THE DEPARTMENT'S PROPOSED FINDINGS OF FACT

History of the Proceeding

1. This is the inaugural rate proceeding for the Philadelphia Water, Sewer and Stormwater Rate Board (the "Rate Board").

2. Since the last Philadelphia Water Department ("Department" or "PWD") rate proceeding, a new rate process has been established to determine prospective water, sanitary sewer and stormwater rates and charges.

3. The new rate process is the upshot of a decision by Philadelphia voters to amend the Philadelphia Home Rule Charter (Section 5-801) to authorize Philadelphia City Council ("City Council") to establish, by ordinance, an independent ratemaking board (the Rate Board).

4. Section 13-101 of the Philadelphia Code[1] ("Rate Ordinance") defines the authority of Rate Board, as delegated by City Council (i.e., responsibilities for setting rates and charges for water, sanitary sewer and stormwater services in accordance with standards in the Rate Ordinance). See discussion, *infra*.

5. The Rate Board has been duly constituted with members appointed by the Mayor and approved by City Council, including its Chairman, Bernard Brunwasser and its Members Irwin (Sonny) Popowsky, Lee Huang, Michael Chapman and Folasade Olanipekum-Lewis.[2]

6. As one of its initial actions, the Rate Board promulgated regulations governing the rate process and specifying procedural requirements applicable to the rate filing; appointment of the hearing officer and public advocate; intervention/participation in hearings; public input hearings; technical hearings; briefing; record compilation; and decision making.

Statement of the Proceedings

7. Pursuant to the Rate Board's regulations, on January 8, 2016, the Department notified City Council and the Rate Board of its intent to file proposed changes in rates for water and wastewater service to become effective July 1, 2016, or as soon thereafter as procedural requirements permit the enactment of new rates by regulation ("Initial Notice").[3]

8. On February 8, 2016, PWD filed the Formal Notice of its application for rate relief with the Rate Board and the Department of Records, including the following proposed schedules of rates and charges (also sometimes referred to as proposed regulations), submitted pursuant to Sections 8-407 and 5-801 of the Philadelphia Home Rule Charter ("Charter").

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[1] As amended by Bill No. 130251-A.

[2] Ms. Olanipekum-Lewis was appointed to the Rate Board, earlier this year, upon the retirement of Nancy Winkler (former City Treasurer).

[3] The Departments provided the Public Advocate with a document containing the assumptions for this rate proceeding on December 8, 2015, and convened a teleconference to discuss those assumptions with the Public Advocate and its experts on December 11, 2015. PWD Exhibit 5 is the assumptions document provided to the Public Advocate on December 8, 2015. The revised assumptions documents with revisions made based on the teleconference is included in PWD Statement 9B and marked as Ref#BV-S1. The teleconference satisfied a provision in a joint stipulation from the 2012 rate proceeding stating that the Department would convene a workshop before proposing permanent new rates projecting revenue over a multi-year rate period. Tr. 175:19-180:13 (4/5/16) and PA Hearing Exhibit 2 at 5 of 15.

Proposed Philadelphia Water Department Regulations

- 300.0 Rates and Charges Definitions
- 302.0 Water Charges
- 303.0 Sewer Charges
- 304.0 Stormwater Management Service Charges
- 305.0 Billing for Water, Sewer and Stormwater Service
- 306.0 Miscellaneous Water Charges
- 307.0 Miscellaneous Sewer Charges
- 308.0 Miscellaneous Stormwater Management Charges
- 309.0 Fire Service Connections.

9. Also, included with its Formal Notice, the Department submitted pertinent engineering, financial and rate data as well as the prepared testimony of PWD witnesses and its consultants Black & Veatch, Raftelis Financial Consultants and Public Financial Management. A full listing of PWD statements and exhibits included in the initial rate filing is set forth in Appendix A.

10. The Rate Board appointed Nancy Brockway, Esquire ("Hearing Officer") to preside over the rate hearings and to prepare a report to the Board summarizing the hearing record. The Rate Board also appointed Community Legal Services to serve as Public Advocate (sometimes referred to as the "Advocate") in the rate hearings.

11. In addition to the Public Advocate, the Philadelphia Large Users Group ("PLUG"), Penn Future/Next Great City ("Penn Future"), Community Lawyering Clinic ("CLC"), Tenant Union Representative Network ("TURN"), PECO/Exelon ("PECO") and the Neighborhood Gardens Trust were participants in this proceeding.

12. Six public input hearings and six technical hearings were held in connection with this rate case[4] and a transcript of some 1,436 pages was compiled.

13. The Department presented a full roster of witnesses which included Debra McCarty, Melissa LaBuda, Steven Furtek, David Katz, Erin Williams, Joanne Dahme, James Palladino, Michelle Bethel, Mark Harvey, together with witnesses from Black & Veatch (Ann Bui, Prabha Kumar and David Jagt), Raftelis Financial Consultants (Jon Davis, Henrietta Locklear and Bart Kreps), Public Financial Management (Katherine Clupper) and Ballard Spahr (Valarie Allen). Expert witnesses proffered by the parties in the technical hearings included Lafayette Morgan, Roger Colton, Jerome Mierzwa, Robert Rosenthal, David Russell and Randolph Haines.[5]

Description of the Rate Increase

14. As described in the rate filing, the Department's application for rate relief is necessitated by unavoidable increases in operating expense related to labor and workforce costs, employee health care and pension benefits, purchase of services expense, maintenance costs and debt service together with the

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[4] Public input hearings were held in West Philadelphia (White Rock Baptist Church), Oxford Circle (Philadelphia Protestant Home), North Philadelphia (YMCA North Philadelphia), Roxborough (Roxborough Memorial Hospital) and Center City (Free Library and City Council) during the period February 23, 24, March 1, 2 , 3 and April 7, 2016. Technical hearings were held on April 5, 6, 7, 11, 12 and 13, 2016 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.

[5] Valarie Allen, Esquire presented rebuttal testimony in this proceeding concerning the requirements of the 1989 General Ordinance (hereinafter defined). Ms. Allen serves as the Department's bond counsel and has represented PWD since the 1990's.

reduction in revenues associated with the termination of the Bucks County Water and Sewer Authority wholesale contract – all of which have occurred since the 2012 rate case. PWD Statement 2 and 2-3.

15. Specific events causing the deterioration of the Department's financial condition include:

- New labor agreements negotiated with AFSCME District Councils 33 and 47 in 2014 resulting in increased salary costs together with an increased contribution to the City's pension fund.

- Escalating costs related to meeting the requirements of the Consent Order and Agreement, dated June 1, 2011, entered into with the Pennsylvania Department of Environmental Protection ("COA") in combination with other regulatory requirements.

- Increasing expenditures related to the renewal and replacement of aging infrastructure as provided in the Department's capital budget ($1.78 billion for FY 2016-2021) – which have capital and operating budget impacts.

- Reduction in annual revenues of $7-8 million due to the termination of the Bucks County Water and Sewer Authority wholesale contract, in June, 2014. PWD Statement 2 at 2-3.

16. Without rate relief, the Department maintains that its financial results will continue to deteriorate in FY 2017 and 2018. This would, among other things, jeopardize the Department's ability to (a) maintain its aging infrastructure; (b) improve services; (c) meet regulatory requirements; (d) successfully launch of the affordability program; and (e) maintain its current credit rating. *Id.*

Governing Legal Standards

17. The Rate Board must establish rates consistent with applicable legal requirements prescribed by the Charter, Rate Ordinance and the 1989 General Ordinance. PWD Statement 2 at 5-8; Philadelphia Code, Section 13-101(4)(a) and (b).

18. Section 5-800 of the Charter conveys authority to the Department to operate, maintain, repair and improve its facilities, including three water treatment plants, three wastewater treatment plants, a privately managed centralized biosolids handling facility and thousands of miles of water and sewer mains, stormwater conduits as well as additional infrastructure described in more detail below. PWD Statement 1 at 2-3 and PWD Statement 2 at 5.

