance and use any excess RSF balances to minimize rate increases to customers. PLUG Brief at PAGE.

⁸⁵ PWD Rebuttal Statement 2 at 15.

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III. REVENUE REQUIREMENTS

A. OVERVIEW

The rate review process starts with the determination of the revenues required by the Department to fulfill its XXXX. MORE on FINANCIAL. In its Final Notice, the Department supplied XXXX. This section of the Board's Report works through the adjustments proposed by various participants in the technical hearings. The proposals from these participants would, if adopted, reduce the forecast expense, and in turn lower the revenue requirement and the resulting rates. OTHER ON RATE DESIGN?

The Department built its projection of revenue requirements on its 2018 budget.⁸⁶ It's consultants, Black and Veatch (B&V), used the budget as inputs to their model of the finances of the Department. Black and Veatch have provided this modeling service and consulting to the Department for many years.

Black and Veatch provided the results of their modeling in testimony. They provided their workpapers, and responded to numerous requests for information from the participants in the technical process. In the development of the technical record, participants proposed adjustments to the inputs used in the model, supported by expert witness testimony. The result of such adjustments would be to reduce the forecast revenue needs of the Department. In turn, if the Board were to accept the participants' adjustments, the rates could be reduced below those sought by the Department, all else equal.

It is important to understand that if the Board approves a proposed downward adjustment to the revenue requirements, that does not mean that the Board has set the revenue requirement below the cost to the Department (or lower than its target for financial stability). Rather, it means that the Board is persuaded by the participant offering the adjustment that the expenses in the two rate years will be lower. The Board has not "disallowed" any expenses, and has approved a revenue requirement and associated rates that covers "*****" CITE TO ORDINANCE

B. AGREED UPON ADJUSTMENTS

The Department and the Advocate agreed upon a number of adjustments to the Department's filing on revenue requirement. The Advocate supplied their catalogue of these agreements in response to TR 23-A:

HERE INSERT THE RESPONSE TO TR 23-A

⁸⁶ Under the City budgeting process, the actual spend for a given fiscal year is determined after the close of the books. Reconciliation to targets is then accomplished by access to the Revenue Fund??? and the Rate Stabilization Fund.

C. SMIP/GARP

Green City, Clean Waters (SMIP/GARP)

SMIP and GARP are respectively the Department's Storm Water Management Incentive Program and Greened Acres Retrofit Program. In turn, the programs are part of the Department's *Clean City, Clean Waters* initiative. As such, both programs are used as part of the Department's efforts to comply with the requirements of the Department's Consent Order and Agreement with the Pennsylvania Department of Environmental Protection (PaDEP).

SMIP provides grants to non-residential property owners to assist them in designing and building site retrofit projects that result in greened acres. GARP provides grant funding to companies or contractors to construct stormwater projects across multiple properties in the Department's service area.

To satisfy regulations requiring reductions in waste discharge from storm runoff, the Department has negotiated a Consent Order Agreement ("COA") with Pennsylvania Department of Environmental Protection ("PaDEP").⁸⁷ Under the COA, the Department commits to meet targets known as "total greened acres." This metric reflects the number of acres within the City from which PWD controls stormwater runoff. The COA contains interim milestones, with the over-arching goal of an 85% reduction in CSO discharges. The Department's goal for FY 2021 (consistent with COA requirements) is 2,148 greened acres.

The Department proposes to increase SMIP/GARP funding by \$10 million per year. This would bring the total SMIP/GARP funding for each of the three proposed rate years to \$25 million in each year of the Rate Period. In the last rate case, the Board approved a proposed expense of \$15 million per year for FY 2017-2018.

1. The Public Advocate

The Public Advocate opposes the Department's proposed increase in rate case revenues for SMIP and GARP. He asks that the Board leave the expense amount for SMIP/GARP at \$15 million. The Public Advocate's primary argument is that increasing the amount allowed in rates for these programs is unnecessary, as the Department will be able to fund what it needs for SMIP/GARP even if rates are not set to reflect the PWD's requested increase. PA Brief at 71.

PA cites the testimony of its witness, Mr. Morgan, pointed to PWD's using other funds to spend amounts above those forecast for FY 2017 and FY 2018. According to the PA, this is an

⁸⁷ PWD Exhibit 7.

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example that shows that PWD is capable of directing excess net revenues, beyond its projections, toward SMIP/GARP:

I do not believe it is necessary to raise customers' rates to fund the SMIP/GARP. Historically, the Department has shown the ability to outperform its budget, thereby, freeing up additional cash. Hence, I believe the SMIP/GARP can be funded by PWD's ability to control costs from which it has the discretion to direct funds to the SMIP/GARP. During FY 2017, for example, even though the SMIP/GARP budget was \$15 million, the Department was able fund SMIP/GARP by an additional \$1.7 million. Similarly, the Department has projected an additional \$5 million in expenditures for SMIP/GARP in FY 2018 for which it required no rate increase, due to its ability to outperform its financial projections. I believe this arrangement provides an incentive for the Department to control costs, utilize available reserves instead of raising rates, and adequately fund the SMIP/GARP grants.

PA Statement 1 at 19 (lines 3- 25)

Further supporting its contention that no SMIP/GARP increase in revenue requirements is needed, the PA points out that PWD has stated that it intends to fund a portion of its future SMIP/GARP expenditures from the Rate Stabilization Fund. PA Brief at 72, citing PWD St. 1R at 14:1-6. According to the PA, by including the additional \$10 million for these programs as a line item, but then stating that the Department will use RSF funds to pay for some of its future SMIP/GARP expenses, the Department is inconsistent in its presentation of need for these additional expense amounts. PA Brief at 73.

The Public Advocate also expressed concerns about the inequities associated with these programs, which charge all customers for benefits that are solely available to non-residential customers. PA Brief 1 at 72, citing PA-V-18. The PA points out that:

those customers who receive SMIP/GARP grants actually contribute less, in ongoing rates and charges, to the funding of future incentive grants for other customers. See PA-II-5 (explaining that SMIP/GARP costs are allocated 60% to stormwater and 40% to sanitary). The Public Advocate submits that increased funding for SMIP/GARP incentive grants, which trigger recipients' reduced contributions toward stormwater costs and future incentive grants, should not be the basis for increased rates and charges imposed on the majority of PWD customers – the small users – who are incapable of benefiting from either.

PA Brief at 73.

The PA notes that in the 2016 Rate Case decision, PWD customer rates were increased for all customers to provide additional funding to these programs, contributing to a 72.9% growth rate in this area of expenditure. PA St. 1 at 18:21-22. PA Brief at 71.

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PennEnvironment Research Center strongly supports the PWD proposal to increase SMIP/GARP expenses. In her Direct Testimony, Stephanie Wein, Clean Water & Conservation Advocate for the organization, pointed out many benefits of approaching CSO remediation through SMIP and GARP. For example she praised the acceleration of the City's transition to green infrastructure as a result of SMIP/GARP:

Both SMIP and GARP help bring green infrastructure to large areas in Philadelphia by setting acreage and runoff volume requirements for program grantees and incentivizing multiple contiguous properties being retrofitted simultaneously, both of which have helped accelerate the City's transition to green infrastructure.

Direct Testimony of Stephanie Wein on behalf of PennEnvironment Research Center, at 4-5.

She also noted the economies gained by the programs' requirement of matching land-owner funding:

By seeking matching funds from property owners, the programs reduce the cost to the taxpayer when compared for retrofitting a similar amount of impermeable acreage on publicly owned land.

Direct Testimony of Stephanie Wein at 5.

3. PLUG

PLUG supports the increased funding for SMIP and GARP. PLUG Brief at PAGE.

4. PUBLIC INPUT

The Board received almost 100 emails from customers urging the approval of increased SMIP/GARP funding. CITE TO APPENDIX OF CODY Witness Wein and pro se intervenor Skiendzielewski also testified in public input session.

5. THE DEPARTMENT

The Department states that it needs additional resources to fund SMIP/GARP project grants, so that it can meet requirement milestones in its environmental mitigation of combined sewer overflows. PWD Brief at 34. The Department points out that the Advocate does not challenge the need to spend \$25 million per year to comply with the COA. The Department argues that the Advocate is wrong in believing that the additional \$10 million can be adequately funded by PWD's ability to control costs or by using other reserves. PWD Brief at 34.

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Department witnesses state that 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 provide a pathway for the Department to take compliance credit for “greened acres” on project sites that would otherwise be inaccessible. PWD Brief at 33-34.

In addition, the Department argues that, obtaining greened acres through the SMIP/GARP program costs less than implementing greened acres in public space, and allows the Department to “green” more acres than it otherwise could. CITE. According to the Department, GARP’s grants provide incentives for parcel owners to contribute to greening their property. CITE After operating the *Clean City Green Water* program for seven years, the Department states that “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.”⁸⁸ PWD Brief at 35. One of the economies achieved by the GARP approach is that the parcel owners retain the responsibility to keep up the greening of the property. When the Department greens property directly, it must bear these costs. TR 5-15 at 55-56.

As to claimed inequities of the incentive to industrial and commercial customers, the Department states that “many of these customers saw their stormwater bills dramatically increase when the Department transitioned to a parcel-based method of allocating stormwater management costs. PWD Brief at 35. GARP “provides some rate relief to these customers.” *Id.* According to the Department, the grants also allow businesses, institutions and other non-residential customers to directly implement stormwater management projects, and thereby mitigate some of the price increase they experienced when the Department moved to parcel-based pricing for stormwater. *Id.*

The Department observes that by not fully planning for the required SMIP/GARP projects, the Public Advocate appears to be positioning the Department to take actions that are neither responsible nor prudent: to wit: (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). PWD Brief at 35.

The Department states that the Advocate falsely asserts, among other things, that not funding SMIP/GARP would provide an incentive for PWD to control costs. PWD Brief at 34, note 208, citing PA Statement 1 at 19. According to the Department, 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.

For these reasons, the Department urges the Board to reject the Public Advocate’s position on SMIP/GARP, and instead recognize the Department’s need to increase SMIP/GARP funding as forecast in its filing.

⁸⁸ PWD Rebuttal Statement 1 at 14.

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6. RECOMMENDATION

The Advocate makes a provocative argument that any additional funds needed to fulfill SMIP/GARP obligations for the COA should come from economies in other categories. This argument is tempting, if for no other reason than the Department has historically overestimated costs and underestimated revenues when budgeting. But the Board should try to hold as closely as possible to a realistic forecast of needs. I recommend that the increase be approved.

D. ESCALATION FACTORS

Operating expenses for each FPFTY are projected using escalation factors which are applied to FY 2018 operating expenses by category. PWD Statement 9A, Schedule BV-E5 (WP-1) at 4-5. The Department has proposed using the escalation factors shown in the table below.

The Department based escalation factors for Labor costs on the City's Five Year Financial and Strategic Plan for FY 2018-2022 and prior year labor agreements. The Department based escalation factors for Power and Gas on the City Energy Office estimates. The Department based escalation factors for Chemicals for FY 2019 and 2020 on PWD's recent experience; the resulting escalation rates of 3.8% and 1.0% were used for FY 2020 and 2021, respectively. The Department used an escalation factor for Transfers of 2.5% for the FY2019-2021 period. The table from the Department's Brief at 38, copied below, shows the escalation rates used by the Department in the rate filing (as revised during the proceeding).

FIX FORMAT Annual Escalation Factors⁸⁹

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%;

⁸⁹ PWD Statement 9A, Schedule BV-E5 (WP-1) at 5-6.

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		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 Public Advocate contests the escalation factors applied to (a) Power and Gas, (b) General Costs and Other Class 200 Expenses, (c) Chemicals and (d) Transfers. PA Statement 1 at 22.

E. Power and Gas Expense

5. The Advocate

PWD proposes expense escalation of 3% for Power costs (Class 220) and Gas costs (Class 221) in FY 2021. As Mr. Morgan explains, the City's Energy Office projected no increase in Power costs for FY 2019 or FY 2020. PA St. 1 at 23:1-3. The City's Energy Office projected a 4% increase in gas costs based on the settlement of a recent PGW rate case. PA St. 1 at 23:18-19. For FY 2021, however, PWD includes a 3% escalation factor to both Power and Gas expense, because such rate is utilized in the City's five-year plan. PA St. 1 at 23:4-6, 21-22. Mr. Morgan explains:

If the Board approves a three-year rate period, I am recommending an adjustment that removes the three percent escalation...for FY 2021 because it is not known and measurable. The City's five-year plan is a planning tool. While it may be reasonable to use the three percent escalation rate for planning purposes, for ratemaking purposes, the costs must meet the standard of known

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and measurable. Therefore, the three percent escalation of power costs should be removed. PA St. 1 at 7-13.

As discussed above “known and measurable” is a fundamental standard of ratemaking that applies to ensure that rates are cost-based, satisfying core obligations of fairness and equity. Accordingly, just as PWD’s base budget, the FY 2018 budget, must first be adjusted based on actual, historical spend factors, so is it only reasonable for ratemaking purposes to escalate projected expenditures when the basis of those projections is both “known and measurable.” PWD appears to agree, in large part, with this principle. Indeed, PWD acknowledges that even expense escalations for fully projected test years must be based on reasonable estimates of future expenses that will actually be incurred, based on known experience. In other words, as PWD puts it:

PWD states that it uses fully projected test years in establishing rates that incorporate (i) any known changes to O&M expenditures as part of a normal budgeting best practice, and (ii) reasonable assumptions that are based on historical actual experience. PWD St. 1R at 7:19-22 (emphasis added). Contrary to the Department’s own express acknowledgment of the manner in which reasonable assumptions for future expenditures are determined for PWD ratemaking, the sole justification for the escalation factor is its inclusion in the City’s five-year plan. PA Brief at PAGE. The Public Advocate asserts that PWD has made no demonstration that the 3% escalation factors are based on any known or available data, historical experience, or other reasonable information. The sole source of this assumption is a memorandum from the City’s Energy Office stating that after FY 2020, the Energy Office recommends using a standard escalation rate of 3%, “consistent with the General Fund’s five year plan.” PWD St. 9A, Sch. BV-E5:WP-1, Ex. 8 at 31.

Under any conceivable standard for the projection of future O&M expenses, avers the PA, PWD’s 3% expense escalation falls short and is nothing more than a contingency, that lacks any reasonable basis whatsoever. PA Brief at PAGE. PWD asserts that it is unreasonable to assume that these costs will not increase (PWD St. 1R at 18:10-11); however the Advocate repeats that in its view this is not the appropriate standard in a Rate Case. PWD is the proponent and must carry its burden to demonstrate with substantial evidence⁹⁰ the need for the rate relief it seeks. In other words, PWD must demonstrate that costs will increase to justify inclusion of its 3% Power and Gas expense escalation in FY 2021.

PWD has fallen far short of satisfying that burden and so, if the Board approves a three-year rate period (which it should not), the Public Advocate submits that the Board should assume no increase in Power and Gas costs, denying PWD’s 3% expense escalation factor.

⁹⁰ The Hearing Officer notes that there is some flexibility implicit in the Public Advocate’s description of the Department’s evidentiary burden. At one point the Advocate insists the Department must show the proposed increase is “known and measurable” under the standard used in evaluating a historic test year. Here, the Advocate suggests some level of certainty, but perhaps short of being known and measurable. And the Advocate introduces the standard of proof he recommends - substantiality of the evidence.

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6. PWD

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.⁹¹ According to the PWD, 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, uncertainties and other factors. The appropriate test is whether the projection is reasonable. CITES

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.⁹² 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.⁹³ 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.⁹⁴

7. RECOMMENDATION

The hearing officer recommends that the Department's escalation factor be used. The Advocate relied on a standard of proof that is not applicable in this case. The Department's discussion of its projections has more substance.

F. Chemical Cost Escalation

8. The Advocate

PWD's Formal Notice included proposed expense escalation for Chemicals (Class 307) of 6.7% for FY 2019, 3.8% for FY 2020, and 1% for FY 2021. PWD St. 9A, Sch. BV-E5:WP-1at 5. As Mr. Morgan summarized:

According to PWD, the escalation factors for chemicals cost of 6.7 percent for FY 2019 and 3.8% for FY 2020 are based on PWD's recent experience. A 1.0 percent escalation factor is

⁹¹ PA Statement 1 at 22-23.

⁹² PWD Rebuttal Statement 1 at 18.

⁹³ 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.

⁹⁴ PWD Rebuttal Statement 1 at 18.

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assumed for 2021. When asked to provide support for the 6.7 percent and the 3.7 percent escalation factors, the Department provided an analysis comparing budgeted data. Mr. Morgan opined that opinion budgeted data are not indicative of the actual experience as claimed by the Department. CITE Moreover, the Advocate argues, the total cost of chemicals is not only affected by the unit cost of the chemical but also by the actual quantities of the various chemicals that are utilized.