19. Section 5-801 historically authorized the Department to establish rates and charges for its services consistent with ratemaking standards ordained by City Council. PWD Statement 2 at 5.

20. In November 2012, Philadelphia voters approved an amendment to the Charter (Section 5-801) to allow City Council to establish, by ordinance, an independent ratemaking body responsible for fixing and regulating rates and charges for water and wastewater services (the Rate Board), provided that City Council, by ordinance, establish open and transparent processes and procedures for fixing and regulating those rates and charges, including ratemaking standards. *Id.*

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

22. Section 13-101(4) of the Philadelphia Code, entitled "*Standards for Rates and Charges,*" sets forth the prescribed ratemaking standards applicable to establishing new rates and charges. *Id.*

23. Such ratemaking standards require that rates and charges shall be sufficient to yield revenues equal to operating expenses and debt service, including amounts to comply with the Rate Covenant, Debt Reserve Requirement and proportionate charges for all services performed for PWD by other departments, boards or commissions of the City. Philadelphia Code, Section 13-101(4)(a).

24. Rates and charges are also required to yield no more than the total appropriation from the Water Fund to PWD and all other departments, boards and commissions, plus a reasonable amount to cover unforeseeable or unusual expenses, reasonable cost increases or diminutions in expected revenue all to sustain the utility over a reasonable period of years. Philadelphia Code, Section 13-101(4)(b).

25. Also, as noted above, the rates and charges must also be in compliance with rate covenants prescribed by the 1989 General Ordinance ("Rate Covenants").[6] PWD Statement 2 at 7-8; Philadelphia Code, Section 13-101(4)(a) and (b).

26. More specifically, the City has covenanted with the bondholders that it will impose, charge and collect rates and charge in each fiscal year sufficient to produce annual net revenues which are at least 1.20 times the debt service requirements, excluding the amounts required for subordinated bonds (as defined in the 1989 General Ordinance). PWD Statement 2 at 7.

27. In addition, the City has also covenanted with its bondholders that net revenues in each fiscal year must be equal to 1.00 times (A) annual debt service requirements for such fiscal year, including the amounts required for subordinated bonds; (B) annual amounts required to be deposited in the debt reserve account; (C) the annual principal or redemption price of and interest on General Obligation Bonds payable; (D) the annual debt service requirements on interim debt; and (E) the annual amount of the deposit to the Capital Account (less amounts transferred from the Residual Fund to the Capital Account). The covenants described in this paragraph and the next preceding paragraph are collectively referred to herein as the Rate Covenants. *Id.*

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

29. The Department's rate filing is designed to meet all of the foregoing legal requirements. PWD Statement 2 at 5.

Principles of Municipal Ratemaking

30. The guiding principles for municipal ratemaking are set forth in two manuals: the American Water Works Association's *Principles of Water Rates, Fees, and Charges Manual of Water Supply Practices M1, Sixth Edition* ("AWWA Rate Manual") and the Water Environmental Federation's *Financing and Charges for Wastewater Systems" M27 Manual* ("WEF Manual") – which are applicable to water and wastewater utilities respectively.[7] PWD Statement 9A at 17.

31. These manuals provide generally accepted industry principles and guidelines for the reasonable projection of revenues and revenue requirements and the cost of service allocation process,

[6] The Restated General Water and Wastewater Revenue Bond Ordinance of 1989, as amended, is generally referred to in this testimony as the 1989 General Ordinance.

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

and Section 13-101(b)(ii) of the Philadelphia Code requires that rates and charges shall be developed in consistent with current industry standards including the standards set forth in these manuals. *Id.* and Philadelphia Code, Section 13-101(b)(ii).

32. Black & Veatch has applied these industry standard principles and guidelines in the cost of service study. *Id.*

33. These industry manuals confirm that, as a general proposition, government owned utilities are free to set their own policies with regard to appropriate test periods. This is not the case for investor owned utilities which are subject to particular legislative and regulatory policies of the state Public Utility Commission. See, AWWA Rate Manual at 11-12, 16; PWD Statement 9A at 10, n.1.

34. Government owned utilities typically select a future test year in recognition of budgetary requirements, applicable legal requirements, bond indentures and the need to set rates for a reasonable future period. PWD Statement 8 (Kreps) at 3-4.

35. In municipal ratemaking, revenue requirements and coverages are generally derived from projections premised upon historical data, which are used to estimate revenues needed for a reasonable period of years. *Id.* at 4.

36. Municipal regulatory commissions commonly use fully projected test periods. *Id.*

37. By use of the proposed two year future test period in this proceeding (FY 2017-2018), the Department requests authorization to recover additional revenues over a reasonable period of years so that (a) future rate filings will occur no more frequently than over two year intervals; (b) greater financial stability can be achieved over this reasonable period; and (c) water and wastewater customers can plan their budgets with greater certainty. PWD Statement 9A at 10-11; See also, WEF Manual at 85.

38. None of the foregoing can be accomplished without the use of reasonable projections of future revenues and revenue requirements. *See* Tr. at 52:23-53:13 (4/6/16) *and* AWWA Rate Manual at 10 (noting that a projection period of about five years is generally considered adequate for near-term financial planning purposes).

39. In the instant context, the initial test year (FY 2017) will begin at or about the implementation date for new rates.

40. Planning for FY 2018 with regard to budgetary and rate requirements is timely, practical and wholly realistic. Tr. 53 (4/6/16)

41. The two year time horizon for future rates is also consistent with Section 13-101 of the Philadelphia Code[8] and prior rate decisions in this jurisdiction (which have consistently employed future test years since 1993).

Description of Water and Wastewater Utilities

42. The Department is a municipal utility serving citizens of the City of Philadelphia by providing integrated water, sanitary sewer and stormwater management services. PWD Statement 1 at 2.

43. The Department employs approximately 2,000 personnel to operate and support its extensive facilities and infrastructure. *Id.*

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[8] Section 13-101 sanctions the establishment of rates over a reasonable number of years.

44. The Department's water and wastewater systems include the following major operating facilities: (a) three water treatment plants with the capacity to treat in excess of 500 million gallons per day ("MGD") of water from the Delaware and Schuylkill Rivers; (b) three wastewater treatment plants with the capacity to process in excess of 500 MGD of wastewater; and (c) a privately managed centralized biosolids handling facility that annually processes and distributes up to 6,570 dry tons of biosolids captured during the wastewater treatment process. *Id.* at 2-3.

45. In addition, the Department also maintains approximately 3,176 miles of water mains; 3,716 miles of sewers (including 1,855 miles of combined sewers, 762 miles of sanitary sewers, 737 miles of stormwater conduits and 362 miles of force mains, inlets and vent pipes), 71,962 stormwater inlets, 25,364 fire hydrants, multiple finished water storage facilities and over 30 pumping stations. *Id.*

46. In support of its services, the Department also operates a sophisticated testing laboratory and a range of technical and administrative support services. *Id.*

Cost of Service Ratemaking Methodology

A. PWD Cost of Service Study.

47. The Department engaged Black & Veatch ("B&V") in this proceeding to undertake a comprehensive water, sanitary sewer and stormwater rate study which consisted of the following principal elements:

(a) Projection of revenue under existing rates and the projection of revenue requirements for the water and wastewater utilities;

(b) Allocation of costs of service for water, sanitary sewer and stormwater service to the wholesale and retail customer types; and

(c) Design of water, sanitary sewer and stormwater retail rates which recognize the costs of service. PWD Statement 9A at 9.

48. The methodology employed by B&V in its rate analysis follows industry accepted practices and is consistent with that utilized in prior rate proceedings. *Id.*

49. The projection of revenues and revenue requirements examined in the rate study encompasses the period FY 2016-2021. *Id.* at 10.