The comparison of the budgeted data does not bear out the PWD's analysis. The burden of proof is on PWD to support its cost, and the budgeted data provided in the response to the Public Advocate's data request fails to provide adequate support, according to the Advocate/

In order to assess the Department's recent experience with chemical costs on behalf of the Advocate, Mr. Morgan reviewed the historical chemical expense trend. According to information contained in the Department's filing, it experienced a 0.62 percent and 7.15 percent decrease in chemical expense in FY 2015 and 2016. Hence, Mr. Morgan opined, the Department's recent experience with chemical cost is not consistent with the increase it has projected in its filing. The Public Advocate therefore argues that the chemical cost escalation proposed by the Department is unreasonable. PA St. 1 at 25:4-21. On the basis of this review, Mr. Morgan recommended that PWD's Chemical costs be projected to remain flat and that no expense escalation be approved for ratemaking purposes. PA St. 1 at 25:24-26:1.

PWD accepted Mr. Morgan's adjustment for FY 2019 and FY 2020, agreeing that its Chemical costs should not be escalated during those projected test years. See PWD TR-23(A). However, PWD maintains that its 1% increase for FY 2021 should be approved. According to the Advocate, PWD seeks to justify this increase as: "a nominal annual escalation of 1% for FY 2021 through FY 2023 based upon a review of the overall consumer price index and PWD's recent experience." PWD St. 1R at 19:21-23. Pointing to the evidence provided by Mr. Morgan, the PA avers that PWD's "recent experience" demonstrates that PWD experienced decreases in expenditures for Chemical costs in FY 2015 and FY 2016. PWD provides no explanation or support for why its Chemical costs would increase in FY 2021, after experiencing actual decreased expenditures and agreeing that no increase should be assumed for ratemaking purposes in FY 2019 and FY 2020. The Advocate observes that, if the consumer price index were a reasonable basis to project future Chemical costs, PWD's recent historical expenditures would, at a minimum, indicate that some increased spending had been required, consistent with such an inflation proxy. No such information exists.

The Advocate states that the expertise of Department staff in projecting these costs does not suffice to support the proposed FY 2021 increase PWD St. 1R at 20:1-5. The experience and judgment of PWD staff is not the focus of either Mr. Morgan's adjustment or the expense escalation at issue. The PA argues that PWD has provided no support for its 1% Chemical expense escalation, and no amount of experience or judgment possessed by its staff can rectify PWD's fundamental failure to demonstrate that this escalation is based on a "known and measurable," or even reasonably estimated, assumption of future costs.

7. PWD

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The Department argues that 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, which detail PWD's recent experience in procuring chemicals. PWD Brief at PAGE. The annual increases for FY 2020 are based on PWD's recent experience and unit costs provided during the procurement process.⁹⁵ 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.⁹⁶ The Department faults the Advocate for failing to recognize the expertise of the PWD Operations staff in establishing reasonable cost escalation factors based upon their experience and professional judgment, nor the impact that variations in river/source water quality may have on treatment costs.⁹⁷ PWD Brief at PAGE

8. RECOMMENDATION

I have recommended that the Board approve a two-year rate path. In my opinion, FY 2021 costs are speculative at this point.

G. Class 200 Services Expenses and Class 800 Transfers

PWD proposes a 3.4% expense escalation factor for Class 200 Services and a 2.5% expense escalation factor for Class 800 Transfers. The Advocate states that, when asked to support the basis for these escalation factors, PWD referred to Schedule BV-E5:WP-1 Appendices 4 and 5. See PA-VI-1(D), (H). Appendix 5 is titled "O&M Cost Industry Indices Data" and contains no information that explains PWD's expense escalations for Class 200 Services and Class 800 Transfers. However, Appendix 4 provides the historical expenditures in these categories for FY 2014, FY 2015 and FY 2016. Upon review of these historical expenditure levels, PA's expert witness Mr. Morgan concluded that, for both categories of expense, a different escalation factor should be utilized. PA St. 1 at 24:20-22; 26:17-18. In both cases, the Public Advocate's proposal is to use a 1.98% expense escalation factor.⁴⁷

With respect to Class 200 Services, the Advocate argues that PWD's use of a 3.4% expense escalation is not consistent with its own evidence. As shown in Schedule BV-E5:WP-1, Appendix 4, PWD's actual 2 year growth rate for Class 200 Services expense is 3.3%. See 5/15 Tr. at 158:19-159:1 ("The[re] were instances that some of the factors – one of the factors, I should say, that they use is not even tied to this [chart], so that's part of the problem.") More importantly, actual expenses for Class 200 Services did not increase at all, and in fact went down from FY 2015 to FY 2016, the second to third year utilized in calculating the 2 year growth rate. As a result, it is not clear that the two year growth rate reflects a reasonable assumption for this category of expense, which has most recently declined. Accordingly, the Advocate urges that

⁹⁵ PWD Rebuttal Statement 1 at 19.

⁹⁶ PWD Rebuttal Statement 1 at 19.

⁹⁷ PWD Rebuttal Statement 1 at 20.

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rather than rely solely on the PWD's expenditures from this single cost category, the Board approve a "blended rate" of expenditures, developed by Mr. Morgan based on the Appendix 4.⁹⁸

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On Appendix 4, the Department calculates a 3.15 percent average two-year increase in expenses for the period 2014-2016. However, SMIP/GARP costs, which experience significant growth of 72.86% during the same period were included in the determination of the growth rate. When the SMIP/GARP costs are removed, the growth in the expenses is only 1.98 percent. Therefore, I believe it is appropriate to remove the SMIP and GARP costs from the derivation of the historical growth rate because the SMIP/GARP costs are costs over which the Department has the ability to exercise discretion. The purpose of using the historical growth rate is to estimate the growth in expenses that occur over time from external factors. Therefore, I recommend that the escalation rate for general expenses should be 1.98 percent.

PA St. 1 at 24:12-21.

Mr. Morgan's approach thus utilizes most of the data on Appendix 4, excluding the increased SMIP/GARP expense, to derive a rate of projected growth that takes into account historical data regarding actual expenditures across a larger group of categories. This approach captures the larger trend in expense increase, disregarding SMIP/GARP which increased not due to increased cost, but because PWD increased the programs.

Similarly, for Class 800 Transfers, PWD proposes to use the two year growth rate shown on Appendix 4, rounded up to 2.5%. Actual spending experience shows significant volatility, with an approximate 19% reduction in spending from FY 2014-2015, followed by a nearly 30% increase from FY2015-2016. The compound rate of growth determined over such a short period, and on the basis of this single category of expenditure, is not supportable as costs have been shown to vary significantly in either direction. Accordingly, Mr. Morgan proposes using the blended 1.98% expense escalation, explaining that this approach is similar to the approach taken for general expenses, that is, based upon the average historical change in these costs after removing those costs that are specifically adjusted elsewhere in the cost of service. PA Brief at PAGE, citing PA St. 1 at 26:13-16.

The Public Advocate submits that expense escalation for Class 200 Services and Class 800 Transfers should be adjusted to reflect Mr. Morgan's blended rate of 1.98%. Actual, historical expenditures in Class 200 Services declined during the most recent year utilized in the rate model and expenditures for Class 800 Transfers demonstrate significant volatility over a short period of time. For both categories of expense, it is reasonable and prudent to utilize an average

⁹⁸ Mr. Morgan's testimony, on page 26, includes a typographical error, indicating that a 2.18% escalation should be utilized for Class 800 Transfers. This section of Mr. Morgan's testimony should state that a 1.98% escalation factor is proposed for Class 800 Transfers, as is proposed for Class 200 Services. PA Brief at PAGE< note 98.

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based on a broader group of expenditures, in order to estimate an escalation factor that is representative of the larger circumstances regarding PWD's O&M expenses.

9. The Department

Discussing the escalation factor applied to Transfers, the Department states that 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.⁹⁹ This is incorrect. The Department states that 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 factor for Transfers (Class 800) are in the range of \$6.24 million to \$8.10 million.¹⁰⁰ For this reason, the Department argues, the premise for Advocate's escalation factor is plainly wrong. PWD Brief at PAGE.

The Advocate's disagreement with the escalation factor used for General Costs and Other Class 200 expenses is predicated upon the assumption that PWD applied a 3.15% general escalation factor in its projections, according to the Department. 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). The Department emphasizes that the escalation factor utilized for Other Class 200 Costs is 3.3% -- not 3.15%, as assumed by the Advocate. Further, the Department states that the escalation factor utilized by PWD did not include SMIP/GARP costs. Finally, 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).¹⁰¹

10. Recommendation

Having not gone to all the source material to determine which description of the factor determinations is correct, I have no recommendation at this time.

IV. COLLECTION FACTORS

Projected revenues reflect anticipated cumulative receipts for water, sewer and stormwater services for each fully projected future test year. The Department estimates receipts for each year based on projected system billings and the associated projected collection factors. These collection factors reflect the payment patterns of the Department's customers. Once the

⁹⁹ PA Statement 1 at 26 (lines 11-12).

¹⁰⁰ PWD Rebuttal Statement 1 at 21; PWD Statement 9A, Schedule BV-E5 (WP-1) at Appendix 4.

¹⁰¹ PWD Rebuttal Statement 1 at 19.

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Department calculates its operating revenue from each customer type in the given fiscal year, it applies the collection factors to estimate the operating retail revenue cash receipts. **CITE**

Collection factors are calculated as the percentage of the total amount billed that is collected (i.e., amount collected divided by amount billed). The result reflects the amount the Department anticipates receiving in a fiscal year. PWD uses the collection factors to estimate what portion of billed revenues it expects to receive. The Public Advocate and the Department disagree on how such factors should be calculated.

1. PUBLIC ADVOCATE

As explained by Mr. Morgan:

During the technical hearings, the Public Advocate presented calculations of the collection factors proposed by PWD and the Public Advocate. See PA Hearing Ex. 7 at 56. The Public Advocate proposes using a [rolling?] three-year average. The Department calculation is more complicated.

Its collection factors represent the multi-year payment RECEIPTS??? pattern for the billing year. Essentially the collection factors break down the percent of revenue from a specific billing period that is collected within the three periods – within 12 months, 13 to 24 months and beyond 24 months. The collection factors used in the cost of service by PWD are based upon a five-year historical period (FY 2012 through FY 2016). PA Brief at PAGE, citing PA St. 1 at 20:-21.

The Advocate argues that this is more consistent with the two-year average used by PWD to forecast revenue for the projected test years. PA St. 1 at 20:22-25. According to the Advocate, as proposed by PWD, the overall 96.54% collection factor used to adjust non-stormwater-only billings would be calculated as follows (averaging highlighted cells):

	Billing	Billing Year	Billing Year
FY	Year	+1	+2+
2016	86.84%	NA	NA
2015	87.03%	8.24%	NA
2014	86.17%	8.61%	1.00%
2013	84.80%	9.80%	1.69%
2012	84.67%	9.67%	1.99%

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Average 85.90% 9.08% 1.56%

Total 96.54%

In contrast, the Public Advocate states that the overall 97.12% collection factor used to adjust non-stormwater only billings would be calculated as follows (averaging highlighted cells):

	Billing	Billing Year	Billing Year
FY	Year	+1	+2+
2016	86.84%	NA	NA
2015	87.03%	8.24%	NA
2014	86.17%	8.61%	1.00%
2013	84.80%	9.80%	1.69%
2012	84.67%	9.67%	1.99%
Average	86.68%	8.88%	1.56%

Total 97.12%

As shown above, the Public Advocate's proposal is to use the most recent three years of data from each of the three periods, whereas PWD's proposal is to utilize five years of data from the "Billing Year" period, four years of data from the "Billing Year +1" period, and three years of data from the "Billing Year +2+" period. Under the Public Advocate's proposal, PWD's collection factor would increase by 0.58%, reflecting assumed additional payments from customers, and reducing the need for an increase in rates and charges. As set forth in the Public Advocate's response to Transcript Request 17 (Appendix B), the effect of this adjustment is to reduce PWD's revenue requirement (by increasing revenues) by \$3,909,000 in FY 2019, \$4,031,000 in FY 2020 and \$4,179,000 in FY 2021. Notwithstanding the projected impacts in FY 2021, the Public Advocate maintains that the Board should only consider a two-year rate period in this 2018 Rate Case.

As discussed during the technical hearings, in the 2016 Rate Case, the Board approved increased rates and charges that were calculated using a three-year collection factor calculation, performed in an identical manner to that recommended by the Public Advocate in this case. 5/14 Tr. at 189:10-14; PA Hearing Ex. 7 at 54-55. In addition, according to PWD, it outperformed its projections of service revenues by \$10.249 million in FY 2016 and \$8.623 million in FY 2017.

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PA Hearing Ex. 7 at 53 (PA-ADV-14). Accordingly, based on actual dollars received, the most recent collection experience is more favorable, and should be taken into account by the Board. In other words, the Board should lean toward the approach that reflects a stronger rate of collection.

Moreover, PWD's approach is not reasonable. As shown by the tables above, PWD's "Billing Year" collection factor has improved substantially in the most recent three years, demonstrating that a five year average, for this factor alone, would underestimate the likely performance based on the most recent experience. Indeed the difference between a three and five year collection factor for "Billing Year" collections is 0.78% (86.68% - 85.90%). This substantial difference must not be disregarded. Moreover, as proposed by the Public Advocate, the most recent three years of experience in the "Billing Year +1" factor more accurately reflect the trend of those aged bills, for which collections have declined during the period that the "Billing Year" collections have increased. Contrary to these clear indicators, PWD proposes to maintain a higher "Billing Year +1" factor, which unduly relies upon data that no longer appears representative of likely collections. While PWD maintains that using all information available to it is preferable (see, e.g., 5/14 Tr. at 188:17-22; 189:18-190:10; 248:15-249:2), the Public Advocate submits that doing so fails to afford appropriate weight to the most recent experience, which indicates that a higher collection factor must be utilized to project future payments.

In addition, the Public Advocate submits that there is a further good reason to rely upon the most recent, three year average collection experience. The intersection of PWD collections and the new TAP rates has not been thoroughly evaluated. However, Mr. Colton demonstrates that the majority of arrears owed by TAP participants are aged arrears, which fall in to the Billing Year +1 and Billing Year +2+ collection factors. As more customers enroll in TAP, and are provided affordable bills, it can reasonably be anticipated that the "Billing Year" collection factor will improve, and that unless arrearage forgiveness is implemented, the Billing Year +1

and Billing Year +2+ collection factors will not improve to the extent that they include TAP arrears (since TAP participants are not required to make any payment on those bills). See, e.g., PA St. 3 at 64:5-7 (observing that the average pre-existing arrears of TAP participants falls into the 24+ month age range).

2. DEPARTMENT

The Department used a cumulative collection factor of 96.54% for water and wastewater (non-stormwater only) billings.¹⁰² 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.

¹⁰² PWD Statement 9A, Schedule BV-E5: WP-1, at 2, 15.

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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.¹⁰³

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.¹⁰⁴

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%, which is 0.58% higher than the Department's proposal.¹⁰⁵ 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 Analyses¹⁰⁶

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

¹⁰³ PWD Statement 9A, Schedule BV-E5: WP-1 at 2.

¹⁰⁴ See, PWD Rebuttal Statement 1 at 8-9; Response to PA-VI-28.

¹⁰⁵ PA Hearing Exhibit 7 at 56.

¹⁰⁶ See, PWD Hearing Exhibit 1 (Illustration of Collection Factor Analysis).

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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%

The Advocate's witness, Lafayette Morgan, also errs in using only an average based on three years of data, as depicted above.¹⁰⁷ 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.¹⁰⁸ 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).

¹⁰⁷ 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.

¹⁰⁸ PWD Rebuttal Statement 1 at 9.

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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 filing¹⁰⁹ 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.

Comparison of Collection Factors Analysis Extended to Include Stormwater Only Billings¹¹⁰

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%

¹⁰⁹ PA Statement 9A, Schedule BV-E5 (WP-1) at 15.

¹¹⁰ PWD Statement 9A, Schedule BV-E5 (WP-1) at 15.

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Cumulative Total	71.76%
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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.

3. RECOMMENDATION

The Department's analysis appears to model actual experience more closely than that of the Advocate.

H. ESCALATION FACTORS

To project the needs for future years, adjusted FY 2018 O&M expenses are increased by so-called "escalation factors" representing inflation, cost increases, or other proposed drivers of additional future costs. PWD Statement 9A, Schedule BV-E5 (WP-1) at 4-5. The Department has proposed using the escalation factors shown in the table below.

The Department based escalation factors for Labor costs on the City's Five Year Financial and Strategic Plan for FY 2018-2022 and prior year labor agreements. The Department based escalation factors for Power and Gas on the City Energy Office estimates. The Department based escalation factors for Chemicals for FY 2019 and 2020 on PWD's recent experience; the resulting escalation rates of 3.8% and 1.0% were used for FY 2020 and 2021, respectively. The Department used an escalation factor for Transfers of 2.5% for the FY2019-2021 period. The table from the Department's Brief at 38, copied below, shows the escalation rates used by the Department in the rate filing (as revised during the proceeding).

FIX FORMAT Annual Escalation Factors¹¹¹

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%;

¹¹¹ PWD Statement 9A, Schedule BV-E5 (WP-1) at 5-6.

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		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 Public Advocate contests the escalation factors applied to (a) Power and Gas, (b) General Costs and Other Class 200 Expenses, (c) Chemicals and (d) Transfers. PA Statement 1 at 22.

V. POWER AND GAS

1. PUBLIC ADVOCATE

PWD proposes expense escalation of 3% for Power costs (Class 220) and Gas costs (Class 221) in FY 2021. As Mr. Morgan explains, the City's Energy Office projected no increase in Power costs for FY 2019 or FY 2020. PA St. 1 at 23:1-3. The City's Energy Office projected a 4% increase in gas costs based on the settlement of a recent PGW rate case. PA St. 1 at 23:18-19. For FY 2021, however, PWD includes a 3% escalation factor to both Power and Gas expense, because such rate is utilized in the City's five-year plan. PA St. 1 at 23:4-6, 21-22. Mr. Morgan explains:

If the Board approves a three-year rate period, I am recommending an adjustment that removes the three percent escalation...for FY 2021 because it is not known and measurable. The City's five-year plan is a planning tool. While it may be reasonable to use the three percent escalation

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rate for planning purposes, for ratemaking purposes, the costs must meet the standard of known and measurable. Therefore, the three percent escalation of power costs should be removed.

PA St. 1 at 7-13.

As discussed above “known and measurable” is a fundamental standard of ratemaking that applies to ensure that rates are cost-based, satisfying core obligations of fairness and equity. Accordingly, just as PWD’s base budget, the FY 2018 budget, must first be adjusted based on actual, historical spend factors, so is it only reasonable for ratemaking purposes to escalate projected expenditures when the basis of those projections is both “known and measurable.” PWD appears to agree, in large part, with this principle. Indeed, PWD acknowledges that even expense escalations for fully projected test years must be based on reasonable estimates of future expenses that will actually be incurred, based on known experience. In other words, as PWD puts it:

PWD uses fully projected test years in establishing rates that incorporate (i) any known changes to O&M expenditures as part of a normal budgeting best practice, and (ii) reasonable assumptions that are based on historical actual experience.

PWD St. 1R at 7:19-22 (emphasis added).

Contrary to its own express acknowledgment of the manner in which reasonable assumptions for future expenditures are determined for PWD ratemaking, the sole justification for the escalation factor is its inclusion in the City’s five-year plan. PWD has made no demonstration that the 3% escalation factors are based on any known or available data, historical experience, or other reasonable information. The sole source of this assumption is a memorandum from the City’s Energy Office stating that after FY 2020, the Energy Office recommends using a standard escalation rate of 3%, “consistent with the General Fund’s five year plan.” PWD St. 9A, Sch. BV-E5:WP-1, Ex. 8 at 31.

Under any conceivable standard for the projection of future O&M expenses, PWD’s 3% expense escalation falls short and is nothing more than a contingency, that lacks any reasonable

=basis whatsoever. PWD asserts that it is unreasonable to assume that these costs will not increase (PWD St. 1R at 18:10-11); however this is not the appropriate standard in this 2018 Rate Case. PWD is the proponent and must carry its burden to demonstrate with substantial evidence the need for the rate relief it seeks. In other words, PWD must demonstrate that costs will increase to justify inclusion of its 3% Power and Gas expense escalation in FY 2021. PWD

has fallen far short of satisfying that burden and so, if the Board approves a three-year rate period (which it should not), the Public Advocate submits that the Board should assume no increase in Power and Gas costs, denying PWD’s 3% expense escalation factor.

2. The Department

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The Advocate disagrees with the PWD escalation factor for Power and Gas costs.¹¹² 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.¹¹³ 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, 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.¹¹⁴

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.¹¹⁵ 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.¹¹⁶

3. Recommendation

The known and measurable standard is incorrect. However an increase in FY 2021 is speculative at this point. Oil and gas costs are notoriously variable.

VI. CHEMICAL COST ESCALATION

4. PUBLIC ADVOCATE

PWD's Formal Notice included proposed expense escalation for Chemicals (Class 307) of 6.7% for FY 2019, 3.8% for FY 2020, and 1% for FY 2021. PWD St. 9A, Sch. BV-E5:WP-1 at 5. As Mr. Morgan summarized:

According to PWD, the escalation factors for chemicals cost of 6.7 percent for FY 2019 and 3.8% for FY 2020 are based on PWD's recent experience. A 1.0 percent escalation factor is assumed for 2021. When asked to provide support for the 6.7 percent and the 3.7 percent escalation factors, the Department provided an analysis comparing budgeted data. In my opinion budgeted data are not indicative of the actual experience as claimed by the Department.

¹¹² PA Statement 1 at 22-23.

¹¹³ PA Statement 1 at 22-23.

¹¹⁴ PWD Rebuttal Statement 1 at 18.

¹¹⁵ 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.

¹¹⁶ PWD Rebuttal Statement 1 at 18.

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Moreover, the total cost of chemicals is not only affected by the unit cost of the chemical but also by the actual quantities of the various chemicals that are utilized.

The comparison of the budgeted data does not bear this out. The burden of proof is on PWD to support its cost, and the budgeted data provided in the response to the Public Advocate's data request fails to provide adequate support.

In order to assess the Department's recent experience with chemical costs, I reviewed the historical chemical expense trend. According to information contained in the Department's filing, it experienced a 0.62 percent and 7.15 percent decrease in chemical expense in FY 2015 and 2016. Hence, the Department's recent experience with chemical cost is not consistent with the increase it has projected in its filing. Therefore, I believe the chemical cost escalation proposed by the Department is unreasonable.

PA St. 1 at 25:4-21.

On the basis of this review, Mr. Morgan recommended that PWD's Chemical costs be projected to remain flat and that no expense escalation be approved for ratemaking purposes. PA St. 1 at 25:24-26:1.

PWD accepted Mr. Morgan's adjustment for FY 2019 and FY 2020, agreeing that its Chemical costs should not be escalated during those projected test years. See PWD TR-23(A). However, PWD maintains that its 1% increase for FY 2021 should be approved. PWD seeks to justify this increase as: "a nominal annual escalation of 1% for FY 2021 through FY 2023 based upon a review of the overall consumer price index and PWD's recent experience." PWD St. 1R at 19:21-23. As discussed above, PWD's "recent experience" demonstrates that PWD experienced decreases in expenditures for Chemical costs in FY 2015 and FY 2016. PWD provides no explanation or support for why its Chemical costs would increase in FY 2021, after experiencing actual decreased expenditures and agreeing that no increase should be assumed for ratemaking purposes in FY 2019 and FY 2020. Indeed, if the consumer price index were a reasonable basis to project future Chemical costs, PWD's recent historical expenditures would, at a minimum, indicate that some increased spending had been required, consistent with such an inflation proxy. No such information exists.

PWD will submit that the Board should approve this 1% Chemical expense escalation, based on the expertise of its staff in projecting these costs. PWD stated: "Mr. Morgan does not appear to recognize the respective expertise of PWD Operations staff in establishing the cost escalation factors based upon both their 'known and measurable' experience or their professional judgment as the entity responsible for procuring chemicals needed to treat both source water and wastewater." PWD St. 1R at 20:1-5. The experience and judgment of PWD staff is not the focus of either Mr. Morgan's adjustment or the expense escalation at issue. PWD has provided no support for its 1% Chemical expense escalation, and no amount of experience or judgment possessed by its staff can rectify PWD's fundamental failure to demonstrate that this escalation is based on a "known and measurable," or even reasonably estimated, assumption of future costs.

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The Advocate further disagrees with the escalation factor utilized for Chemical costs.¹¹⁷

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.¹¹⁸ 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.¹¹⁹ 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.¹²⁰

2. RECOMMENDATION

The Department's approach appears better reasoned.

I. Class 200 Services Expenses and Class 800 Transfers

1. The Public Advocate

PWD proposes a 3.4% expense escalation factor for Class 200 Services and a 2.5% expense escalation factor for Class 800 Transfers. As Mr. Morgan explained, when asked to support the basis for these escalation factors, PWD referred to Schedule BV-E5:WP-1 Appendices 4 and 5. See PA-VI-1(D), (H). Appendix 5 is titled "O&M Cost Industry Indices Data" and contains no information that explains PWD's expense escalations for Class 200 Services and Class 800 Transfers. However, Appendix 4 provides the historical expenditures in these categories for FY 2014, FY 2015 and FY 2016. Upon review of these historical expenditure levels, Mr. Morgan concluded that, for both categories of expense, a different escalation factor should be utilized. PA St. 1 at 24:20-22; 26:17-18. In both cases, the Public Advocate's proposal is to use a 1.98% expense escalation factor.⁴⁷

With respect to Class 200 Services, PWD's use of a 3.4% expense escalation is not consistent with its own evidence. As shown in Schedule BV-E5:WP-1, Appendix 4, PWD's actual 2 year growth rate for Class 200 Services expense is 3.3%. See 5/15 Tr. at 158:19-159:1 ("The[re] were instances that some of the factors – one of the factors, I should say, that they use is not even tied to this [chart], so that's part of the problem.") More importantly, actual expenses for Class 200 Services did not increase at all, and in fact went down from FY 2015 to FY 2016, the second to third year utilized in calculating the 2 year growth rate. As a result, it is not clear

¹¹⁷ PA Statement 1 at 25.

¹¹⁸ PWD Rebuttal Statement 1 at 19.

¹¹⁹ PWD Rebuttal Statement 1 at 19.

¹²⁰ PWD Rebuttal Statement 1 at 20.

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47 Mr. Morgan's testimony, on page 26, includes a typographical error, indicating that a 2.18% escalation should be utilized for Class 800 Transfers. This section of Mr. Morgan's testimony should state that a 1.98% escalation factor is proposed for Class 800 Transfers, as is proposed for Class 200 Services.

that the two year growth rate reflects a reasonable assumption for this category of expense, which has most recently declined. Accordingly, rather than rely solely on the PWD's expenditures from this single cost category, Mr. Morgan proposes a "blended rate" of expenditures, based on the Appendix 4. He explains:

On Appendix 4, the Department calculates a 3.15 percent average two-year increase in expenses for the period 2014-2016. However, SMIP/GARP costs, which experience significant growth of 72.86% during the same period were included in the determination of the growth rate. When the SMIP/GARP costs are removed, the growth in the expenses is only 1.98 percent. Therefore, I believe it is appropriate to remove the SMIP and GARP costs from the derivation of the historical growth rate because the SMIP/GARP costs are costs over which the Department has the ability to exercise discretion. The purpose of using the historical growth rate is to estimate the growth in expenses that occur over time from external factors. Therefore, I recommend that the escalation rate for general expenses should be 1.98 percent.

PA St. 1 at 24:12-21.

Mr. Morgan's approach thus utilizes most of the data on Appendix 4, excluding the increased SMIP/GARP expense, to derive a rate of projected growth that takes into account historical data regarding actual expenditures across a larger group of categories. This approach captures the larger trend in expense increase, disregarding SMIP/GARP which increased not due to increased cost, but because PWD increased the programs.

Similarly, for Class 800 Transfers, PWD proposes to use the two year growth rate shown on Appendix 4, rounded up to 2.5%. Actual spending experience shows significant volatility, with an approximate 19% reduction in spending from FY 2014-2015, followed by a nearly 30% increase from FY2015-2016. The compound rate of growth determined over such a short period, and on the basis of this single category of expenditure, is not supportable as costs have been shown to vary significantly in either direction. Accordingly, Mr. Morgan proposes using the blended 1.98% expense escalation, explaining:

My approach to determining a reasonable escalation factor for Transfers is similar to the approach taken for general expenses, that is, I calculated an escalation factor based upon the average historical change in these costs after removing those costs that are specifically adjusted elsewhere in the cost of service.

PA St. 1 at 26:13-16.

The Public Advocate submits that expense escalation for Class 200 Services and Class 800 Transfers should be adjusted to reflect Mr. Morgan's blended rate of 1.98%. Actual, historical expenditures in Class 200 Services declined during the most recent year utilized in the rate model and expenditures for Class 800 Transfers demonstrate significant volatility over a short

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period of time. For both categories of expense, it is reasonable and prudent to utilize an average based on a broader group of expenditures, in order to estimate an escalation factor that is representative of the larger circumstances regarding PWD's O&M expenses.

3. The Department

The Advocate disagrees with the escalation factor applied to **Transfers**.¹²¹ 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.¹²² 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 factor for Transfers (Class 800) are in the range of \$6.24 million to \$8.10 million.¹²³ As such, the premise for Advocate's escalation factor is plainly wrong.

The Advocate also disagrees with the escalation factor used for General Costs and Other Class 200 expenses.¹²⁴ 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, 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).¹²⁵

4. RECOMMENDATION

Same analysis. On this one, however, the balance favors the view of the Public Advocate and the concept that 2021 is too remote to be a sure enough estimate.

VII. PLUG ON REVENUE REQUIREMENTS GENERALLY

In its Direct Testimony, the Public Advocate proposed several revenue adjustments set forth in Schedule LKM-2. As discussed above, the Public Advocate's recommendation to recover any increase in water rates from all usage blocks except the 0-2 Mcf usage block must be rejected. Therefore, PLUG recommends that any revenue adjustments approved by the Board be proportionally scaled-back for *all* water, sewer, and stormwater service rates.

¹²¹ PA Statement 1 at 26.

¹²² PA Statement 1 at 26 (lines 11-12).

¹²³ PWD Rebuttal Statement 1 at 21; PWD Statement 9A, Schedule BV-E5 (WP-1) at Appendix 4.

¹²⁴ PA Statement 1 at 24.

¹²⁵ PWD Rebuttal Statement 1 at 19.

VIII. TAP COST RECOVERY

A. Areas of Agreement.

PWD and the Public Advocate have reached general agreement on specific aspects of the TAP Rate Rider framework, as follows:

- The TAP Rider and associated surcharge will only recover lost revenues associated with TAP discounts provided to TAP customers.
- All other TAP related costs including program administration and LiCAP costs will be recovered via “base rates”.
- The TAP Rider Surcharge will be defined in terms of dollars per thousand cubic feet (\$/MCF).
- 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).
- 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.
- 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.
- 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.

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- 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.¹²⁶
- PWD will not include an emergency adjustment clause as a part of the proposed TAP Rider

B. TAP ADMINISTRATION PROBLEMS REDUCING PARTICIPATION

PWD's new Tiered Assistance Program (TAP) was implemented in 2017. TAP is a percentage of income payment program, which provides TAP customers with bills that are calculated as a fixed percentage of household income (HHI), as follows: 2% of HHI for customers with income between 0-50% FPL (subject to a minimum bill of \$12 per month); 2.5% of HHI for customers with income between 51%-100% FPL; and 3% of HHI for customers with income between 101-150% FPL.

The Public Advocate describes numerous features of the TAP rate as presently offered to potentially eligible customers. He argues that various impediments to taking service under the rate and obtaining the discount it affords should be rectified. The Department states that all of the PA's recommendations for reform of operations are beyond the jurisdiction of the Board.

C. TAP Enrollment Delay Must Be Addressed

As of May 22, 2018, PWD has enrolled 8,960 based on applications submitted between July 1, 2017 (the date that TAP was implemented) and March 31, 2018. The Public Advocate observes that it falls well short of the estimates in the 2016 Rate Case, which anticipated enrollment approximating 31,000 by the end of FY 2018. PA Brief at PAGE, citing 2016 Rate Case PA Statement 3 at 30:19-22. On behalf of the Public Advocate, Mr. Colton examined data from PWD regarding the time periods between customers' submission of applications and PWD's status updates on those applications. The Public Advocate states that Mr. Colton found that there is a substantial delay in acting on TAP applications:

- Regarding approved applications submitted in the first quarter (July – September, 2017):
 - More than half of all approvals (53.1%) occurred more than 60 days after the application was submitted.

¹²⁶ 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.

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- Nearly half of all approvals (48.7%) of all approvals occurred more than 90 days after the application was submitted.
- Regarding approved applications submitted in the second quarter (October – December, 2017), more than 60% of all applications were approved more than 60 days after the application was submitted.

PA St. 3 at 8:14-21.

- For the first quarter of applications (July – September, 2017), PWD took up to 60 days simply to determine an application was “incomplete.” For nearly one in five applications, it took PWD more than 120 days to determine the application was incomplete. PA St. 3 at 9:6-10:2.
- For the second quarter of applications (October – December, 2017), nearly 90% of the applications that were found to be incomplete did not receive that determination for more than 60 days after the date of application.

PA St. 3 at 10:2-4.

The Public Advocate urges remedial action to be taken. CITE. Specifically, Mr. Colton recommends that TAP rate include a retroactive adjustment, to provide customers the benefits of TAP discounts that would have been received had PWD acted upon applications within a reasonable period. PA St. 3 at 8:2-5.

The Advocate states that PWD acknowledges it not only possesses, but uses, the capability to make retroactive billing adjustments on a daily basis. 5/11 Tr. at 51:2-4.