50. Rates applicable to FY 2016 are the same as FY 2015 rates. The FY 2015 rates were authorized as the final year of new rates approved in the last proceeding. There was no rate increase requested in FY 2016. *Id.*

51. The pertinent cost of service determination, detailed allocation of costs of service and rate design are all in connection with revenues and revenue requirements for the period FY 2017-2018 ("Rate Period"). *Id.* at 10-11.

52. Schedules of water, sanitary sewer and stormwater charges for retail service are developed based upon the results of the cost of service study for the Rate Period. *Id.* at 9-11.

B. Projection of Revenues and Revenue Requirements

53. For the water and wastewater systems combined, the revenue requirement projections for the initial test year (FY 2017) and the following year (FY 2018), for which rates are being proposed, indicate the need for an overall increase in water and wastewater revenue requirements of $34.735 million in FY 2017 and $70.906 million in FY 2018. PWD Statement 9A at 20.

54. This level of revenue requirements necessitates annual increases in revenues above the existing levels (based on FY 2016 rates) of approximately 5.42% in FY 2017 and 5.42% in FY 2018. *Id.*

55. The cumulative overall increase in revenues from the combined water and wastewater systems over the two-year period, relative to FY 2016, is approximately 11%. Table C-1 (Exhibit BV-E1) presents a summary of the series of revenue adjustments projected for the combined water and wastewater utilities for the study period (FY 2016-2021). *Id.* at 20. See, Appendix B hereto.

C. Framework for Projecting Revenues and Operating Expenses

1. Revenues.

56. Projected revenues under existing rates reflect FY 2015 approved rates (which became effective July 1, 2014). PWD Exhibit 5 at 1.

57. Total system accounts are anticipated to remain stable over the Rate Period. *Id.*

58. Projected water usage volume reflects an annual decrease of approximately 0.6% during the Rate Period which is primarily resultant from an annual reduction in usage for 5/8-inch meter General Service customers. *Id.*

59. The usage per account for 5/8-inch meter General Service customers is projected to decrease 1.5% per year based upon a six year average annual decrease from FY 2010-2015. *Id.*

60. The above projected decrease is partially offset by the stable usage volume for General Service customers with meters larger than 5/8-inch. *Id.*

61. Projected revenues are also reduced due to existing and anticipated increases in stormwater credits to customers who implement stormwater management practices in compliance with applicable PWD regulations and/or completed SMIP/GARP projects (revenue reductions of $15.1 million and $17.3 million in FY 2017 and 2018, respectively). PWD Statement 9B Ref# BV-S1at 1; PA-EXE-74.

62. In addition, the Stormwater Customer Assistance Program is projected to cause a $3.4 million average annual revenue reduction during the Rate Period. PWD Statement 9B Ref# BV-S1 at 2.

63. Projected revenues under existing rates reflect the anticipated cumulative receipts for water and wastewater services (including retail and wholesale water and wastewater revenues) for the Rate Period. *Id.*

64 The receipts for each fiscal year are estimated based upon the projected billings for the current fiscal year and the actual billings for the two prior fiscal years together with projected collection factors. *Id.*

65. The cumulative retail collection factor on a twelve month rolling basis (excluding stormwater only customers) is approximately 96.3%. *Id.*

66. Revenue projections are nominally impacted by interest earnings (related to Operating Fund and Rate Stabilization Fund) at a 0.4% interest rate. PWD Statement 9B Ref# BV-S1 at 4; PA-EXE-15.

67. Penalties charged also impact revenues and are projected at 1.45% of billings under existing rates based upon a three year historical average (FY 2013-2015). PWD Statement 9B Ref# BV-S1 at 4; PA-EXE-17.

68. Miscellaneous revenues impacting the revenue projections are set forth in the following table. PWD Statement 9B Ref#BV-S1 at 4; PA-EXE-18.

Projected Miscellaneous Revenues

Description	Fiscal Years	Projection
Miscellaneous City Revenue	FY 2017 and 2018	$1.96 million/year
Other Miscellaneous Income	FY 2017and 2018	$8.0 million/year
State and Federal Grants	FY 2017 and 2018	$1.0 million/year
License and Inspection Permits	FY 2017 and 2018	$2.5 million/year
Miscellaneous Procurement	FY 2017 and 2018	$0.3 million/year
Affordable Rate Discounts	FY 2018	($16.1) million[9]

69. Revenue projections are also impacted by the loss of revenues due to the termination of the contract for wholesale water service to Bucks County Water and Sewer Authority ($7-8 million/annually). PWD Statement 2 at 3 and PWD Statement 9A at 23.

70. Additional revenues shown in Appendix B reflect projected increases associated with rate increases in FY 2017 and 2018 as necessary to meet annual revenue requirements, Financial Plan targeted debt service coverage levels and maintain sufficient Rate Stabilization Fund and Residual Fund balances. See, PWD Statement 9A, Table C-1 (line 10).

2. Operating Expenses.

71. The Department's FY 2016 operating budget is utilized as the starting point for the projections of operation and maintenance (O&M) expenses for the Rate Period. PWD Statement 9A at 25.

72. The O&M expenses for FY 2016 are determined based upon the expected expenditure levels for FY 2016. *Id.*

73. Operating expenses are specifically adjusted to reflect current actual-to-budget spending levels of approximately 92% based upon a three year historical average (FY 2013-2015). PWD Statement 9B Ref# BV-S1 at 5.

74. Actual-to-budget factors for each cost classification[10] reflect the three year historical average of budget-to-actual ratios, except as noted below. *Id.*

[9] This anticipated revenue loss associated with the Affordable Rates Program is estimated at $13.4 million annually after adjustment. PWD Statement 9B Ref# BV-S1 at 4.

Actual-to-Budget Factor Exceptions

Department	Class/Description	Actual-to-Budget Factor
Water Department Divisions	100	100%
Finance	200 SMIP/GARP	100%
Office of Transportation & Utilities	200	96.0%
City Finance	Pension & Pension Obligations	100%
City Finance	500	100%
Revenue	500	100%

75. Projected operating expenses are also adjusted to reflect liquidated encumbrances which are projected at 12% for purchased services (Class 200) and Materials and Supplies (Class 300) expenses. *Id.* at 5; PA-EXE-21.

76. After adjusting FY 2016 budgeted expenditures, as indicated above, operating expenses for FY 2017 and 2018 O&M expenses are projected, by class of expenditure, based upon (a) annual escalation factors shown below; and (b) cost increases reflected in the City's Five Year Plan with regard to expenditures related to the following: City Finance – Pension, Pension Obligations, Benefits and Public Property. PWD Statement 9B Ref#BV-S1 at 6.

Annual Escalation Factors

Class	Description	Annual Escalation
100	Labor Costs	FY 2017 – 3.0% FY 2018 – 3.0%
200	Other Costs	FY 2017 - 3.5% FY 2018 - 3.5%
300	Chemical Costs	FY 2017 - 3.3% FY 2018 - 3.3%
300	Other Costs (Excluding Chemicals)	FY 2017 - 2.0% FY 2018 - 2.0%
400	Equipment	FY 2017 - 2.25% FY 2018 - 2.25%
500 and 800	Indemnities and Transfers	FY 2017 - 3.0% FY 2018 - 3.0%

77. In addition to the foregoing, projected operating expenses include additional planned expenditures during the rate period, the largest of which, are set forth in the table below. *Id.* at 7-9.

Summary of Largest Planned Additional Expenditures

Department	Class	Additional Expenditures	Description
Finance	200	FY 2017 to FY 2018 - $3.55 million	Additional SMIP and GARP costs
Finance	200	FY 2017 - $4.00 million FY 2018 - $1.27 million	City grants based upon historical experience and elimination of certain expenditures in FY 2018

[10] City accounting classifications include: Personal Services (Class 100); Purchase of Services (Class 200); Equipment (Classes 300 and 400); Contributions,/Indemnities (Class 500); Debt Service (Class 700); Interfunds (Class 800); and Advances and Miscellaneous Payments (Class 900). These classifications are referred to throughout this brief. See, PWD Statement 2 at 12-13.