According to the Advocate, TAP applicants are being deprived of substantial amounts of discounts – discounts that are simply “lost.” CITE Citing Mr. Colton’s analysis, the Advocate estimates that for those persons who enrolled in TAP from July 1, 2017 through January 19, 2018, and who faced delays in TAP approval, these lost discounts amounted to nearly \$700,000, representing unaffordable bills that were rendered in excess of the TAP rate bills for which customers were subsequently found eligible. PA St. 3 at 10:20-11:2. The Advocate points out that even these numbers do not take into account the TAP applicants for whom no determination has been made, or for whom approval may be obtained only after resubmitting or responding to an application determined to be incomplete. CITE

The Advocate points to PWD’s erroneous contention, that the delays do not harm these customers because, during the lengthy period they wait for news on their TAP application, they are not subject to termination for non-payment. PA Brief at PAGE, citing PWD St. 4R at 6:16-18. The Advocate notes, however, that this position disregards the accumulation of debts by those customers, the potential consequences associated with that debt, and the strain that unaffordable bills can place on a household’s limited resources. *Id.*, citing 5/11 Tr. at 23:11-29:5.

On the basis of PWD’s unacceptable delay in processing TAP applications, Mr. Colton recommends a billing adjustment, “retroactive to the first full billing cycle after PWD received a

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complete TAP application.” PA St. 3 at 12:4-6. As PWD acknowledges, it can retroactively adjust previously issued bills in the event a customer is billed at the incorrect rate. 5/11 Tr. at 50:17-24. The same adjustment mechanism can, and should be, implemented in connection with the TAP rate program. CITE Also, the Advocate states that, to the extent a TAP applicant has made payments while awaiting approval that are in excess of the retroactively adjusted TAP bills, those payments should be applied first to those adjusted TAP bills, and then the excess payments should be applied to the account as a credit, available to satisfy future TAP bills. *Id.*, citing PA St. 3 at 12:19-13:2.⁵²

According to the Public Advocate, the requirement that TAP approval take effect, including retroactively by adjustment, is closely analogous to Philadelphia Gas Works’ Senior Discount Program, provided for in the 1972 Management Agreement/Ordinance regarding the operation of PGW by the Philadelphia Facilities Management Corporation. PA Brief at PAGE, citing PA St. 3 at 14:3-9/

D. TAP Application Changes

Based on his review of PWD’s TAP application, Mr. Colton makes several recommendations in order to ensure that PWD’s application complies with the Philadelphia Code, and to ensure that customers are not discouraged from or prevented from accessing TAP due to unreasonable application requirements. The Advocate proposes that the Board include a determination in its rate order that Mr. Colton’s recommendations should be implemented by PWD.

1. Social Security Numbers

Mr. Colton testifies that, based on the application itself, PWD appears to demand that a TAP applicant provide a Social Security Number “for every household member between the ages of 18 and 65.” PA St. 3 at 21:1-3. The Advocate states that PWD acknowledges that a Social Security Number is not actually required to process a TAP application, and provision of a Social Security Number is optional. PA Brief at PAGE, citing 5/11 Tr. at 37:10-12. However, PWD could not identify anywhere in the application or application instructions where a customer would be informed of the optional nature of Social Security Numbers. 5/11 Tr. at 38:1-6. Such a requirement is an unnecessary hindrance to successful application for TAP. PA Brief at PAGE.

2. Time Limit for Return of Application

The Public Advocate criticizes the PWD application packet because it includes two statements which impose inconsistent and unauthorized time limits for customers to complete and return their applications. PA Brief at PAGE. Mr. Colton concludes that these timelines can discourage

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applications from being returned, and may not even be feasible given the potential for delay in receiving the application after request. PA St. 3 at 22:15- 23:5. In any event, the Advocate argues, the deadlines imposed are neither authorized by the Philadelphia Code, nor reasonable in duration. PA Brief at PAGE, citing PA St. 3 at 23:7-12.

3. Residence and Financial Hardship Determinations From OOPA

According to the Advocate, PWD is not fully complying with the provisions of the Philadelphia Code, requiring that, in administering TAP, PWD “shall accept determinations of income and/or residency made within the prior twelve months pursuant to [Philadelphia Code] §19-1305.” PA Brief at PAGE, citing PA St. 3 at 28:12-13; 31:15-21. This section, governing the City’s Owner Occupied Payment Agreement (OOPA) program, provides income-based tax hardship agreements to low income homeowners and equitable owners in Philadelphia. The ordinance authorizing TAP expressly required PWD to accept determinations made pursuant to OOPA with the goal of streamlining TAP access for customers who are known by the City to be low income owner occupants.

Despite the clear language of the Philadelphia Code, avers the PA, PWD has not included any instruction in TAP application materials to inform customers that OOPA determinations may be utilized for TAP eligibility. PA Brief at PAGE, citing PA St. 3 at 28:17-20. Nor does PWD cross-check enrollment in OOPA for active or defaulted customers who participated in PWD’s pre-existing low-income program, the Water Revenue Assistance Program (WRAP). *Id.*, citing PA St. 3 at 28:23-24. Further, PWD does not, in fact, “accept” determinations pursuant to OOPA, but instead requires independent information, which it then uses for purposes of potentially altering a customer’s OOPA agreement. PA Brief at PAGE, citing PA St. 3 at 29:3-8. The Advocate argues that the fact that PWD is required to utilize OOPA information for this purpose, but does not do so, not only fails to satisfy the requirements of the law, but directly contributes to lower enrollment and maintaining barriers to TAP which City Council expressly sought to eliminate. PA Brief at PAGE.

4. Unnecessary Acknowledgements/Requirements

The PA points out that PWD’s TAP application requires customers who report zero income to provide a detailed listing of assets, for which the Philadelphia Code provides no authorization. PA St. 3 at 19:5-7. It requires that a customer provide an explanation for why an adult household member may have no income, which explanation is not relevant to the determination of household income for purposes of TAP eligibility. PA St. 1 at 20:10-18. Similarly, the TAP application requires customers to acknowledge several responsibilities which are not authorized under the Philadelphia Code provisions regarding TAP. PA St. 3 at 19:16-18. As Mr. Colton states, the provisions of the Philadelphia Code governing TAP explicitly acknowledge that a

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customer shall be enrolled upon completing an application that provides proof of residency and financial or Special Hardship. PA St. 3 at 18:15-18; Phila. Code §§19-1605(2)(d), (3)(g).

A customer who fails to explicitly acknowledge the requirements PWD lists in the application, whether due to oversight or disagreement, will not become a TAP customer. A customer who refuses to provide, or can't provide, an explanation for why an adult household member lacks income, will not become a TAP customer. PA Brief at PAGE.

5. Recommended TAP Application Improvements

On the basis of the extraordinary administrative delay associated with the current TAP administrative process, as discussed above, the Public Advocate submits that the Board should reach a determination that PWD's demands for extensive information, beyond what is required by the Philadelphia Code, are unreasonable and unnecessary. PA Brief at PAGE. The Rate Board, having established TAP rates, "should address, in clear and certain terms, that PWD's administrative practices must not impede access to the approved TAP rates." *Id.* The Public Advocate recommends that the Rate Board endorse the use by PWD of a streamlined application form, similar to that utilized by PECO Energy Company for its Customer Assistance Program, as attached to Mr. Colton's testimony. PA St. 3, Appendix C.

E. TAP Outreach Improvements

2. The Advocate

The Public Advocate acknowledges that implementing a new program, like TAP, takes significant effort, much of it directed to outreach and community education. PA Brief at PAGE. Based on Mr. Colton's analysis, the Advocate concludes that PWD can make improvements, to ensure the broad availability of TAP rates to low-income Philadelphians. Unfortunately, certain of the efforts PWD has focused on, have not, according to analysis of application and enrollment data, borne sufficient fruit. PA Brief at PAGE. As Mr. Colton explains, PWD's mass mailing approach has not been effective. *Id.*, citing PA St. 3 at 11:3-4. In contrast, the PA states, the applications generated through means *other than* mass mailings were much more effective. PA Brief at PAGE, citing PA St. 3 at 46:18-47:9.

Based on these observations, Mr. Colton recommends that PWD make several improvements in outreach, designed to assist in reaching customers who should be enrolled in TAP. Primarily, Mr. Colton emphasizes the need to utilize community-based organizations (CBOs), integrating application and enrollment through those agencies that serve "hard to reach" customers. According to the Advocate, relying on organizations employing trusted messengers, and

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reaching customers directly, in-person, are the most successful in serving low-income constituents in need. PA Brief at PAGE, citing PA St. 3 at 50:22-53:22.

Another barrier to participation cited by the Advocate is the fact that TAP applications are only available in hard copy, by mail, or via electronic access through a website portal that requires the customer's "water access code" (which appears on the customer's bill). PA Brief at PAGE, citing 5/11 Tr. at 53:20-54:16. These applications, generated by PWD, include individualized barcodes for tracking and processing purposes. 5/11 Tr. at 86:1-5. Because these applications include individualized bar codes used for tracking and processing purposes, neither customers nor community organizations serving them have access to "blank" applications. PA Brief at PAGE.

PWD contends that it must limit access to applications in this way, for tracking purposes mandated by the Philadelphia Code. The Advocate argues that no such mandate exists. Under the Philadelphia Code provisions that established TAP, PWD is not required to track applications received by customers, but only applications submitted to PWD. PA Brief at PAGE, citing TR-12; Phila. Code §19-1605(7).

In addition, the Advocate argues that provisions of the Philadelphia Code requiring that applications be available electronically (which predate TAP and were not implemented for PWD's predecessor program, WRAP), do not restrict PWD from providing fully blank (lacking barcode) applications, or otherwise empowering CBOs to generate applications without accessing PWD online systems. PA Brief at PAGE, citing TR -12.

Mr. Colton also contends that the use of community-based organizations would assist PWD in meeting the needs of limited English proficient (LEP) customers. PA Brief at PAGE. According to his analysis, the needs of LEP customers are not being adequately met under current operations. 5/11 Tr. at 65:4-11. PWD avers that perhaps this can be explained by the use of English applications by LEP customers, presumably using the assistance of others who are sufficiently proficient in English to complete the applications. See 5/11 Tr. at 59:13-22. However, according to the Public Advocate, to the extent LEP individuals received assistance in submitting English applications, PWD should be more concerned, not less, given the ramifications of potential errors and/or misstatements that may arise from an LEP customer not fully understanding or providing the correct information in response to PWD's complicated application. PA Brief at PAGE, citing 5/11 Tr. at 59:23-60:4.

On the basis of this review, Mr. Colton makes the following recommendations, which the Board should approve in its determination in this proceeding:

- PWD should comply with the clear language of the Philadelphia Code requiring it to utilize determinations of income and/or residency made for purposes of OOPA agreements. Mr. Colton recommends this be

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accomplished through an information sharing agreement between the City Departments, to the extent necessary.

- PWD should utilize information from its sibling municipal utility, PGW, to identify eligible customers for TAP, because PGW's customer assistance program utilizes the same income eligibility threshold and requires occupancy for approval.
- PWD should engage CBOs to conduct TAP outreach and intake. As part of this process, PWD should set aside administrative funding for these groups, in order that they have the resources to employ a boots on the ground approach, to identify and enroll customers in-person, where they are, and without technological limitations. Blank applications should be made available, in those languages identified by the CBOs based on language access needs of their communities, for use in enrolling TAP customers.

6. PWD

With regards to TAP, Mr. Colton recommends (a) modifications to the TAP application;¹²⁷ (b) the removal of any time constraints on the return of any TAP application;¹²⁸ (c) that arrearage forgiveness for TAP participants be "improved;"¹²⁹ (d) that PWD enter into certain agreements and contracts with others;¹³⁰ and (e) modifications to PWD's outreach to Limited English customers.¹³¹ Second, in Part 4 of his testimony, Mr. Colton recommends¹³² that additional conditions/restrictions be placed on PWD's ability to issue shutoff notice(s) to delinquent customer(s). The PWD argues that these 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. PWD Brief at 64.

Even if the Department's Motion is not granted, the Department argues, 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.

Id.

¹²⁷ PA Statement 3 at 23, 27-28.

¹²⁸ PA Statement 3 at 23.

¹²⁹ PA Statement 3 at 36-45.

¹³⁰ PA Statement 3 at 55.

¹³¹ PA Statement 3 at 57.

¹³² PA Statement 3 at 108.

F. RECOMMENDATION

The supervision of PWD's rates and charges would be in vain if the Department simply refused to implement an approved rate. This is an extreme hypothetical, and does not apply to the TAP situation. To the extent PWD and WRB outreach, applications forms, proof of income eligibility, and delays in processing are keeping customers from obtaining service under the TAP rate, the reasons are more to do with the newness of the rate, and the need to graft its implementation on to an intake system that was not designed for the purpose. The Department has worked hard to implement TAP since its approval in 2016.

Having said that, the evidence presented by Mr. Colton, a nationally recognized expert in the field of affordability rates, makes it clear that many customers who could be taking service under the TAP rate are not doing so, because of the impediments to signing up. To use a term from utility rate design, the TAP rate is not in fact "available" to the customers who are defined in the rate as those to whom the rate is available (and who could be benefiting from the rate nominally available to them). The Board cannot be powerless to direct the administration of a rate that is failing of its purpose. To deny this authority would be to render the Board impotent to see that its rate decisions are implemented as intended.. The success of the Department's offer of the TAP rate also has direct effect on the revenue requirements that must be met depending on the numbers of customers taking the rate.

Mr. Colton has suggested a number of steps that would drastically reduce the barriers that have kept many eligible households from obtaining TAP service. At the very least, the Board should require the Department to report on the extent to which it has adopted these suggestions, rejected them, or chosen other means to achieve the same improvement in participation.

I. TAP RIDER DESIGN

Throughout this 2018 Rate Case proceeding, the Public Advocate and PWD have engaged in multiple conversations and exchanges, with the goal of coming to mutual agreement, to the greatest extent possible, on the features and design of a Tiered Assistance Program rate rider (TAP Rider). As a result of these efforts, agreement has been reached regarding many of the significant aspects of a TAP Rider. As shown in the Joint Response to Transcript Request 22, the Public Advocate and PWD agree that:

- The TAP Rider will not recover for expenses associated with other low-income programs, such as the Low Income Conservation Assistance Program (LICAP).

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- The TAP Rider will be calculated based on both the TAP expenses and the amount of TAP revenue collected through the rider.
- The TAP Rider will be calculated on a “dollars per unit of consumption (MCF)” basis. In calculating the TAP rider in the annual reconciliation submission, based on the 12 month period prior to the effectiveness of the (adjusted) TAP rider:
 - PWD will use actual TAP revenues and expenses for the first 9-10 months, and annualized/projected revenues and expenses for the last 2-3 months.
 - PWD will “true up” prior TAP Rider calculations based on the difference between (i) annualized/projected revenues and expenses, and (ii) actual TAP revenues and expenses.
- The TAP Rider will not include provision for emergency adjustments based on financial exigencies.
- TAP over- and under-recovery shall be subject to an interest rate equal to the 52- week Treasury Bill rate as of the first day of the month preceding the month of the annual reconciliation submission.
- The TAP Rider will include an embedded lost revenue adjustment. As discussed below, PWD and the Public Advocate disagree about the calculation of the embedded lost revenue adjustment.

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:

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.

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S

Projected sales in MCF for Non-TAP customers.¹³³

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.

The above areas of agreement reflect the significant progress PWD and the Public Advocate have made in addressing mutual concerns and finding common ground.¹³⁴ The following section presents a discussion on the few remaining areas of disagreement.

A. Narrowing Areas of Disagreement.

In the next 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.

B. Comparison of TAP Rider Proposals

In this proceeding, PWD proposed recovery of TAP expenses for FY 2019, FY 2020 and FY 2021 in the following amounts:

FY 2019	FY 2020	FY 2021
\$9,800,000	\$13,700,000	\$17,000,000

PWD maintains its position in calculating these amounts as the "lost revenue" for TAP discounts.⁵⁵ See PWD St. 9A, Sch. BV-E1, Table C-3. For purposes of comparing these amounts PWD proposes for recovery through the TAP Rider, to the amounts submitted by the Public

¹³³ See, PWD Rebuttal Statement 5 at 4.

¹³⁴ 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.

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Advocate, PWD's estimates must be adjusted by PWD's proposed collection factor of 96.54%. See Errata Sheets for PWD St. 5R, at 8:3-6. As shown below, PWD's adjusted 12-month estimate of TAP costs are as follows:

FY 2019	FY 2020	FY 2021
\$9,460,920	\$13,225,980	\$16,411,800

In comparison, as shown in the Public Advocate's Supplemental Response to Transcript Request 2,⁵⁶ the Public Advocate estimates the costs of its TAP Rider, on a 12-month basis, as follows:

55 PWD reported different amounts in its calculations shown in TR-23(B) due to the application of its proposed collection factor, 96.54%, and the fact that the TAP Rider would be implemented/adjusted in September of each year, providing for 10 months of adjusted recovery. PWD's estimates of lost revenue associated with TAP discounts have not been modified.

56 For ease of comparison, the table below includes a column titled "PA Rider Total" which was not included in the Public Advocate's Supplemental Response to TR-2.

	TAP Discounts		Arrears Forgiveness		Allocation		PA Rider
	Water	Sewer	Water	Sewer	Water	Sewer	Total
2019	\$3,301,905	\$5,214,295	\$785,522	\$1,240,478	\$4,087,426	\$6,454,774	\$10,542,200
2020	\$4,529,868	\$7,375,432	\$783,052	\$1,274,948	\$5,312,920	\$8,650,380	\$13,963,300
2021	\$5,510,994	\$9,262,006	\$557,329	\$936,671	\$6,068,323	\$10,198,677	\$16,267,000

In both PWD and the Public Advocate's proposals, implementation of the TAP Rider in September would modify the amount of revenues recovered through the TAP Rider. However, when calculated on a 12-month basis, for consistency, the Public Advocate's TAP Rider would recover marginally more in FY 2019 and FY 2020, and marginally less in FY 2021. However, the Public Advocate's proposal includes the recovery of costs associated with arrearage forgiveness in the TAP Rider.

C. Calculation of Embedded Lost Revenue Adjustments for TAP Discounts

7. The Advocate

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PWD and the Public Advocate agree to the principle that the amount TAP bill discounts, if they were billed directly to low-income customers, would not be fully paid currently. However, PWD and the Public Advocate substantially disagree on the extent to which those dollars would be uncollectible from low-income customers in the absence of the TAP program. PWD argues that the only data available to calculate an uncollectible bill adjustment for low-income customers is the system-wide collection factor, and so submits that the embedded lost revenue adjustment for TAP discounts should be identical to its overall uncollectible rate, which it calculates to be the difference between 100% and its combined collection factor (96.54%). 5/10 Tr. at 52:9-18.

Accordingly, PWD submits that the embedded lost revenue adjustment for TAP discounts is 3.46%.

PWD's proposed adjustment is wrong for several reasons.

Primarily, use of the system-wide collection factor assumes that the TAP discounts, if billed to low-income customers, would have been paid, on average, at the same rate and to the same extent as all bills issued to PWD non-stormwater only customers. This ignores the data from PWD that demonstrates that low-income customers are not capable of making payments in the way statistically average customers can make payment. Indeed, if that were the case, TAP would be unnecessary. But, TAP was created in fundamental recognition of the fact that water debt and poverty are correlated and so are concentrated in low-income neighborhoods in Philadelphia.⁵⁷

The need for a different embedded lost revenue discount is demonstrated by PWD's own data. As shown in Public Advocate Hearing Exhibit 3, PWD's collections are not uniform among customer types or service types. Total payment percentages vary between residential and non-residential customers, and between water, sewer and stormwater charges. Indeed, on average, residential customers (including senior citizens) have slightly lower total payment percentages than non-residential customers. PA Hearing Ex. 3 at 5-6 of 35; 5/10 Tr. at 64:21- 68:15. Low-income customers are, by definition, residential customers, whose difficulty making payment contributes to the lower residential payment percentages. Furthermore, PWD's accounts receivable aging reports demonstrate that different postal zones in Philadelphia have significantly different proportions and ages of water indebtedness, reflecting the obvious fact that collections are not even close to being geographically uniform among residential customers across Philadelphia. 5/10 Tr. at 54:4-59:24.

Furthermore, as discussed above, PWD's data demonstrates that the majority of TAP customers have substantial arrears, accumulated over months and years. PWD's assumption that the amount of charges that would otherwise be billed to these customers in the absence of TAP would be collected in the same fashion as PWD's system-wide average is demonstrably unreasonable. Indeed, unaffordable bills issued to low-income customers are significantly more likely to go unpaid and contribute to aged arrears, two years old or older, for which PWD's own

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57 See, e.g., Remarks of Councilwoman Maria Quiñones-Sánchez, Hearing of Finance Committee (April 9, 2015), at 17:9-18-7, available at <http://legislation.phila.gov/transcripts/Public%20Hearings/finance/2015/fi040915.pdf>

data demonstrates only 1.56% is collectible for ratemaking purposes. PWD's proposal disregards significant data, obtained by the Public Advocate from PWD, which demonstrates the inappropriateness of utilizing its system-wide collection factors to calculate the embedded lost revenue discount for TAP discounts.

The purpose of embedded lost revenue discounts is to recognize that the amount of discounts provided to low income customers is not the difference between billings and the discounted rate, but is the difference between the revenue and the discounted rates. PA St. 3 at 59. Typically, in the context of PUC-regulated utilities, the determination of an uncollectible rate for low income customers is made utilizing the write-off ratio for low income utility customers. See PA Hearing Ex. 2. PWD acknowledges that it has no data whatsoever regarding its own low-income uncollectible rate. 5/10 Tr. at 19:4-7.

Accordingly, while PWD data verifies that a system-wide uncollectible rate would be inappropriate, PWD simply has not conducted a study to identify its low-income uncollectible rate. PWD's disregard for the verifiably different collectability of bills issued to low-income customers is unreasonable. As submitted by Mr. Colton, publicly available reports regarding the uncollectible rate of low-income electric and gas customers in PWD's service territory are available and serve as reasonable estimates for PWD's use.

As set forth in his testimony, Mr. Colton calculates an assumption for PWD as the average of the uncollectible rate for Philadelphia's natural gas (PGW) and electric (PECO) utilities, at 13.1%. PA St. 3 at 62:1-19. This rate is conservative given the percentage of TAP customers having substantial arrears. 5/10 Tr. at 155:4-156:19. Mr. Colton's estimated uncollectible rate would have been even higher if he had excluded PECO, which has a larger service territory that includes wealthier suburban counties outside of Philadelphia and a lower uncollectible rate than PGW. 5/10 Tr. at 155:19-22.

For all of the foregoing reasons, the Public Advocate submits that the Board should approve a 13.1% embedded lost revenue adjustment for TAP discounts.

8. The Department

9. RECOMMENDATION

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D. TAP ADMINISTRATIVE COSTS

10. The Advocate

Mr. Colton observes that PWD has been operating TAP with administrative personnel costs that equal 21% of program benefits. PA St. 3 at 66:12-13. As Mr. Colton explains, the 22 TAP identified administrative personnel had an aggregate annual salary of \$827,643 as of July 1 2017, representing an administrative expense ratio in excess of 21%, relative to the \$3,900,000 in TAP benefits estimated to be provided for FY 2018. PA St. 3 at 66:9-13. This demonstrates the administrative over-staffing of TAP, which has not led to more enrollees, but to more duplication of effort due to PWD's two tier review process.

PWD confirms that this level of staffing resulted from an allocation of existing PWD employees to TAP administration. Remarkably, this transfer of employees directly contradicts PWD's express representations in the 2016 proceeding that the administration of TAP would require *incremental* hiring of 22 new employees, to work alongside existing low-income staff, for which customer rates were increased in FY 2018. PA St. 3 at 67:1-68:13.

Concerns about the extent to which PWD misrepresented staffing requirements in the last rate case aside, the level of administrative cost being incurred by PWD for TAP is unreasonable. The Public Advocate reviewed the most suitable performance indicator for these employees: the number of TAP applications reviewed. The results of that review, as shown by Mr. Colton, indicate that that, on average, each individual TAP administrative employee is actively reviewing eleven or fewer applications per day. In half the periods reviewed, each employee, on average, reviewed six or fewer applications per day – less than one per hour. PA St. 3 at 69:1 (Table).

To rectify the excessive administrative costs PWD is incurring for TAP, Mr. Colton recommends outsourcing TAP Administration and, regardless of outsourcing, limiting administrative expenses to a reasonable, 10% cost ceiling. PA St. 3 at 71:17-25. PWD appears to argue that outsourcing cannot be accomplished, due to requirements of its labor contracts. 5/11 Tr. at 122:11-123:14.

PWD points to no provisions in these contracts which override: (1) the Board's obligations to ensure just and reasonable rates; and (2) the Board's power to reject or modify PWD's proposed rates to exclude expenses which are excessive and unnecessary. The Board may also recall that both PWD and the Public Advocate briefed the issues regarding PWD's union contracts in the 2016 Rate Case. The Public Advocate found no barrier to outsourcing based on its review of the applicable contracts. 2016 Rate Case, PA Brief at 102-104.

PWD identified no specific provision of the contracts nor any legal provision that preclude outsourcing, instead submitting that it had not assessed the feasibility of outsourcing and would require the input of the City Solicitor on the issue. 2016 Rate Case, PWD Brief at 37, n. 36. The Board should establish a limitation on PWD's rate recovery of TAP administrative expenses, not to exceed 10% of the aggregate program benefits provided. PA St. 3 at 71:17-20. The

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Department has implemented a two-tier system for reviewing TAP applications, which is unprecedented and unsupported in the field of utility assistance and means-tested low-income assistance programs.

This duplicative process is certainly contributing to additional, and unnecessary, administrative expense, while also delaying customer access to essential utility assistance. The Board is expressly authorized to modify PWD's proposed rate assumptions, including by limiting its ability to recover unreasonable expenses. If PWD cannot operate within the Board's reasonably established TAP administrative expense ceilings set forth in its rate determination, PWD should outsource the process to entities that can do so. PWD has identified no clear barrier to outsourcing these functions.

11. PWD??????

A. Calculation of TAP Rider Arrearage Forgiveness Recovery

3. The Advocate

As discussed above, the Board should include the cost-recovery of arrearage forgiveness required to be provided to TAP customers through the TAP rider. The rationale for implementing TAP arrearage forgiveness is discussed above in Section [XIII](#). This section addresses the calculation of TAP arrearage forgiveness cost recovery. As calculated by Mr. Colton, the amount to be recovered through the TAP Rider should include the "Reconcilable TAP Arrearage Forgiveness Costs," defined as:

The credits appearing on the TAP participant bills toward pre-existing arrearages (TAP arrearage forgiveness). Pre-existing arrears are those arrears appearing on the bill of a TAP participant in the month in which the TAP participant applies for TAP services net of a Low-Income Arrearage Embedded Lost Revenue Adjustment.

PA St. 3, Sch. RDC-3 at 114.

As the Board may be aware, pursuant to the Philadelphia Code, PWD is already required to determine the amount of arrears the customer owes and notify the customer of that amount in writing upon enrollment in TAP. See Phila. Code § 19-1605(4)(a). Accordingly, the determination of the gross amount of arrears subject to cost-recovery through the TAP Rider imposes no new requirement on PWD.

Upon determination of the amount of TAP arrears subject to the TAP Rider, Mr. Colton proposes that such amount be subject to forgiveness over a two-year period. PA St. 1 at 40:1. However, as discussed in Mr. Colton's testimony, a further adjustment must be made to determine the extent to which the arrears of low-income customers are uncollectible. Similar to the embedded lost revenue adjustment for TAP discounts, the extent to which low income customer arrears are recovered through the TAP Rider must be adjusted to reflect the anticipated revenue loss that

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PWD recognizes by forgiving those arrears. That amount is significantly lower than the amount of the arrears, since low-income customer debts are aged arrears, which have a low probability of repayment.

To determine the embedded lost revenue adjustment for TAP customer arrears, Mr. Colton explains:

I begin with the percentage of arrears that PWD reports that it eventually collects (65%), meaning that 35% of PWD's arrears are not ever collected. (PA-ADV-6). I then use a low-income multiplier to account for the fact that the collectability of low-income arrearages is less than the collectability for residential accounts generally. Again using the Philadelphia average, and using a three year average to account for the longer-term nature of arrearages, I find the appropriate low-income multiplier to be 2.59x. The bad debt offset for arrears subject to forgiveness is thus 90.66%.

PA St. 3 at 63:12-64:2.

Because, again, PWD has not done any calculations of its own low-income uncollectible rate, the "multiplier" calculated by Mr. Colton is based on the information available for PECO and PGW. This multiplier is calculated as the ratio of the average rate of write offs for low income customers to the average rate of write off for all residential customers. See Attachment to PWD Discovery of Public Advocate I-10 (averaging PECO 3.97 and PGW 1.22 low-income multipliers).

Using the same assumptions of participation levels PWD uses to project the TAP discounts for FY 2019, FY 2020 and FY 2021 in this 2018 Rate Case, and the calculated average arrearage per participant based on PWD data, Mr. Colton estimates the amount of annual arrearage forgiveness expense to be recovered through the TAP Rider as approximately \$2 million for each of FY 2019 and 2020, and declining thereafter, as shown in the Public Advocate's Supplemental Response to Transcript Request 2. The Board should approve the recovery, using Mr. Colton's methodology, of revenue loss associated with arrearage forgiveness through the TAP Rider.

12. The Department

B. Allocation of TAP Rider Based on Revenues

4. The Advocate

PWD proposes to allocate TAP cost recovery based on the proportion of its FY 2019 revenue requirements allocated to water and wastewater. PWD St. 5R at 9:5-13. The Public Advocate's proposal is to allocate TAP cost recovery to water and wastewater based on actual revenues billed to each service, respectively. See PA St. 3, Sch. RDC-2 at 114. For purposes of

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determining the actual revenues billed, the Public Advocate proposes PWD utilize the prior fiscal year billings.

The Rate Board should approve the Public Advocate's allocation proposal. The primary reason why PWD's allocation should be rejected is that TAP costs are not driven by the same factors that drive PWD's revenue requirements. As discussed at length above, PWD's revenue requirements are determined on the basis of projected revenues, relying upon 2016 usage data, and projected expenses, relying upon FY 2018's adjusted budget, with escalation factors. TAP costs are driven by entirely different factors, including the levels of enrollment, household income, TAP participant actual consumption, and TAP participant arrears forgiven. Because PWD's actual and more recent revenues from water and wastewater service for the prior fiscal year will be known at the time the TAP Rider is allocated, it is more suitable to use those known revenue amounts than to use the allocation of revenue requirements forecast in this proceeding.

13. The Department

C. Annual TAP Rider Reconciliation Process

5. The Advocate

The Board should require that PWD's annual TAP rider reconciliation process include participation by the Public Advocate, as well as the right to request more detailed review via complaint or other submission to the Board. PA St. 3, Sch. RDC-3 at 114. The TAP Rider framework, constituting the mechanism to recover TAP costs, is set for a decision by the Board within the 120 day period of this 2018 Rate Case. But the subsequent annual adjustment of the TAP Rider operates to increase or decrease rates and charges. In effect, if the Board approves the TAP Rider in this case, the annual reconciliation process will effectuate an adjustment to rates and charges that has been authorized (but not approved) by the Board's 2018 Rate Case final decision. The majority of the framework for this TAP Rider has been agreed to, for purposes of presenting the framework to the Board, but neither party can fully predict with precision how the TAP Rider will function in operation.

It is appropriate that the TAP Rider's performance be subject to ongoing review. The Public Advocate submits that it is essential that the small user customer base, which comprises the overwhelming majority of PWD customers, have a designated representative, with sufficient resources to represent their interests in ensuring the fair operation of the TAP Rider. In the event the TAP Rider is operating contrary to the Board's purposes, or in such a way as to substantially increase or alter rates and charges, the 2018 Rate Case decision should make available a means to reopen the review of the TAP Rider, by complaint or other mechanism.

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14. 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.¹³⁵ This collection factor is based on PWD-specific historical data of billings and receipts.¹³⁶ The collection data represents the effect of multiple factors including the nature of integrated services PWD provides (water, 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).¹³⁷ The "lost billings" from TAP customers will be billed to and recovered from Non-TAP customers for PWD to meet its revenue requirements.¹³⁸ 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.¹³⁹

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.¹⁴⁰ 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.¹⁴¹ 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.¹⁴² The record is also silent as to whether PECO or PGW use such low-income write-off data in

¹³⁵ PWD Statement 9A, Schedule BV-E5 (WP-1) at 2, 15, and PWD Rebuttal Schedule R5-1 at 3.

¹³⁶ PWD Statement 9A, Schedule BV-E5 (WP-1) at 2.

¹³⁷ PWD Rebuttal Statement 5 at 6.

¹³⁸ PWD Rebuttal Statement 5 at 6.

¹³⁹ 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.

¹⁴⁰ PA Statement 3 at 62, line 15.

¹⁴¹ PA Statement 3: at 62, lines 16 through 19.

¹⁴² 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.

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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.¹⁴³ 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.¹⁴⁴ 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.

15. 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.¹⁴⁵ The Advocate's position to the contrary is aspirational at this point in time,¹⁴⁶ 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.¹⁴⁷ 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 already used in the determination of the base rates, could risk a potential overstatement of the impact of arrearage forgiveness.¹⁴⁸

16. 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.¹⁴⁹ This approach is appropriate because the TAP revenue loss is essentially a "cost" or "revenue requirement" for the Non-TAP customers.¹⁵⁰ Consistent with the foregoing, it is only appropriate and reasonable to apportion the TAP costs between water

¹⁴³ Tr. 114(May 11, 2018).

¹⁴⁴ PWD Rebuttal Statement 5 at 7.

¹⁴⁵ PWD Rebuttal Statement 5 at 8.

¹⁴⁶ 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.

¹⁴⁷ See, Charter §§1-102(1), 4-100, 6-201, 4-400(b) and 8-410.

¹⁴⁸ 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.

¹⁴⁹ PWD Rebuttal Statement 5 at 9.

¹⁵⁰ PWD Rebuttal Statement 5 at 6.