Finance	200	FY 2017 - $1.2 million FY 2018 - $0.6 million	Additional Basis-2 support start-up and continued maintenance for IWRAP
Finance	800	FY 2017 - $1.8 million FY 2018 - $3.5 million	Contractually required reimbursement of General Fund to construct a combined sewer outfall
Human Resources and Administration	200	FY 2017 - $1.0 million FY 2018 - $1.0 million	Facilities administrative costs which were not reflected in FY 2016 budget
Operations	200	FY 2017 - $1.3 million FY 2018 - $1.2 million	Additional costs for maintenance requirements
Operations[11]Planning and Environmental Services	100	FY 2017 to FY 2018– $0.8 million to $1.4 million	Additional staffing costs for Customer Field Service Unit
Planning and Environmental Services	200	FY 2017 to FY 2018– $0.6 million to $1.0 million	Additional stormwater facilities maintenance
Planning and Engineering	100	FY 2017 to FY 2018– $0.5 million to $0.6 million	Additional staffing for sewer lateral inspection program.
Planning and Engineering	200	FY 2017 to FY 2018 – $0.6 million to $0.7 million	Costs for mark-out of water and sewer infrastructure prior to excavation.
City Finance	100	FY 2017 to FY 2018– $2.3 million to $3.6 million	Additional pension, costs, pension obligations and benefits tied to new staffing.
Water Revenue Bureau	100	FY 2017 to FY 2018– $0.9 million to $1.3 million	Additional staffing for Affordability Program.

3. Debt Service.

78. Debt service (associated with anticipated new money bond issues identified below) is also included in the proposed revenue requirements. *Id.* at 10.

FY 2017 - $270 million

FY 2018 - $275 million

79. An interest rate of 5.25% is assumed for the aforesaid bond issues. *Id.*

80. Proposed debt service reflects bond issuances in the second half of the fiscal year in FY 2017 and 2018. *Id.*

81. Moreover, anticipated FY 2017 bond issue debt service is calculated based upon interest only payments through FY 2018; and outstanding debt service reflects savings from the issuance of Series 2015B Bonds. *Id.*

[11] This item was described as additional staffing by Planning and Engineering for the Office of Watersheds in the initial filing. As noted in informal discovery, the Department decided to align its staffing needs after the rate filing and the new positions will be in the Customer Field Service Unit rather than the Office of Watersheds. See, PA-ID-8; PWD Hearing Exhibit 4 at 3.

4. Bond Covenants, Transfers, Fund Balances.

82. The rate filing reflects policy directives set forth in the PWD Financial Plan targeting senior debt service growth at 1.25x and 1.26x in FY 2017 and 2018, respectively. *Id.* at 10; PWD Exhibit 2 at 6.

83. The 1989 General Ordinance prescribes a Capital Account Deposit of 1.0% of net plant investment (original cost less depreciation) is included in projected revenue requirements. *Id.*

84. Projected Capital Account Deposits are inflated at 2.5% per year (based on the average annual increase in net plant investment), consistent with the PWD Financial Plan. *Id.*

5. Capital Program.

85. Residual Fund Transfers to the Construction Fund are incorporated into revenue requirements to maintain annual cash funded capital of 20-25% of the proposed Capital Improvement Program ("CIP") spend level.[12] *Id.* at 11.

PWD Revenue and Revenue Requirements Projections Are Reasonable

86. As a part of projecting revenue requirements for this proceeding, Black & Veatch presented a six year study period (FY 2016-2021), so that PWD could reasonably assess rate impacts and revenue requirements during the Rate Period (FY 2017-2018) and beyond. PWD Statement 9A at 10.

87. Consistent with industry accepted practice, a 5-6 year timeframe is utilized as a reasonable forecast period for future revenue needs, thereby enabling management, policymakers and the public to plan for potential problems and avoid significant fluctuations when future changes in rates are needed. AWWA Rate Manual at 10.

88. The PWD revenue and revenue requirements projections are constrained by budget authorization levels ordained by City Council and approved by the Pennsylvania Intergovernmental Cooperation Authority ("PICA") as a part of the Five Year Plan. *See*, Sections 2-300 through 2-302 of the Charter (balanced budget required); PWD Statement 2 at 11-14; City of Philadelphia Five Year Financial and Strategic Plan for Fiscal Years 2017-2021 at 201 and 204 (balanced budget required) and 203 (relationship and reporting to PICA), supplemental attachment to PWD Exhibit 4 (SI-8); and Mayor's Operating Budgets attached to PWD Exhibit 4 (SI-16).

89. The Department has provided explanations for its proposed revenue requirements as summarized in PWD Hearing Exhibit 4 and described in its rebuttal testimony. Budget detail, the Black & Veatch (B&V) Rate Model and literally hundreds of pages of accompanying workpapers have also been supplied to the parties. See, PWD Hearing Exhibit 4; PWD Exhibit 6 (B&V Workpapers); PA-EXE-74; Response to TR-5.

90. The Department has sufficiently documented its projected revenues and revenue requirements to allow the determination of the reasonableness and propriety of proposed rates in this proceeding. *Id.*

91. The vast majority of PWD operating expenses are non-discretionary in nature. These non-discretionary expenses include: (a) expenses required by negotiated labor agreements (wages,

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[12] This is a key element of the PWD Financial Plan. Financing the CIP almost exclusively with bond financing is not sustainable over time. See, PA-EXE-99. The Department's goal is to increase cash funding (pay-go) for its capital program. PWD's pay-go objective is to achieve 20-25% annual cash funded capital. Nationally, the percentage of CIP financed with pay-go is approximately 50% for Fitch Rated Large Systems. See, PA-EXE-32; PWD Statement 7 at 9.

pensions, benefits for our unionized personnel); (b) expenses needed for operating costs associated with the maintenance of our water and wastewater facilities; (c) expenses driven by debt service related to our expansive Capital Improvement Program; (d) expenses determined by escalating regulatory requirements tied to the Consent Order and Agreement and numerous other environmental requirements; or (e) expenses mandated to provide necessary new and ongoing customer assistance programs. See, Tr. 131:23-132:21 (4/6/16).

92. No one can reasonably suggest that the operation of the water and wastewater systems is cost free with no associated incremental cost increases. Every year there are incremental costs driven by all of the above requirements which must be funded in a reasonable and sustainable manner. This would be particularly true with significant new customer assistance programs that are planned for FY 2018. See, Tr. 49-54 (4/6/16).

93. The Department's application for rate relief seeks to balance customer and utility interests by (a) minimizing financial/operating costs generally; and (b) drawing down the Rate Stabilization Fund by $58.0 million during FY 2017-2018. See, PWD Statement 2 at 2 and 4; Tr. 41-44 (4/6/16). The Department's Financial Plan also seeks to avoid precipitous future rate increases (rate shock) that would result in FY 2019, if rate relief is not authorized for FY 2017-2018.

Agreed Upon Adjustments Should Be Accepted

94. The Department has agreed to reduce proposed revenue requirements in the aggregate amount of $886,000 as a result of the adjustments depicted in the table below. See, Response to TR-15.

Agreed-Upon Adjustments

	FY 2017	**FY 2018**
Removal of AMI – Reduction in revenue requirements related to AMI O&M costs	Not applicable	$ (431,000)
Removal of Power Escalation Factor – Reduction in revenue requirements for electric power costs.	Not applicable	(562,000)
Reduction in O&M Costs	Not applicable	(993,000)
Impact on Liquidated Encumbrances due to the O&M Adjustments	Not applicable	107,000
Total Reduction in Revenue Requirements	Not applicable	$ (886,000)

95. The recommendation of PLUG witness, Randolph Haines (suggesting the designation of a single contact for large Commercial and Industrial customers) is also acceptable to the Department.[13]

Criticisms of B&V Rate Model Should Be Rejected.