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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.¹⁵¹ 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 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.¹⁵²

IX. IMPLEMENTATION OF TAP ARREAREAGE FORGIVENESS

PWD is legally required to make arrearage forgiveness available for TAP customers. Phila. Code 19-1605(3)(h.2). Both the Water and Revenue Commissioners made an explicit commitment to evaluate the issue of arrearage forgiveness *prior to this 2018 Rate Case*. See PA St. 3 at 36:21-37:2. But PWD has not proposed to satisfy its legal obligations to provide arrearage forgiveness to TAP customers, notwithstanding the clear programmatic and operational benefits to PWD of doing so.

As discussed in Section [XIV](#) below concerning the development of a TAP Rider, the Public Advocate has proposed rate-based recovery of TAP customers' arrearages to satisfy PWD's legal obligations and provide the program benefits that will contribute to the success of the TAP program. The Board, having the unambiguous authority to "fix and regulate" rates and charges, is authorized to direct the implementation of this aspect of PWD's TAP Rider. Indeed, doing so is no different from approving any adjustment to revenues or expenses under consideration in

¹⁵¹ PWD Statement 9B, Schedule BV-S1 at 4.

¹⁵² 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.

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this 2018 Rate Case. As set forth in the Public Advocate's Supplemental response to Transcript Request 2, Mr. Colton has estimated the cost-recovery of arrearage forgiveness for FY 2019, FY 2020 and FY 2021, indicating the revenues associated with this aspect of the TAP Rider.

Additionally, as Mr. Colton testifies, "the average pre-existing arrears brought into TAP (exceeding \$3,500) easily falls within" the range of indebtedness that is two or more years old. PA St. 3 at 64:6-7. Recognizing that both PWD and the Public Advocate assume that the collection factor for debts of that age is estimated at 1.56% during the rate period, the incremental and ongoing forgiveness of arrears will increase PWD's overall collection factor as a result of the elimination of those debts which, pursuant to the Philadelphia Code, TAP customers cannot be required to pay. These debts are included in the 98.44% (100% - 1.56%) of indebtedness that is more than two years old and which will not be repaid, but can be removed from the collection factor through implementation of arrearage forgiveness. Indeed, failing to eliminate those arrearages will continue as a drag on PWD's collection factor while arrearage forgiveness would positively affect the collection factor.

As currently in place, PWD provides only pretextual arrearage forgiveness. PWD regulations provide that accumulated penalty charges are forgiven after 24 months of TAP participation. Full forgiveness of principal is not available until after completing 15 years of TAP participation. As Mr. Colton testifies, poverty is not a permanent condition. PA St. 3 at 38:19-20. It is unreasonable to assume that low-income families will both remain low-income and maintain their living conditions for a full 15 years. This is particularly true when capital to assist in home repairs or financing is off limits due to the continued presence of water liens. 5/11 Tr. at 27:9-17; PA St. 3 at 39, n. 21. Indeed, low income households are disproportionately mobile, for a variety of reasons, including deteriorating housing. See, e.g., PA St. 3 at 39:7-9, n

21. The extent and amount of arrears among TAP customers are significant, and verify the substantial impediment they can present for low-income families (See PA St. 3, Sch. RDC-2):

- Between 95-98% of TAP enrollees had some arrears.
- More than half of TAP enrollees entered the program with \$1,000 or more in arrears.
- 35% of TAP enrollees had more than \$2,500 in arrears.
- 20% or more of TAP enrollees had more than \$5,000 in arrears.
- PWD already has more TAP customers with balances in excess of \$10,000 than PGW.

5/10 Tr. at 31:16-34:22.

Yet instead of fulfilling the promise that arrearage forgiveness be "made available," PWD has imposed preconditions on forgiveness that ensure that it will, in fact, never be available. PA St. 3 at 39:13-15.

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PWD asserts in rebuttal that arrearage forgiveness is not authorized by current policy. PWD St. 4R at 9:1-7. PWD submits merely a willingness to explore the issue at some time in the future. PWD St. 5R at 8:20-9:3. But PWD policy cannot override, or excuse noncompliance with, the legal obligation to provide non-pretextual arrearage forgiveness. For purposes of this Brief, however, the issue presented to the Board pertains to the approval of a rate rider mechanism to recover the cost of arrearage forgiveness, and to obtain the system benefits associated with doing so. The Board need not reach the issue of how, in so doing, its determination would ultimately be enforced. Indeed, PWD's witness recognizes that, to the extent a customer is not being billed at Board approved rates, that matter may be subject to enforcement via a separate appeal process. 5/11 Tr. at 19:11-18. The Public Advocate agrees that enforcement of the Board's rate determination may be sought in another available forum.

Notwithstanding this recognition, the Public Advocate submits that PWD's noncompliance with a rate determination may be raised by the parties and considered by the Board in reviewing future rate proposals.

In order to satisfy its obligation to make earned forgiveness of arrears available to TAP customers, Mr. Colton contends that full forgiveness should be earned over a two-year period. PA St. 3 at 36:10-13; 40:1-3. This period is within a low income customer's planning horizon, and enables them to see arrearages being forgiven, understand the meaningful relationship between payment and forgiveness, and incentivize regular payment. Operationally, removing bad debt associated with TAP customers' arrears, which TAP customers cannot be required to pay, improves PWD's financial performance, turning arrearage forgiveness into a "rate" that permits PWD to recognize cash payments instead of uncollectible debt. PA St. 3 at 40, n 23.

Mr. Colton recognizes that TAP customers, even when provided affordable bills, will suffer hardships that make it impossible to always pay in full. In order to achieve the goal of continued and consistent TAP payments, credits toward forgiveness should be granted when payments are made, rather than at the end of a period of 24-months of payments. PA St. 3 at 41:18-42:3. Furthermore, TAP participation cannot be discontinued due to nonpayment. PWD Reg. §206.4(a); 206.6. The Philadelphia Code expressly provides that TAP customers must be permitted to cure missed TAP payments, to serve the policy and programmatic goal of promoting access to and payment of affordable water bills. See, e.g., Phila Code. §19-1605(3)(f). The same rationale must be applied to arrearage, crediting TAP customers with arrearage to earn forgiveness for each payment, including catch-up or cure payments, in order to effectuate program purposes. PA St. 3 at 42:1-3.

X. UNFAIR AND DECEPTIVE SHUT OFF NOTICE PRACTICES

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PWD has filed a Motion in Limine seeking to limit consideration of the Public Advocate's criticism regarding PWD shut off notice practices. Hearing Officer Brockway ordered that this Motion be addressed in parties' briefs. As discussed above, PWD's Motion in Limine should be denied on the basis that granting the motion would unfairly prevent PWD's evidence to be subject to rebuttal. PWD introduced testimony intending to demonstrate the reasonableness of its collection practices, and the Public Advocate's testimony is responsive thereto, addressing specifically PWD's unfair and deceptive shut off notice practices. Based on the following considerations (as well as the discussion above), the Board should deny the Motion in Limine and enter an order in this 2018 Rate Case: (1) finding that that PWD's shut off notice practices require reform, and (2) denying PWD's request to increase its miscellaneous charge for restoration of service after termination for non-payment. This specific rate request is supported by the Public Advocate's findings of PWD's unfair practices.

6. Recommendation

The Board should seek the opinion of the Law Department. The Public Advocate does not make a strong connection here between the shut-off policy and the TAP or other rate.

XI. MISCELLANEOUS CHARGES

PWD has proposed to increase numerous miscellaneous charges over the period FY 2019 - FY 2021. Among these, PWD proposes to increase the restoration charge for customers who are discontinued for nonpayment from \$60, the current charge, to \$85 in FY 2019. PWD Ex. 3B, §6.4. PWD then proposes to increase this restoration charge from \$85 in FY 2019 to \$105 in FY 2020. PWD Ex. 3D, §6.4. This \$105 restoration charge would be maintained in FY 2021 under PWD's proposal. PWD Ex. 3F, §6.4. Thus, PWD proposes a 75% increase in the charge associated with restoring service after non-payment shut off.

Mr. Colton demonstrates that PWD's warnings that shut offs will occur, and that actions must be taken to avoid shut off, are simply "wolf-like"⁵⁸ threats in the majority of instances.

PWD fails to disconnect service in 70% to more than 90% of the instances in which it issues a shut off notice. PWD cannot provide any data to show that the customers receiving these notices, and who are not shut off, make payments due to the threat of the shut off notice. PWD fails to demonstrate that these practices are effective for collecting on delinquent accounts. PA St. 3 at 106:6-107:11. Mr. Colton recommends⁵⁹ that PWD make the following specific changes to its notice practices:

- PWD's notices should not state that customers must make payments immediately.

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- PWD should cease threatening that shut off will occur by a specified date unless PWD has actually determined that absent payment by the customer shut off will occur.

In rebuttal testimony, PWD directly responds to Mr. Colton, asserting that its notices are not unfair or deceptive, but rather that Mr. Colton simply doesn't understand PWD's shut off

58 See PA St. 3 at 103, n. 50. See generally, Aesop's Fables, "The Boy Who Cried 'Wolf'" (Viking Press, 1987).

59 It should be noted that Mr. Colton's recommendation is, in part, made in PWD's best interests: to avoid further potential regulatory compliance issues resulting from PWD collection threats which are not intended to be acted upon. PA St. 3 at 104:12-13.

procedures. PWD St. 4R at 13-14. However, PWD confirms the precise factual basis on which Mr. Colton's criticism is based, explaining:

The pool of available shut off work orders received from WRB each day outnumber the amount of work orders PWD can complete in any given day. Each PWD Field Service Representative ("FSR") is assigned 30 shut off work orders to begin each day. The first shut off work order chosen is the shut off work order with the highest delinquent balance. The system then chooses the remaining 29 work orders by contiguity to the first work order. It is done this way to minimize the travel time between shut off work orders and to increase efficiency. PWD makes every attempt to restore the service to a property that was shut off the same day if a restore work order is created before 6:00 PM. If a restore work order is created after 6:00 PM it is scheduled for the first work order the following day. As restore work orders are received each day, it reduces the number of shut offs the FSR can complete. The performance standard for each FSR is 30 completed jobs each day. The 30 completed jobs are a combination of shut offs and restores. As the restore work orders increase each day the number of completed shut offs decrease.

PWD St 4R at 14:9-23.

Rather than rebutting Mr. Colton's position, PWD's statement acknowledges that, by design, PWD issues significantly more shut off notices than it is capable of acting upon – verifying that PWD's notice practices are indeed "wolf-like," threatening an event which even in the face of continued customer non-payments has a slim likelihood of occurring.

The fact is that, as a consequence of PWD practices, customers are receiving shut off notices that are not meaningfully timed to provide a meaningful warning of

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shut off. Customers may receive multiple shut off notices, none of which PWD has any intention of acting upon, and not have service terminated for many, many months, purely because they are not located in sufficient proximity to the highest delinquent balance which is chosen for shut off on a particular day. Again, PWD introduced testimony that specifically described its collection practices, with the purpose, ostensibly, of demonstrating to the Board that it provides reasonable service to customers in the process of seeking to collect unpaid bills. PWD opened the door to examination of this issue, and filed rebuttal testimony responsive to the Public Advocate's findings.

Mr. Colton correctly determined that PWD's shut off notice practices require substantial improvement in order to accomplish their intended purposes – informing customers of the actions they need to take upon receipt of the notice to avoid termination of service. Accordingly, the Public Advocate submits that the Board's 2018 Rate Case determination should specifically find that PWD's shut off notice practices have been shown to be unfair, deceptive and, most importantly, unreasonable.⁶⁰ PWD must curb its practice of delivering wolf-like shut off notices and focus its shut off efforts on those customers who it will actually shut off unless payment is received or other necessary actions are taken to avoid shut off. PWD can resubmit its request to increase the restoration charge in a future rate proceeding, based on the cost of service recalculated as of such time, and after presumably addressing those deficiencies with its practices that the Board finds require remediation.

As a result of PWD's deficient practices, the Public Advocate recommends that PWD's proposed increase in fees to restore service after non-payment shut-off be denied. PWD itself agreed that it lacked sufficient information to explain how its current \$60 restoration fee was calculated: "Based upon discussions with PWD staff the charges were based on a review of estimated costs associated with each service at the time of implementation; however, a complete record of all calculations used in developing the current fees is not available." PA-ADV-47(c).

Notwithstanding that PWD could not determine how its existing fee was calculated, PWD acknowledged that its proposed fee increase would not have a material impact on PWD finances. Indeed, "the Water Department believes that impacts from proposed miscellaneous fee updates will be minimal." PA-ADV-47(d). The Public Advocate submits that PWD's request to increase these charges should be rejected.

7. Recommendation

The Public Advocate's proposal to reject the increases for these items should be accepted. The Department has failed to support the need for the increases.

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60 Although, as discussed above, in making a determination about PWD practices, the Board need not also be able to independently enforce those determinations. In this instance, however, the Board's determination is specifically tied to a rate recommendation, which provides PWD the financial incentive to improve and directly aligns with the Board's authority to assess PWD's practices for purposes of future rate relief.

XII. ALLOCATION OF COS AND RATE DESIGN

A. COSS ADJUSTMENTS

PWD uses the base-extra capacity method to allocate costs to the various customer types. The total revenue requirements to be derived from charges for water and wastewater service constitute the total cost of service. In order to develop specific rates these costs are allocable to the various customer types according to respective service requirements. PWD Brief at PAGE, citing PWD Statement 9A at 52.

For the water utility, allocations of these requirements to customer types 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. *Id.*, citing PWD Statement 9A at 52. The analyst considers the following factors in estimating service requirements for wastewater service to each customer type: the annual volume and peak rates of sanitary wastewater, infiltration, and stormwater flows; wastewater strengths; the number and sizes of customers served; and proprietary interest in system investment. *Id.* at PAGE, citing PWD Statement 9A at 52-53.

The analyst then distributes the functionalized cost component to customer types. Customers are assigned to specific categories based on the similarity of their characteristics. The analyst determines units of service for each customer type for each of the functional cost component categories. PWD Brief at PAGE. For each customer type, the analyst then apportions the unit costs based the class units of service. This provides a means of proportionate distribution to the customer types of the costs previously allocated to functional cost components. *Id.*, citing PWD Statement 9A at 69.

The analyst then uses analysis of the resulting costs of service to each customer type as the basis for design of the proposed rate schedules. In this case, the Department designed rate schedules for water and wastewater service to retail customers that consist of a service charge and volume charges applicable to billable usage for each such utility. PWD Brief at PAGE.

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PWD states that it has assigned costs to four functional cost centers, consistent with the procedures described in the M1 manual as shown on Tables W-8 through W-10 of PWD's CCOS study:

- Raw Water Supply and Pumping
- Purification and Treatment
- Transmission and Distribution
- Administrative and General

PWD Brief at PAGE.

The Department then allocated the costs assigned to these functional cost centers to the following cost categories:

- Base capacity;
- Maximum day extra capacity;
- Maximum hour extra capacity;
- Customer; and
- Direct fire protection.

Id.

For the water Cost of Service Study, Black & Veatch used the Base/Extra-Capacity cost allocation method outlined in AWWA's Rate Manual. PWD Brief at PAGE. 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.

The Department directly assigned customer costs, such as meters and services, and direct fire protection costs, such as hydrants, to their respective cost category. The Department allocated remaining costs to the base, maximum day, and maximum hour cost categories based on the degree to which they are associated with meeting those service requirements. PWD Brief at PAGE.

Under the base extra-capacity method, maximum day and maximum hour extra-capacity costs are allocated to customer class based on the excess of each class' non-coincident maximum day and maximum hour demands over average day and average hour demands, respectively:

- Costs that meet base (average day) service requirements are allocated 100 percent to base category.
- Costs that meet maximum day service requirements are allocated between the base and the maximum day cost categories.
- Costs that meet maximum hour service requirements are allocated to the base, maximum day, and maximum hour cost categories.

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PWD Brief at PAGE

The Department used the methodology outlined in AWWA's Rate Manual to determine the appropriate extra-capacity system factors for cost allocation. CITE. Following this methodology, the analyst apportions costs based on the highest ratios of maximum day to average day demand and maximum hour to average day demand. CITE.

There is no dispute between the parties that the appropriate maximum hour ratio to use in PWD's CCOS study is 1.90.

The Department uses receipts as the basis for calculating revenues, and hence usage. CITE Thus, to approximate the anticipated usage, the Department uses "collection factors" and a "lag factor" to project anticipated revenues for the purpose of designing rates. The collection factors adjust for the fact 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 to recognize the anticipated receipts of the prorated revenue increases projected for the test years, reflecting the implementation of the proposed rates and normally expected historical payment patterns. PWD Brief at PAGE, citing PWD Statement 9A at 22, 121.

The Department includes the specific rates by which eligible senior citizens, charities, schools and the Philadelphia Housing Authority receive services at a discounted rate. PWD Brief at PAGE, citing Philadelphia Code §19-1902, Philadelphia Code §§13-101(4)(e) and (f).