96. The Public Advocate's primary position is that the B&V Rate Model is flawed and should not be relied upon in this proceeding. In support of its position, the Advocate proffers the testimony of Lafayette Morgan. PA Statement 1 at 5-6.

[13] The Philadelphia Large Users Group proffered the testimony of Randolph Haines (PLUG Statement 1) which was unassailed in this record.

97. Mr. Morgan's central thesis is that PWD's financial forecasts have historically overstated the utility's revenue requirements and understated its expenses – and that this pattern would likely continue. *Id.* at 3.

98. He opines, based on his assessment of the rate model, that no rate increase was warranted in FY 2017. *Id.* at 5.

99. Mr. Morgan also claims that operating conditions in FY 2018 are so far out in the future that an estimate for a potential rate increase in that year would be purely speculative. *Id.*

100. In the context of this opinion, Mr. Morgan emphasizes that the Department was not on the brink of financial distress. *Id.* at 10-11.

1. Schedules LKM 1-3.

101. In support of his testimony, Mr. Morgan provides three schedules (Schedules LKM 1 through LKM 3) which purportedly represented the output of the B&V rate model (with revised assumptions provided by the Advocate).

102. Mr. Morgan actually provides two iterations of each schedule, so we will address each one in turn. PA Statement 1, Schedules LKM 1-3 (original filing), PA Hearing Exhibit 3 at 2-4 (Errata Sheet); and his Response to TR-5 (revised rate model).

103. In the first iteration, the Advocate's witness provided the above referenced schedules with his prepared written testimony – and same were rife with errors.

104. As pointed out in the Department's rebuttal testimony, these schedules did not present the output of the rate model, but were data entries from an external file made independent of the LKM revised model. Tr.28-29 (4/6/16); PWD Hearing Exhibit 3.

105. Most glaringly, Schedule LKM-1 (as originally filed) showed a senior debt service coverage default in FY 2018 (1.18x coverage).[14]

106. The schedules also showed numerous inconsistencies with the witness' stated position with regard to revenue projections (Schedule LKM-1, line 4), FY 2017 proposed revenue increases (Schedule LKM-2, line 5), total senior debt service on bonds (Schedule LKM-3, line 32), the end-of-year revenue fund balance (Schedule LKM-1, line 40) and construction fund transfers (Schedule LKM-1, line 43). See, Tr. 13-17 (4/6/16).

107. It should be noted that the Advocate provided an errata sheet with revised schedules (tracking the subject areas identified in the rebuttal outline) to purportedly correct the errors identified above on April 5, 2016. PA Hearing Exhibit 3 at 2-4.

108. In this second iteration of Schedules LKM 1-3, Mr. Morgan, however, still fails to present an accurate cash flow analysis.

109. That is, in these revised schedules some of the inconsistencies between his schedules and testimony were addressed with regard to revenue projections (Schedule LKM-1, line 4), revenue increases (Schedules LKM-2, line 5) and the end-of-year revenue fund balance (Schedule LKM-1, line 40). However, the total senior debt service coverage still showed a default in FY 2018 (1.19x coverage)

[14] See, Schedule LKM-1 (line 32) and Tr. 44:9-45:6 (4/6/16). PWD rebuttal witness Valarie Allen spoke to the gravity of a covenant default, indicating the appropriate analyses of the sufficiency of rates to meet 1989 General Ordinance requirements. Tr. 42:14-48:21(4/6/16).

(Schedule LKM-1, line 26) and other adjustments were inconsistent with his stated position (i.e., construction fund transfer supporting pay-go financing (LKM-1, line 37) and debt service coverage for FY 2017 above the minimum requirement (LKM-1, line 32).

110. There continued to be a disconnection and lack of alignment between his schedules and the rate model (as revised) and his narrative testimony.

111. Finally, in the third instance, in an attempt to present Mr. Morgan's final analysis, the Advocate provided complete workpapers from the LKM revised model. These workpapers, however, only confirm the existence of continuing errors.

112. This time (with the submission of workpapers from the LKM revised model), it is absolutely clear that (a) Schedules LKM-1 through 3 were not generated by the LKM revised model; (b) Schedules LKM-1 through 3 were from a totally external file independent of the LKM revised model; (c) there is no connection between the results of the LKM revised model (which he supposedly ran with the Public Advocate's assumptions) and his recommendations. Looking at Table C-1 from the LKM revised model, a number of things are obvious.

113. First, Mr. Morgan did not use the model to support his narrative testimony or to even generate his Schedules LKM-1 through 3 which he references in his testimony.

114. Second, the LKM revised model failed to remove the incremental revenues associated with the Department's proposed FY 2017 and 2018 revenue increases from his operating results (even though he shows on Schedule LKM-1(revised) – derived from an external file – that revenue increases were removed.

115. Taken together, Mr. Morgan did not seem to understand the B&V rate model and did not apply the LKM revised model in making his recommendations.

116. Mr. Morgan's errors an inconsistencies can be categorized as follows:

Original Testimony and Schedules – Mr. Morgan's Schedules LKM 1-3 show a covenant default, over-stated year-end Residual Fund balance, overstated year-end Revenue Fund balance, increased revenues proposed by PWD (inconsistent with his position), transfers to Construction Fund supporting pay-go (inconsistent with his position) and numerous other errors related to interest income, net revenues after operating expense which, in the aggregate, showed that he did not perform a cash flow analysis consistent with the positions he advanced in the case.

Revised Testimony and Schedules – Mr. Morgan's revised Schedules LKM 1-3 show that he corrected the inputs to the Schedule on most issues, but still indicated a default in FY 2018 (1.19x coverage on senior debt). Transfers to the Rate Stabilization Fund were unchanged, however (inconsistent with his stated position), and proposed transfers from the Residual Fund to the Construction Fund were also changed (again inconsistent with his stated position.

Response to TR-5 – Mr. Morgan finally presented his Table C-1 (reflecting his application of the model) which indicated that all of the errors and inconsistencies in his original Schedules LKM 1-3 were unchanged. This is the basis for the Department's conclusion that Mr. Morgan did not apply the model correctly and did not seem to understand it. See, Tr. 13-32 (4/6/16); PWD Hearing Exhibit 3.

117. Despite the foregoing, Mr. Morgan maligns the B&V rate model (indicating that it is flawed), as if he understood it.

118. The Department maintains that Mr. Morgan has no credibility to make this contention.

119. In the first instance he offers no real analysis to support his conclusions – indicating he had no way to definitively determine what happened in the past. See, PA Statement 1 at 13.

120. But that does not stop him from making an unsupported recommendation that the rate increase should be denied in its entirety. *Id.* at 15.

121. In fairness, Mr. Morgan makes a series of concessions which offer perspective on how much weight to give his testimony. Tr. 8-10 (4/7/16)

122. That is, Mr. Morgan concedes that he relies on hearsay (input from former witness Michael Bleiweis) to reach his conclusions with regard to prior proceedings in which he played no part. Tr. at 10:11-11:3 (4/7/16).

123. He also indicates that he had not previously participated in proceedings involving a municipally regulated utility previously.[15] Tr. 8-9 (4/7/16).

124. Mr. Morgan further states, at one point in the record, that in preparing his testimony he had not referred to the AWWA Rate Manual, which is the industry accepted guidelines for the projection of revenues and revenue requirements for municipal utilities (relying instead on his own experience). Tr. at 9:9-10:13(4/7/16).

125. He further concedes that he had no experience related to the preparation of a financial plan for a municipal utility; and had not participated in bond transactions related to municipal utilities. Tr. at 9:8-15 (4/7/16).