The Department is also requesting approval in this rate case for its Tiered Assistance Program (TAP) Rate Rider methodology and the FY 2019 TAP Surcharge, specifically designed to recover TAP loss. PWD Brief at PAGE.

B. PUBLIC ADVOCATE

According to the Public Advocate, PWD's application of the base-extra-capacity method in the water COSS is flawed. The Advocate's witness, Jerome D. Mierzwa, reviewed the PWD CCOS study and determined that PWD has designed water rates which "significantly exceed the cost of providing service to the Residential customer class," PA Brief at 92. Mr. Mierzwa further determined that even the existing rates of the Residential customer class are "more than sufficient to recover the indicated cost of service." *Id.*, citing PLUG Hearing Exhibit 2, "Errata Sheet to Direct Testimony of Jerome D. Mierzwa (Table)."

The System-Wide Extra-Capacity Factors Reflected in PWD's Class Cost of Service Study Should Be Adjusted to Reflect More Recent Experience. The Advocate recommends that the Board approve use of a maximum day ratio of 1.30 in PWD's CCOS study. The PA states that this ratio is consistent with the M1, which requires the use of "the highest ratio of system

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maximum-day (‘MD’) demand to system average-day (‘AD’) demand over a representative number of recent years.” M1 (7th Ed.) at 373 (emphasis supplied). PWD’s CCOS study uses a maximum day to average day ratio of 1.40, reflecting the highest maximum day ratio experienced since FY 2012. PA Brief PAGE, citing PLUG St. 1R at 3:9-11. Mr. Mierzwa recommended the use of a maximum day ratio of 1.30, which reflects the highest maximum day to average day ratio experienced during the last 5 years. PA Brief at PAGE. The 1.30 maximum day ratio is consistent with PWD’s actual maximum day experience for FY 2013, FY 2014, and FY 2017. PW Brief at PAGE, citing PA-II-8; PWD St. 3R at 13:21-24.

Testifying on behalf of the Philadelphia Large Users Group (“PLUG”), Mr. Baudino recommends that 1.40 is the appropriate maximum day ratio to use in PWD’s CCOS study because it reflects the highest ratio experienced during the 2012-2016 study period examined by Black & Veatch to determine the maximum day ratio. CITE The Public Advocate agrees with PLUG that it is reasonable to use the most recent 5-year period to determine an appropriate maximum day factor, but continues to support the use of the 1.30 ratio recommended by Mr. Mierzwa on the basis that such recommendation gives due weight to the most recent information. CITE Regardless of whether the Board determines that the appropriate maximum day ratio to use in PWD’s CCOS study is 1.30 or 1.40, the Public Advocate notes that the allocated cost of serving each class is not materially affected by whether the 1.30 or 1.40 maximum demand ratio is used. CITE

Customer Class Specific Extra-Capacity Factors Included in PWD’s CCOS Study Should Be Revised

When asked by the Public Advocate to explain in detail how it determined the maximum day and maximum hour extra-capacity factors for each customer class, PWD responded:

The customer type extra-capacity factors were determined based on previous cost of service studies and rate proceedings. To review and verify the reasonableness of the capacity factors, Black & Veatch performed a capacity factor analysis according to the methodology outlined in Appendix A of AWWA Manual M-1: Principles of Water Rates, Fees, and Charges. Accordingly, Black & Veatch used the FY 2016 monthly customer billing data, and system historical peak demands, and weekly and hourly usage adjustments to derive an estimate of capacity factors for each customer class.

PA Brief at PAGE, citing Public Advocate Data Request PA-ADV-42.

The Public Advocate argues that ideally, the most reliable approach to determining customer class extra-capacity factors would be to conduct a formal study that samples the actual daily and hourly demands of the various customer classes. However, Mr. Mierzwa noted that such studies are “generally expensive and time consuming.” PA Brief at PAGE. He observed that the PWD has not conducted a formal study of actual customer class demands. According to Mr. Mierzwa,

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in lieu of such a study, Appendix A of the M1 (“AWWA Method”) presents an alternative approach to developing extra-capacity factors. PA Brief at PAGE, citing Public Advocate Data Request PA-ADV-42. The PA asserts that the extra-capacity factors reflected in PWD’s CCOS study are inconsistent with those resulting from application of the AWWA Method. PA Brief at PAGE, citing PA St. 2 at 14:20- 15:4.

To correct for this problem, Mr. Mierzwa independently developed customer class extra-capacity factors based on the procedures described under the AWWA Method. PA Brief at PAGE. Mr. Mierzwa used the system-wide maximum day and maximum hour demands previously identified, and customer billing records from FY 2014-FY 2016 (July 2013 – June 2016). *Id.* He noted that the resulting customer extra-capacity factors would not vary significantly if data solely from FY 2016 had been used (which was the approach PWD claimed to use in PA-ADV-42.) PA Brief at PAGE, citing PA St. 2 at 15:8-14.

According to the Advocate, Mr. Mierzwa found varying degrees of difference between both the customer class specific maximum day and maximum hour extra-capacity factors reflected in PWD’s CCOS study and those indicated by his analysis. PA Brief at PAGE. Mr. Mierzwa stated that among the most significant of these differences affecting the CCOS study results, the maximum hour and extra-capacity factors used by PWD for the Residential and Senior Citizen classes are too high, while the factors for the Commercial class are too low. PA Brief at PAGE.

The PA notes that PWD presented its analysis of customer class extra-capacity factors using the AWWA Method in PA-VII-7. PA Brief at PAGE. The Advocate presented a comparison of the class extra-capacity factors used by PWD in the CCOS study submitted as part of PWD’s Formal Notice (PWD Ex. 6 at 723 (Table W-11: Estimated Units of Service for Retail Water Customers Test Year 2019), and those developed by Mr. Mierzwa (PA St. 2, Sch. JDM-1) and PWD (PA-VII-7) using the AWWA Method:

AWWA Method

Factors	PWD CCOS Study Factors		PWD Factors		Public Advocate	
	Maximum	Maximum	Maximum	Maximum	Maximum	Maximum
	<u>Day</u>	<u>Hour</u>	<u>Day</u>	<u>Hour</u>	<u>Day</u>	<u>Hour</u>
General Service-Residential	2.00	3.60	1.95	3.24	1.90	3.15
General Service-Commercial	1.80	2.65	2.02	3.35	1.85	3.05
General Service-Industrial	1.60	2.00	2.13	2.83	1.85	2.45
General Service-Public Utilities	1.60	2.00	1.66	2.21	3.15	5.25
P.H.A.	1.90	3.13	2.07	3.44	1.85	3.05

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Charity/Schools	1.80	2.70	1.84	3.06	1.90	3.15
Senior Citizens Discount	2.00	3.60	1.91	3.17	1.90	3.15
Hand Bill	1.80	2.70	1.81	3.01	1.70	2.80
Hospital/University	1.80	2.33	2.07	3.44	2.00	3.30
Scheduled	2.00	3.60	2.26	3.75	2.40	4.00

PA Brief at PAGE, CITING.

The PA observes that the class extra-capacity facto developed by Mr. Mierzwa and PWD using the AWWA Method are similar, in particular for the Residential and Senior Citizens customer classes. PA Brief at PAGE. The PA urges that the Board approve the use of the class extra-capacity factors developed by the Public Advocate to revise PWD's CCOS study and use the results of the revised CCOS study to establish rates in this proceeding. *Id.* The PA provided the following comparison of the results of PWD's CCOS study and the CCOS study sponsored by the Public Advocate:

Comparison of Class Cost of Service Study Results and Revenues under Existing Rates

	PWD Filed	Revised	Existing Rates	Difference
General Service	(1)	(2)	(3)	(4) = (2)-(3)
Residential	\$159,910,000	\$153,349,000	\$161,416,441	(\$8,067,441)
Senior Citizens	4,712,000	4,535,000	4,808,089	(273,089)
Commercial	59,115,000	63,126,000	59,524,948	3,601,052
Industrial	3,186,000	3,498,000	3,306,084	191,916
Public Utilities	388,000	604,000	431,736	172,264
Subtotal:	\$227,311,000	\$225,112,000	\$229,487,298	(\$4,375,298)
Other Retail Service				
Housing Authority	\$6,553,000	\$6,540,000	\$6,156,440	\$383,560
Charities & Schools	5,603,000	6,029,000	5,727,773	301,227
Hospitals & University	7,665,000	8,947,000	7,343,824	1,603,176
Hand Billed	20,059,000	20,536,000	16,985,587	3,550,413

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Scheduled (Flat Rate)	0	0	1,227	(1,227)
Private Fire Protection	2,318,000	2,316,000	3,271,631	(955,631)
Public Fire Protection	0	0	0	0
Wholesale	3,759,000	3,788,000	3,246,853	541,147
Total:	\$273,268,000	\$273,268,000	\$272,220,633	\$1,047,367

Note: Cost of service study includes allocated discounts.

PA Brief at PAGE, citing PLUG Hearing Exhibit 2.

The Public Advocate asserts that its CCOS and PWD's CCOS both support maintaining the current rates for the 0 to 2 Mcf block of usage. PA Brief at PAGE. According to the PA, most Residential and Senior Citizens class consumption currently falls within the 0 to 2 Mcf usage block. CITE The Residential and Senior Citizens customer class rates and revenues are well in excess of the rates necessary to recover the indicated cost of service for those classes under the Public Advocate's CCOS study, and are even sufficient to recover the indicated cost of service under PWD's CCOS study.

The Advocate argues that the Board should maintain and not increase the current 0 to 2 Mcf usage block for water service during the rate period. PA Brief at 92. The Public Advocate reasons that, since the existing rates of the Residential and Senior Citizen's customer class suffice to recover the indicated cost of service, the Board should maintain the existing 0 to 2 Mcf usage block rates, and any increase authorized by the Board in this proceeding should be recovered through a proportional increase to PWD's remaining usage block rates which are currently less than the 0 to 2 Mcf block rates. PA Brief at PAGE, citing PA St. 2 at 18:4-9.

The Public Advocate challenges PLUG's claim that maintaining the current 0 to 2 Mcf usage block rates could result in rate shock to other customers. PA Brief at PAGE, citing PLUG Brief at PAGE. The Advocate notes that this would be equal to an increase in retail water service rates of \$26.9 million. The Advocate observes that PWD is only requesting an increase in retail water service rates of \$0.7 million for FY 2019, \$6.6 million for FY 2020, and \$13.7 million for FY 2021, and the associated rate increases allocable to water service would be systemwide increases of 0.30% in FY 2019, and 2.60% increases in FY 2020 and 2021. PA Brief, citing PWD Statement 9A, Sch. BV-E1, Table W-6.. The Advocate asserts that these increases, allocated to the higher usage block rates, while maintaining the existing 0 to 2 Mcf usage block rates, will not approximate the hypothetical rate of increase submitted by PLUG, and will not result in rate shock. PA Brief at PAGE.

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The Public Advocate did not propose changes to PWD's wastewater or stormwater class cost of service studies. If the Board approves any increase in rates, the Public Advocate urges that PWD's original increase be proportionately scaled back to achieve the revenue increase approved by the Board. PA Brief at PAGE, citing PA St. 2 at 20:23- 21:3. Sanitary sewer rate design consists of flat monthly charges (based on meter size) and uniform, non-varying quantity charges. *Id.*, citing PA St. 2 at 19:15-18. PWD proposed to maintain its parcel-based stormwater cost allocation methodology, allocating 80% of related costs based on impervious area and 20% based on gross property area. Residential customers pay uniform monthly stormwater charges. *Id.*, citing PA St. 2 at 20:3-12.

The Advocate argues that the Board's Order should include a determination that PWD should develop and propose customer-class-specific water usage rates. The water usage charges currently assessed by PWD and those proposed by PWD in this proceeding vary based on monthly consumption. These rates are applicable for all metered water usage for all customer classes. PA Brief at PAGE. For this reason, a change in one usage block rate will generally affect the revenues recovered from all customer classes. Because of this, it is nearly impossible to set rates to recover the indicated cost of service for each customer class. *Id.* Therefore, according to the PA, the Board should require PWD to adopt separate volumetric usage rates for each customer class in its next proceeding.

PWD's witness testified that the costs associated with a study to determine individual rates for each customer class were discussed in the 2016 proceeding. PA Brief at PAGE, citing 5/14 Tr. 59:14-60:65; see also 5/14 Tr. at 226:20-227:4. In that 2016 proceeding, PWD indicated that the cost of such an effort would range from \$180,000 to \$250,000. *Id.*, citing 4/11/2016 Tr. at 33:8-34:11. Given this range of costs, the Public Advocate questions PWD's claim, raised in rebuttal testimony, that conducting a study to determine potential individual volumetric rates would not be feasible with a two-year rate period. PA Brief at PAGE, citing PWD St. 1R at 5:15-24.

The Advocate argues that, even if such study cannot be completed prior to PWD's submission of another request for increased rates and charges, the timing of a rate study does should not be used as a reason to project revenue requirement assumptions for FY 2021 three years in advance. Accordingly, the Public Advocate submits that the Board should not rely upon PWD's assertions regarding a future rate design study as support for a three-year rate period. PA Brief at PAGE.

C. PWD

The Department argues that its proposed cost allocation and rate design are consistent with industry best practices and are premised upon cost causation. PWD Brief at PAGE, citing PWD Statement 9A at 10. The Department states recent historical experience supports the System-Wide Capacity Factors Used in its CCOS. PWD Brief at PAGE. The Department states that the highest recent ratio of maximum day to average day demand is 1.41, based on the FY 2012 system raw water pumping data, and that accordingly the proposed system-wide maximum day

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capacity factor of 1.40 is consistent and supported by recent data. PWD Brief at PAGE, citing PWD Rebuttal Statement 3 at 3.

The Department argues that the use of system raw water pumping data as the basis for the maximum day capacity factor reflects PWD's system characteristics, is consistent with the methodology used in prior rate proceedings and aligns with the AWWA Rate Manual guidelines. PWD Brief at PAGE.

PWD notes that PLUG supports the Department's methodology and capacity factors. Testifying on behalf of PLUG, Richard A. Baudino stated 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." PWD Brief at PAGE, citing PLUG Rebuttal Statement 1 at 2, lines 18 to 21.

The Department argues that there are differences between the customer class extra-capacity factors in the Department's COSS and those calculated by PA witness Mierzwa based on the methodology outlined in Appendix A of the AWWA Rate Manual. PWD Brief at PAGE. In the case of the PWD study, extra capacity factors are specific to the utility and so reflect demands associated with PWD customers. More generic data (as provided in the Appendix) is proffered there for illustrative purposes and has no empirical relationship with PWD. *Id.* The Department observes that generic data such as that used in the AWWA manual's example will vary from utility-specific data. PWD Brief at PAGE. The factors Black & Veatch has used in the COS study reflect PWD-specific considerations, which include the following:

- 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.

PWD Brief at PAGE, citing PWD Rebuttal Statement 3 at 7.

The PWD also argues that its COS study relies upon recent data and follows the industry-accepted methodology for determining system-wide and customer-specific extra-capacity factors. PWD Brief at PAGE. By contrast, according to the PWD the Public Advocate has proposed customer-class specific extra-capacity factors that do not follow accepted industry practices nor account for PWD's specific characteristics.

Comparison of Advocate Cost Allocation Recommendations and AWWA Guidelines

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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.

The Department concludes that its rate structure is reasonable and should be approved. PWD Brief at PAGE. Under this structure, the same usage (MCF) rates are applicable for all metered usage for all customer types, PWD Statement 8 at 8, vary based on monthly consumption, and decline with increasing consumption. *Id.* According to the Department, the design of the declining tier blocks reasonably captures the inherent diversity of water usage, among PWD's customer types. In addition, PWD argues that its 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. PWD Brief at PAGE, citing PWD Statement 8 at 8.

The Department recognizes, however, 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. *Id.* 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. The Department envisions the following activities as part of the rate structure evaluation:

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

PWD Brief at PAGE.

The Department states that such a holistic rate structure review study would require substantial time and effort (between 24 to 36 months). The Department reasons that 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. PWD Brief at PAGE. The Department points out that the Advocate recommends that the Department adopt separate volumetric usage rates for each customer class in this proceeding. As a matter of best practice to facilitate customer acceptance, according to the Department, the changes recommended by the Advocate should not be decided in this proceeding, but should only be decided after completing the necessary analysis. PWD Brief at PAGE.

D. PLUG ON COSS

Public Advocate witness Jerome D. Mierzwa recommends that the extra-capacity factors used in the Black & Veatch CCOSS be exchanged for "recent actual experience." ⁶ In effect, Mr. Mierzwa is requesting that the Board rely on incorrect data.

As explained in PLUG witness Richard Baudino's Rebuttal Testimony, Black & Veatch's CCOSS used reasonable extra-capacity factors based on PWD's actual historical experience. ⁷ PWD's CCOSS utilized 1.40 as the system-wide maximum day extra-capacity factor and 1.90 as the system-wide maximum hour extra-capacity factor. These factors are aligned closely with the peak historical data using a reasonable five-year analysis period. ⁸ In contrast, as observed by PLUG witness Richard Baudino, "Mr. Mierzwa's recommended 1.30 maximum day factor does not represent the maximum day ratio that occurred during the five-year study period used by Black and Veatch." ⁹

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Indeed, it appears that Mr. Mierzwa derives his recommended 1.30 system-wide maximum day extra-capacity factor from an error in the Black & Veatch Direct Testimony.¹⁰ As explained in the Rebuttal Testimony from Black & Veatch, PWD's CCOSS reflects the system-wide maximum day extra-capacity factor of 1.40, but page 59 of PWD Statement No. 9A.