126. In view of all of the foregoing, the numerous errors identified above in various iterations of his original testimony and Schedules LKM 1-3, his revised Schedules LKM 1-3 and the LKM revised rate model itself – make it clear that his over-reaching conclusion that the rate increase should be denied in its entirety is without sufficient foundation.

127. PWD Hearing Exhibit 3 offers additional confirmation of the errors and inconsistencies associated with the Advocate's failed attempt to accurately apply the B&V rate model.

128. Based upon all of the foregoing, the Advocate's recommendation should be soundly rejected.

Additional Adjustments Are Unwarranted

129. The Advocate offers various other adjustments (hereinafter referred to as "additional adjustments") to projected revenues and revenue requirements described below, as a "fall-back" position, assuming its rate model arguments are unpersuasive. PA Statement 1 at 6.

130. The Advocate's global bases for this fall-back position are that (a) all additional revenue requirements are unsupported; (b) same are based upon planned expenditures that are not yet approved in the City's budget process; and (c) the additional revenue requirements overstate the cost of service for the utility (redundant recovery).[16] See, PA Statement 1 at 36-37.

[15] Mr. Morgan indicated that he had participated in two Rhode Island cases involving PUC regulated municipal utilities. Tr. 9 (4/7/16).

[16] It is noteworthy that PWD Hearing Exhibit 4 summarizes supporting documentation provided to the parties during discovery. In addition, PA-EXE-74 (B&V Rate Model) was provided to the Advocate with all workpapers associated with each adjustment in the rate filing. Further, PWD provided budget documentation depicting the planned expenditures as presented in the budget.

131. The Advocate's specific adjustments relate to the following (a) liquidated encumbrances; (b) revenue growth rate; (c) payroll spend factors; (d) billing adjustment factor; (e) WRAP; (f) SMIP/GARP; (g) combined sewer outfall reimbursement; (h) PWD additional staffing; (i) engineering expenses (mark-out of water and sewer infrastructure); (j) escalation factors; (k) contributions/indemnities spend factor; (l) bond interest rate; and (m) inter-departmental charges – all of which are unwarranted based upon the record presented. See, Public Advocate Summary of Revenue Requirement, Rate and Programmatic Adjustments, dated April 22, 2016 ("PA Summary of Adjustments").

132. PWD maintains that the Public Advocate is wrong on all counts. The Advocate's major proposed adjustments are addressed below.

A. Liquidated Encumbrances.[17]

133. The Public Advocate proposes to use a three year historical average (FY 2013-2015) in projecting this *contra expense* related to Services (Class 200) and Materials and Supplies (Class 300) for FY 2017-2018. See, PA Summary of Adjustments at 2; PA Statement 1 at 31-32.

134. Utilizing this three year average yields a 19.23% liquidated encumbrance factor, as opposed to the Department's proposed 12% factor. *Id.*

135. The Advocate estimates that this additional adjustment will reduce the revenue requirement by $25 million. PA Summary of Adjustments at 2.

136. The Advocate advances its recommendation despite the fact that its witness, Lafayette Morgan, cautions that the use of a three year average is not uniformly appropriate (PA Statement 1 at 18), i.e., when there is an occurrence of an atypical event during the historical period utilized.

137. The Department maintains that the use of a three year average is inappropriate in this case because of a change in City policy related to the liquidation of encumbrances during the three year historical period (FY 2013-2015) utilized by the Advocate. PA-EXE-21; See, Tr. 172-173 (4/5/16). This policy shift caused a higher level of liquidated encumbrances in FY 2013-2014.

138. The above cited atypical event skewed (biased) the calculation of the historical average used by the Advocate.

139. Application of its 19.23% factor erroneously suggests that liquidated encumbrances will occur at a higher level in the Rate Period (in-line with FY 2014 and 2013) – which is not the case.

140. The use of a three year average encompassing FY 2013-2014 is inappropriate in this case because of the above atypical event.

141. Liquidated encumbrances should be more realistically calculated at 12% using more recent experience for Class 200 and 300 liquidated encumbrances (post policy shift). This liquidated

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The Rate Board should be aware that the budget hearings for the Department have been completed and that an approved budget is expected shortly.

With regard to potential redundant recovery (presumably associated with additional revenue requirements and escalation factors used in the rate filing), Mr. Morgan only offered one example (related to phosphoric acid expenses). PA Statement 1 at 37. However, the expense cited by the Advocate's witness represented a change in the secondary treatment system to ensure good performance in meeting PaDEP permit requirements, rather than a redundant recovery of chemical expense. See, PWD Hearing Exhibit 4 at 2 (Operations). It appears that the Advocate recognizes its error, as it did not include this adjustment in its Summary of Adjustments.

[17] An encumbrance is an expense that is anticipated to be charged to the Water Fund. A liquidated encumbrance represents a cancelled commitment. The Department's budgetary statements treat liquidated encumbrances as a *contra expense* (reduction in expense). PWD Statement 2 at 16.

encumbrance factor is more representative of prospective *contra expense* levels in these budget categories. See, PA-EXE-21.

142. The Public Advocate's recommendation should be rejected.

B. Revenue Growth Rate.

143. The Public Advocate proposes to use a three year historical average (FY 2013-2015) of 0.05% in projecting the projected decrease in the average sales volume per account for 5/8-inch General Service customers. PA Statement 1 at 18.

144. The Department maintains that the use of a three year average is inappropriate (too short) for the projected decrease in billed volume for 5/8-inch meter General Service customers because of the annual volatility in the average usage per account (due to climate and customer usage patterns) as depicted in the table below. See, PWD Exhibit 6 (B&V Workpapers, Customer – 4).

	FY 2015	FY 2014	FY 2013	FY 2012	FY 2011
Billed Volume Per Account	7.31	7.26	7.54	7.32	7.85
Annual Change	0.69%	(3.71%)	3.01%	(6.75%)	(0.51%)
Three Year Average Change	(0.05%)	(2.57%)	(1.50%)		
Five Year Average Change	(1.52%)				

145. Projected decrease in 5/8-inch meter general service customer billed volume per account should be more realistically calculated at 1.5% using the longer term experience for billed volumes. This decrease is more representative of the decrease to billed volumes. See, Tr. 181:17-182:22 (4/5/16).

146. The Public Advocate's recommendation should be rejected.

C. Payroll Spend Factors.

147. The Advocate recommends that a three year historical average FY 2013-2015 be used to project payroll expenditures for the Rate Period. See, PA Summary of Adjustments at 2; PA Statement 1 at 23.

148. The Advocate calculates a phantom adjustment of $10 million as the upshot of its recommendation using three year average yields). *Id.*

149. The Advocate's adjustment is based on the incorrect assumption that the Department's use of a 100% spend factor indicated that it projected that all vacant positions would be filled during FY 2017-2018. *Id.*

1508. That is not the case. Rather, budget expenditures assume a vacancy rate based upon current experience. Tr. 53 (4/5/16).

151. The use of a 100% spend factor is premised upon the fact that vacancies have already taken into account in the budget. *Id.*

152. No additional adjustment is warranted.

153. This Public Advocate recommendation should be rejected.

D. Billing Adjustment Factor.

154. The Advocate recommends the elimination of the Billing Adjustment Factor. Summary of Adjustments at 2; PA Statement 1 at 19.

155. The Department maintains that the use of a billing adjustment factor is a reasonable factor of safety to provide a small allowance for potential negative impacts to the various assumptions included in the projection of revenue from service billings including projected billed volume per account, customer usage patterns (billed volume distribution), and collection factors. Tr. 183:6-184:7 (4/5/16); PA-EXE-194.

156. The Department identified the potential risk from one of these factors (billed volume per account) which in itself exceeded the requested allowance. *Id.*

157. The Department needs sufficient resources to meet annual revenue requirements and meet its financial objectives – all as prescribed by the Rate Ordinance. *Id.*

158. The Billing Adjustment Factor is essential to meeting these requirements. No additional adjustment is warranted. *Id.*

159. This Public Advocate recommendation should be rejected.

E. WRAP.

160. The Advocate recommends the elimination of projected *contra revenues* in connection with City Grants that support the WRAP program. See, PA Summary of Adjustments at 2.

161. It quantifies the revenue impact of its adjustment at $4.0 million, assuming the costs were historically captured in the operating budget. PA Statement 1 at 34.

162. These grants are provided to low-income households that qualify for the WRAP program and need assistance to pay-off accumulated arrears. PWD Statement 6 at 2-4 and Exhibit MB-2.

163. City Grants were not incorporated in prior budgets and are only applicable to FY 2017 (last year of the program). Tr. 62:9-66:6 (4/5/16)

164. The projected *contra revenues* reflected in the rate filing are vital to our most vulnerable customers (in FY 2017) pending the implementation of the new Affordable Rate Program in the following fiscal year. *Id.*; PWD St. 6 at 2-4; Tr. at 87:5-14 and 142:21-143:16 (4/12/16).

165. City Grants reduce the arrears that Public Advocate witness, Roger Colton, indicates are an impediment to affordability.

166. Mr. Colton also claims this same amount ($4.0 million) for City Grants as an offset to Affordability Program costs. PA Statement 3 at 30.

167. City Grants are a much needed part of the Department's application for rate relief so that we will have resources to assist customers in maintaining their service.

168. Similar to the Affordability Program, PWD needs sufficient resources to fund customer assistance for our most vulnerable customers.

169. The Advocate's adjustment is misguided and should be rejected.

F. SMIP/GARP.

170. The Advocate recommends the elimination of additional Stormwater Management Incentive Program ("SMIP") and Greened Area Retrofit Program ("GARP") grants needed to assist customers with stormwater management. PA Summary of Adjustments at 3.

171. These programs are critical for meeting the requirements of the COA entered into with the PaDEP which prescribes interim milestone requirements at five and ten years. PWD Statement 4 at 6-7; Tr. 41:3-8 and 47:21-48:14 (4/7/16)

172. The Department is "on course" to meet or exceed its first five year interim milestone requirements. *See* Responses to TR-8 and PF I-5.

173. More specifically, as of the end of FY 2015, PWD has reported 132 greened acres through the SMIP and GARP grant programs in its Combined Sewer Management Program Annual Report. Greened acres together with those that result from private redevelopment and PWD capital projects, put PWD on course to meet or exceed, its first five year interim milestone of 744 greened acres.[18] *See* Response to TR-8.

174. By year 10 of the COA, a significantly higher greened acre threshold is required (2,148 greened acres). See Response to TR-8; Tr. 48 (4/7/16).

175. The additional revenue requirement for SMIP/GARP ($3.55 million in FY 2017 and 2018 for a total of $15 million for SMIP/GARP per year) will provide necessary resources to keep the City and PWD on course to meet the 10 year interim milestone requirements and reflects a well-considered estimate of future expenses for SMIP and GARP based on actual experience of the manager of the program and what she considers necessary to cover the anticipated applications. Tr. at 32:16-33:5 and 46:20-47:21 (4/7/16)

176. It is important to note that greened acres from SMIP/GARP come at 1/3 the cost of public greened acre projects undertaken by PWD, making it this program extremely cost effective for the Department and its customers. Response to TR-8.

177. Penn Future proffered testimony in support of proposed revenue requirements for SMIP/GARP and recommended the expansion of this program.[19] Penn Future Statement 1 at 17.

178. This Public Advocate additional adjustment should be rejected.[20]

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[18] A summary of COA five-year milestone requirements is set forth in Penn Future Statement 1 at 6-8.

[19] Penn Future proffers the testimony of David Russell in this proceeding (Penn Future Statement 1). Mr. Russell makes two basic recommendations (1) that the revenue requirement for SMIP/GARP and programs needed to support Green City, Clean Waters program should be approved; and (2) that the Enhanced CAP program be terminated by FY 2019. Only the first recommendation, to which we concur, impacts the Rate Period (FY 2017-2018). The second issue is addressed in the later sections of these proposed findings on Customer Assistance.

G. Combined Sewer Outfall Reimbursement.

179. The Advocate recommends the elimination of revenue requirements associated with the planned reimbursement of the General Fund for an upfront payment for a combined sewer outfall. PA Summary of Adjustments at 3.

180. The revenue requirements associated with this adjustment are $1.8 million and $3.5 million in FY 2017 and 2018, respectively. PWD Statement 9B Ref# BV-S1 at 7.

181. The reimbursement is contractually required under the Sugarhouse tax settlement agreement. Under Section 10 of the agreement, Sugarhouse is entitled to offset against its tax settlement payments the costs of its work on the former Laurel Street Combined Sewer Overflow. PWD Hearing Exhibit 4 at 1; Tr. 35-36 (4/6/16).

182. The offset occurs over five years and is estimated at $3.5 million/annually during the rate period. *Id.*

183. This revenue requirement is contractually required; and PWD is obligated to make the General Fund whole for the amount of the offset. *Id.*

184. The Combined Sewer Overflow project benefits PWD (*Id.*) which would otherwise have to undertake a similar project.

185. This Public Advocate adjustment should be rejected.[21]

H. Additional PWD Staffing.

186. The Advocate recommends that all revenue requirements for additional staffing be rejected as unsupported in the record. PA Summary of Adjustments at 2.

187. Additional staffing is required during the Rate Period for a variety of reasons such as (1) adding an accountant position in the Finance division; (2) adding a construction projects technician, executive assistant and head of security for the Human Resources and Administration division; (3) adding staff for the Planning and Environmental Services division to address increasing regulatory requirements; (4) additional staff in the Customer Field Service Unit and (5) an additional staff position at Public Affairs for a Creative Affairs Director. See PA-ID-1; PA-ID-8; PA-ID-13; PA-RDC-50, 51; PA-EXE-110; PA-ID-8; and PWD Hearing Exhibit 4 at 3.

188. A summary of supporting detail for these staffing decisions is provided in PWD Hearing Exhibit 4 at 1. The supporting detail describes operating needs to run a particular division of the utility (e.g., adding staff to support financial planning and assist with feasibility studies and long range planning).

189. The supporting detail is not an exhaustive review or analysis. Rather, the detail is provided by a manager who knows better than anyone the needs of their division; and he or she need not

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[20] This revenue requirement is tied to the Consent Order and Agreement and is not optional, as suggested by the Advocate's proposal. The interim milestone requirements are specified in the COA. Meeting these requirements through SMIP/GARP (in combination with private redevelopment and CIP projects), as described in our testimony and exhibits, is the most cost effective approach to achieving the prescribed greened acres for year interim milestone. See, Response to TR-8.

[21] Interfunds are payments made to other departments of the City for services or, in this instance, contractual commitments undertaken on behalf of the Department. Recovery of such payments is consistent with Charter and Philadelphia Code requirements that proportionate charges from other City departments, boards and commissions are appropriately included in its revenue requirements.

be "second guessed" by analysts in the hearing room who are not being asked to operate the utility. It should be noted that PWD's requests represent approximately a 1% increase in staffing for a Department that has been historically understaffed. *See* PWD Exhibit 4 (SI-66); PA-EXE-66 and 100; Rate Presentation to Board at 27 (2/22/16).

190. The Advocate's adjustments eliminating all new staffing is an extreme and unambiguous attempt to micro-manage the Department and should be rejected.

I. Engineering Expenses.

191. The Advocate recommends that costs for "mark out" of water and sewer infrastructure prior to excavation be eliminated. PA Summary of Adjustments.

192. This net additional revenue requirement ($1.1 million – FY 2017-2018) is needed to properly identify PWD infrastructure in the right of way. See, PWD Hearing Exhibit 4 at 3.