⁶Public Advocate Statement No. 2, at 3., ⁷PLUG Statement No. 1, at 2., ⁸*Id.* at 3., ¹⁰*Id.* at 4.

PWD's CCOSS as originally corrected by the Department's Errata, properly reflects a system-wide maximum day extra-capacity factor consistent with recent experience. PLUG Brief at PAGE, citing PWD Rebuttal Statement No. 3, at 4.

Additionally, PLUG states that Mr. Mierzwa's criticisms of PWD-developed extra-capacity factors should be rejected. PLUG argues that Mr. Mierzwa relies on a false premise that PWD's extra-capacity factors conflict with the AWWA M-1 Manual. PLUG Brief at PAGE. Contrary to Mr. Mierzwa's view, the AWWA M-1 Manual explicitly cautions against overbroad application of the examples in the Appendix. As explained by Mr. Baudino, the AWWA M-1 Manual provides that "[s]election of the appropriate methodology for determining customer class peaking factors should be considered on an individual utility basis." PLUG Brief at PAGE, citing PLUG Statement No. 1, at 4-5. Accordingly, the Board should defer to PWD's selected methodology which accounts for system-specific characteristics. PLUG Brief at PAGE, citing PWD Statement No. 3, at 7. PLUG also argues that the selection of extra-capacity factors in the PWD CCOSS is generally consistent with prior studies conducted by Black & Veatch and adopted by the Board. *Id.* For these reasons, PLUG urges that, the Black & Veatch CCOSS should be approved without modification.

PLUG also challenges Public Advocate witness Mierzwa's proposal that the Board require PWD to hold the costs of the 0-2 Mcf consumption block constant, shifting all volumetric cost increases to users of more than 2 Mcf. The Board should reject this proposal as (1) inequitable, (2) a recipe for rate shock, and (3) not supported by substantial evidence. PLUG Brief at PAGE. PLUG submits that the burden of PWD's proposed rate increase would fall disproportionately on non-Residential customers. *Id.* According to Mr. Baudino, this burden would be substantial. As a hypothetical example, if the Board increases total rates by 10%, the actual increase to non-Residential customers would more than double to 22.8% under the Public Advocate's rate design proposal. PLUG Brief at PAGE, citing PLUG Statement 1 at 6.

PLUG also opposes Mr. Mierzwa's proposal that the Board compel PWD to change its rate design by adopting separate volumetric usage rates for each customer class. PLUG points out that Mr. Mierzwa provides no specific rates for affected stakeholders to review, and that accordingly the proposal should be dismissed as unsupported. PLUG Brief at PAGE, citing Public Advocate Statement 2 at 17-18.

E. RECOMMENDATION ON ALLOCATION

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I recommend that the Board order the Department not to change the usage rate for customers using 0-2 mcf of water. The Advocate is persuasive that the present rate is satisfactory under all identified assumptions. I recommend that the Department's extra-capacity factors be approved, as the Department has shown it has used data specific to PWD, rather than the generic data used by Mr. Mierzwa

XIII. FIRE SERVICE COSTS

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A. PWD

PWD has proposed to change how it recovers the costs of public fire protection. Currently, costs for public fire protection are allocated and billed to the city Fire Department, which pays the PWD from its General Fund allocation. See, PA Statement 3, Letter to PWD Regarding Fire Protection Costs (Appendix D). The Department proposes that going forward, costs for public fire protection (beginning in FY 2019) be allocated within the cost of service analysis to all water customers, through fixed, meter-based service charges. The proposal would shift approximately \$8 million in costs annually from taxpayers to PWD customers. PWD St. 9A, Sch. BV-E5:WP-1 at 1. Monthly fixed charges would increase. According to the Department, it would receive the same amount of revenue for the provision of these services, but the revenue would be coming from customers instead of the General Fund.

The Department argues that this change in policy was the subject of decision by the City Administration. See, response to PA-V-6, Attachment. To meet other constraints, PWD avers, it is no longer reasonable for the General Fund to have to pay for fire services. According to the Department, the Fire Department payment for fire services constitutes an artificial subsidy to PWD. PA-V-6, Attachment; PA Statement 3, Letter to PWD regarding fire protection costs (Appendix D).

In support of its proposal, PWD offered to introduce in the technical hearings the rebuttal testimony of Philadelphia Fire Department Commissioner Adam Thiel in support of the cost shift. Pursuant to discussions between PWD and, the Public Advocate, the Hearing Officer approved their agreement that Commissioner Thiel would provide a public input statement, rather than technical ratemaking testimony. Mr. Thiel submitted his written statement, highlighting the importance of fire protection and supporting the proposed shift in cost responsibility, at a special public input session held on May 11, 2018.

PWD argues that consumer payment for city fire protection costs is consistent with industry accepted practice. PWD St. 9A at 27:1-3. The Department states that in many places, including in Pennsylvania, water customers pay for all or part of the cost of public fire protection services.¹⁵³

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PWD Statement 9A, White Paper on Recovery of Public Fire Protection Costs (Schedule BV-E5: WP-2). In Pennsylvania, water utilities regulated by the PUC (almost all privately owned) 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.* The Department notes that the Board is **required to take** into account industry practice, and that the M-1 rate manual of the American Water Works Association in particular points to customer payment for fire **systems as a common practice**.

The Department challenges the Public Advocate's invocation of the "public goods" standard. INEQUITY As to adverse impacts on low-income customers, the Department points to the TAP, which is a burden-based rate that will not increase if the consumers pick up the fire protection costs. PWD also argues that the PA has misread the Ordinance provisions regarding determination of rates and charges, and that these do not prevent the Board from approving the shift from the Fire Department to all water ratepayers.

B. THE ADVOCATE

The PA states that the shift of cost responsibility for fire protection from the Fire Department to all PWD customers is illegal and fundamentally unfair. **CITE**. The Public Advocate argues that fire protection is a public good that should be paid by the taxpayers collectively for the public benefit. PA St. 3 at 93. The PA further states that the shift violates principles of cost causation, creates inequities among customers, and unfairly shifts fire cost burdens to lower-use and lower-income households.

The Public Advocate argues that City Manager's correspondence cited by the Department is merely a recommendation, and that there has been no directive to shift such costs that PWD or the Board must follow. The Public Advocate argues that the shift of fire services costs to customers generally is prohibited by the language of the Ordinance governing PWD rates.

The PA argues that industry practice as summarized in M-1, the rate manual of the American Water Works Association, does not in fact support the cost shift proposed by the Department:

The M1 is ... clear in stating that charging water customers for public fire protection is an "alternative and contemporary" approach, which, as PWD witnesses verified, only recently (around the beginning of this century) became acceptable as an approach to utility ratemaking. 5/14 Tr. at 25:13-26:8. Indeed, the M1 confirms that the traditional means of recovery of these costs, which is still the "conventional" or "ordinary" (as opposed to alternative) way to do so, is through ad valorem or other taxes. 5/14 Tr. at 23:2-19. Accordingly, the M1 does not sanction a change, but simply recognizes that in some places, utilities are seeking to recover these costs from ratepayers.

PA Main Brief at **PAGE**

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C. RECOMMENDATION

The Philadelphia Code has long required that rates and charges be determined after excluding the cost of serving City facilities and fire systems. PA Hearing Ex. 6 (1957 Water Rate Ordinance). That language remains in the Philadelphia Code today:

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...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....

Phila. Code §13-101(4)(b) (emphasis added). See also PA Hearing Ex. 6 at 259, PA Hearing Ex. 7 at 22.

PWD acknowledges that this proposal constitutes a new obligation to retail customers in this 2018 Rate Case, and the cost of water for City facilities and fire systems has never previously been considered for recovery through PWD customer rates. 5/14 Tr. at 19:20-20:1. City Council does not appear to have contemplated that When City Council enacted the present Ordinance, Bill No. 130251, Council continued to require as a rate standard that the costs associated with supplying water to City facilities and fire systems be excluded from rates and charges, leaving those costs to be paid out of the General Fund. Although it could readily have included a change to this language while establishing the Rate Board and modifying certain standards for establishing PWD rates and charges, City Council left the long-standing language regarding fire systems unaltered in Bill No 130251.

The Board cannot accept a post-dated written recommendation from the City Manager as a modification of its responsibilities under the Ordinance. Further, whether or not the Department is correct that the language of Phila. Code §13-101(4)(b) does not create an absolute prohibition on such a cost reallocation, from the perspective of the Water Department and its customers such a shift would be unfair and lead to the inequities cited by the Public Advocate. The Tiered Assistance Program would help protect some low-income customers from the cost shift, but the cost shift would raise rates for all other residential and all commercial customers, at least as proposed. We note that there is no basis in the record for considering any allocation other than that proposed by the Department.

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XIV. LAND BANK

The Land Bank participated in this rate case “to ensure that the Land Bank receives a full exemption from all water, sewer, and stormwater rates and charges for all unoccupied properties owned by the Land Bank.” Land Bank Brief at 1. The Land Bank states that §16-705(5) of the Philadelphia Code specifically provides that “[f]or 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”. *Id.* (emphasis supplied).

According to the Land Bank, in 2012, Pennsylvania adopted legislation enabling municipalities to establish land banks as a way to facilitate the return of vacant, abandoned, and tax-delinquent properties to productive use (“Land Bank Act”).⁴ The Pennsylvania legislature recognized “an overriding public need to confront the problems caused by vacant, abandoned and tax-delinquent properties through the creation of new tools to enable municipalities to turn vacant, abandoned and tax-delinquent spaces into vibrant places”.⁵

The Land Bank states that land banks deal with properties that are “neglected, blighted, may have little or no market value, may have clouded titles that make them unmarketable, and may have liens in excess of their market values.” Land Bank Brief at 2 (citations omitted). Because repurposing blighted properties and returning them to the tax rolls presents major challenges, private investors and potentially responsible owners are often discouraged from redeveloping them. *Id.* (citation omitted). According to the Land Bank, to overcome such impediments, land banks were granted unique powers to acquire property, clear title, and extinguish liens, thereby making the property marketable and ready for transfer to a new, responsible owner. *Id.* (citation omitted).

In 2013, the City of Philadelphia adopted an ordinance creating the Philadelphia Land Bank. Philadelphia Code §16-700 *et seq.* The Land Bank's mission is to “return vacant and underutilized property to productive use through a unified, predictable, and transparent process, thereby to assist in revitalizing neighborhoods, creating socially and economically diverse communities, and strengthening the City's tax base”.²⁵ In pursuit of its mission, the Land Bank Ordinance empowers the Land Bank “to acquire real property or interests in real property through donation, gift, purchase, or any other legal means”.²⁶ The Land Bank Act further provides that “a land bank may acquire real property or interests in real property by any means on terms and conditions and in a manner the land bank considers proper”.²⁷

The Philadelphia Land Bank states that there are two main ways that the Land Bank acquires real property. CITE

The first way is by obtaining surplus property from the City, the Philadelphia Redevelopment Authority (“PRA”), and the Philadelphia Housing Development Corporation (“PHDC”). In fact, the Land Bank Ordinance specifically tasks the Land Bank with the primary purpose of acquiring and consolidating surplus property of the City, PRA, and

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PHDC, which the Land Bank shall endeavor to accomplish with due speed and diligence.²⁸

...

The second way the Land Bank acquires real property is by acquiring tax-delinquent properties at a judicial sale (also referred to as a "sheriff's sale" or a "free and clear sale") using its "priority bid" power.²⁹

The Land Bank argues that despite the significant benefits provided by the Land Bank, the Land Bank is not exempt from water, sewer, or stormwater rates and charges, while the City, PRA, and PHDC are fully exempt.³⁶ Land Bank Brief at PAGE. The Land Bank avers that there is no justifiable reason for the Land Bank to have different water, sewer, and stormwater rates and charges than the City, PRA, and PHDC when they all share the same purpose and have the same interests in combating blight. CITE.

The Land Bank notes that, despite the Ordinance provisions contemplating full exemption from all water, sewer and stormwater management rates and charges for properties it owns, such an exemption must be approved by this Board. CITE.

The Land Bank's analysis of the financial impact on PWD resulting from a full exemption from all water, sewer, and stormwater rates and charges considers only those properties acquired at a judicial sale or other means and excludes properties transferred from the City, PRA, or PHDC.⁵⁹ CITE The analysis (i) only considers properties acquired at a judicial sale since that is one of the primary ways the Land Bank will acquire properties; (ii) assumes, for simplicity, that properties acquired by the Land Bank are residential, which the Land Bank anticipates will be a substantial portion (but not all) of its inventory; (iii) assumes that all properties are unoccupied since the Land Bank anticipates it will only acquire unoccupied properties; and (iv) assumes that these unoccupied properties will not have any water or sewer usage charges, so only service charges will accrue.⁶⁰

⁵⁹ Direct Testimony of Angel Rodriguez at 8, line 18 and Exhibit A.

⁶⁰ Direct Testimony of Angel Rodriguez at 8-9, lines 21-5.

Based on the Land Bank's analysis, the potential lost revenue for fiscal year 2019, 2020, and 2021 is estimated to be approximately \$132,000, \$146,000, and \$149,000, respectively.⁶¹ But, when adding in the monthly service charges that will be generated when the Land Bank sells property for productive use, the estimated potential lost revenue is significantly less - for FY2019 it is approximately \$40,000, for FY2020 it is approximately \$41,000, and for FY2021 it is approximately \$29,000.⁶² The Land Bank says that such a small potential lost revenue is comparable to the revenue lost when community gardens were exempted from XXX.

The Land Bank states that the revenue loss from granting a full exemption from water, sewer, and stormwater rates and charges for properties acquired from the City, PRA, and PHDC, or by other means, such as a judicial sale, is estimated to have only an extremely

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small impact on PWD revenue and not trigger the need for additional revenues for a rate increase in the upcoming rate periods. CITE.

The Department did not oppose the proposal. No other participant commented on the proposal.

D. Recommendation

I recommend that the request of the Land Bank be granted for the reasons recited by the Department in its Brief describing the proposal:

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 charges for vacant properties.¹⁵⁴ 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. ... [T]he 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.¹⁵⁵ 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.¹⁵⁶ 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, 2018.¹⁵⁷ 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.¹⁵⁸ CITES

Given the de minimus level of estimated revenue requirement shifts, the Land Banks request should be granted.

⁵ Act of Oct. 24, 2012, P.L. 1239, codified at 68 Pa.C.S. §§2101-2120.

⁵ 68 Pa.C.S. §2102(4).

XV. SKIENDZIELEWSKI

¹⁵⁴ Land Bank Statement 1 at 5-8.

¹⁵⁵ 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.

¹⁵⁶ Land Bank Statement 1 at 7.

¹⁵⁷ Land Bank Statement 1 at 6.

¹⁵⁸ Land Bank Statement 1 at 6.

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Pro Se participant Michael Skiendzielewski filed a one page position paper, on June 6, 2018. It reads as follows:

1. The burden of proof is on the moving Party, in this instance the PWD. PWD must prove that a rate increase is both justified and needed, that all other options would be worse than raising the rates
2. PWD has admitted it has more cash than it projected, the cash is in the rate stabilization fund
3. PWD has admitted its collections have been better than projected which is its explanation as to why the rate stabilization fund is growing
With the improved call center and low income plan, we should expect collections to once again be better than projected.
4. PWD has admitted that some PWD consumers are treated differently than others and there is nothing in this rate filing that will address that inequity
5. The only tool the Water Rate board has to force PWD to improve its operations, collections, and fair treatment, is to deny the PWD the cushion it is looking for through this rate increase.
6. Rate increases create a burden on consumers and should be avoided when not needed, justified or required.
6. Therefore no rate increase should be granted.

The Department for its part persisted in making ad hominem criticisms of Mr. Skiendzielewski's participation in this docket, PDW Brief at 75-76, despite more than one notification by the Hearing Officer that such arguments are out of place and will not be countenanced.

Mr. Skiendzielewski participated under the handicap that he is not a lawyer, was not represented by a lawyer, and is unfamiliar with Board procedures. One result is that his summary, above, bears little resemblance to the issues he raised in discovery, through his public input testimony, and in his presentation at the May 17, 2018 technical hearing. Mr. Skiendzielewski was not able to support requests for what would have been a fishing expedition of discovery concerning Department handling of HELP loans for lateral repairs, evidently his primary concern. He was not able to marshall a presentation that related his own situation to that of ratepayers generally, nor to revenue requirements analysis in particular.

Mr. Skiendzielewski's filed summary does point to certain principles that others have also asked the Board to consider. He does not supply any further evidentiary support for these principles. They will have to stand or fall based on the participation of others such as the Public

XVI. CONCLUSION

TBW