193. PWD is required to physically mark the location of utility underground infrastructure (PA Act 287).

194. This work is currently performed by survey crews together with their work closing out capital public works projects. *Id.*

195. The requested revenue requirement is to comply with the requirements of Act 287 and will further allow greater efficiency in closing out projects by separately assigning "mark out" work duties. *Id.*

196. The Public Advocate's recommendation to remove this revenue requirement should be rejected.

J. Escalation Factors.

197. The Advocate recommends a downward revision in the Finance Division Class 800 expenses. Summary of Adjustments at 2.[22]

198. Public Advocate witness Morgan recommends a 2% escalation factor based upon the GDP-PI index. PA Statement 1 at 30.

199. Finance Division Class 800 expenditures are primarily staffing costs (excluding the CSO reimbursement discussed above) and should be escalated like Class 100 expenses. Tr. 94 (4/5/16).

200. The Class 100 escalation factor (3%) is based upon the recently negotiated labor agreements and was not contested by the Advocate. PWD Statement 9B Ref.# BV-SI at 6 (Figure 5).

201. The Advocate's adjustment should be rejected based upon this inconsistency alone.

[22] Mr. Morgan's testimony suggests a revision to the escalation factor for Class 200 (excluding SMIP/GARP and electric power costs). PA Statement 1 at 30-31. He recommends using the GDP-PI index (based upon the Blue Chip Economic Indicators consensus forecast for FY 2017). This is a national index and is not specific to the water industry. In contrast, the Department uses a three year average of actual experience (FY 2012-2015) is combination with its commitment to control spending in this budget area – in conservatively determining its proposed 3.5% escalation factor for Class 200 expense. Please note that the three year average increase in total Water Fund Class 200 Other Expenses is 5.24%. See, PWD Statement 9B (Exhibit BV-S1, Appendix 2)

202. The Advocate also over-estimates the value of this adjustment (claiming a downward adjustment of $1.5 million and $3.6 million in FY 2017 and 2018, respectively. Summary of Adjustments at 2.

203. The actual value of this adjustment is depicted in the table below. See, PWD Exhibit 6 (B&V Workpapers – Direct O&M – 1)

Projected Finance Division Class 800 Costs	FY 2017	FY 2018
Advocate Proposed TR-5, Direct O&M - 1	$6,676,041	$6,809,562
Department Proposed PWD Exhibit 6, Direct O&M - 1	$6,741,493	$6,943,738
Difference	($65,452)	($134,176)

204. Taken together, this Public Advocate adjustment is inconsistent and overstated and should be rejected.

K. Contributions/Indemnities Spend Factor.

205. The Advocate recommends a downward adjustment related to Contributions/Indemnities expense. PA Summary of Adjustments at 3.

206. PA witness Morgan indicates that increased exposure to claims was not demonstrated by PWD in the record. PA Statement 1 at 25.

207. He notes that historically PWD has averaged approximately 77% of the budgeted amounts for this category of expense (utilizing historical three year average – FY 2013-2015). *Id.*

208. Applying this percentage to the revenue requirement for FY 2017 and 2018 yields a $1.5 million reduction in each year. PA Summary of Adjustments at 3.

209. In advancing this adjustment, the Advocate again ignores Mr. Morgan's admonition about the use of three year historical averages when there are atypical events in the period chosen to calculate the average. See, PA Statement 1 at 18.

210. In this instance, the atypical event took place in 2015 when claims were not timely processed (yielding $3.8 million in Indemnities expense compared to the $6.5 million budgeted). See, PWD Exhibit 5 at 17.

211. PWD maintains that more recent claims data suggests that a 100% spend factor should be utilized for Indemnities expense.

212. This revenue requirement is particularly important because the Department is self-insured (i.e., 100% funding is required to address abatements and other customer service requirements. See, Tr. 41-44 (4/6/16).

213. Mr. Morgan mistakenly seems to think that a large water main break was the "culprit" driving recent claims experience. See, PA Statement 1 at 25.

214. In point of fact, claims related to smaller main breaks (where there is no cap on liability) are the primary driver. Such smaller main breaks are trending higher. See, Tr. 49-50 (4/6/16); Tr. 102-105 (4/5/16).

215. In addition, legislation pending before City Council (to assist homeowners with abatements following water main breaks) will only increase Indemnities expense. Tr. 49-52 (4/6/16).

216. The level of claims in FY 2016 suggests that PWD could exceed the budgeted levels $6.5 million by fiscal year-end (unless settlements are administratively paused until FY 2017).

217. Taken together, the foregoing suggests that a higher claims experience can reasonably be expected during the Rate Period.

218. In view of the Department's self-insured status, it would be prudent to approve this revenue requirement.

219. The Advocate's adjustment should be rejected.

L. Bond Interest Rate.

220. The Advocate recommends a reduction in the projected interest rate for future bond issues (during FY 2017-2018) to reduce the revenue requirement by some $675,000 (according to its calculation). PA Summary of Adjustments at 3.

221. New money bond issues are planned for FY 2017 and 2018 (in the amounts of $270 million and $275 million, respectively). PWD Exhibit 5 at 10.

222. An interest rate of 5.25% is projected by PWD. *Id.*

223. The Advocate recommends a 5.0% interest rate assumption. PA Statement 1 at 32-33.

224. It should be noted that the Department's interest rate assumption is in-line with projected interest rates used by the Office of the City Treasurer for the Rate Period. See, PA-EXE-54; PWD Exhibit 4 (SI-31); Tr. 108-109 (4/5/16).

225. Moreover, debt service is calculated in the rate filing to reflect calculated savings from the issuance of Series 2015B Bonds. *Id.*

226. The Department maintains that no further adjustment is warranted.

227. This Public Advocate's adjustment should be rejected.

M. Inter-Departmental Costs

228. The Advocate recommends that all revenue requirements for additional Inter-Departmental Charges be rejected. PA Summary of Adjustments at 3.

229. Additional Inter-Departmental costs are required to provide (1) additional Water Revenue Bureau staffing and office space in support of the Affordability Program and (2) additional City Finance pension, pension obligation, and benefit costs for the additional Department and Inter-Departmental staffing. See, PA-ID-8; PA-EXE-145.

230. Additional WRB staffing and office space are for the Affordability Program. PA-ID-13; PWD Hearing Exhibit 4.

231. Additional staffing and space are required to meet the needs of the new program while existing staff continue to support the existing WRAP and other WRB daily operations.

232. Costs for pension, pension obligations and benefits associated with planned additional staffing are included in the rate filing. Detailed workpapers in support of this revenue requirement are provided in the response to PA-EXE-145.

233. The pension, pension obligation and benefits for additional staffing are based on the ratios of the projected annual Total Water Fund pension, pension obligations and benefit costs to the projected total annual Water Fund salaries and wages (Class 100). PWD Hearing Exhibit 4 at 3.

234. These additional costs are necessary for , among other things, the successful implementation of the new Affordability Program.

235. The Public Advocate's adjustment should be rejected.

The discussion of additional revenue requirement adjustments below (Section N through Q) are not explicitly addressed in the PA Summary of Adjustments, but are raised in Mr. Morgan's testimony.

N. Affordability Program Basis-2 Improvements

236. The Advocate recommends the elimination of additional costs for the Basis2 improvements to support the Affordability Program.[23] See, PA Statement 1 at 36.

237. This specific revenue requirement ($1.8 million – FY 2017-2018) is needed to make improvements to Basis2 to support the Affordability Program. See, PWD Hearing Exhibit 4 at 1.

238. Basis2 improvements are necessary to support the new affordability program, and imperative for the successful implementation of the affordability program. See, PA-RDC-50, 51; PA-ID-1; Tr. 141-142 (4/12/16).

239. The Public Advocate's recommendation to remove this revenue requirement should be rejected.

O. Operations Division Abatement, Process, and Maintenance Additional Expenses

240. The Advocate recommends the elimination of the Operations Division additional costs for abatement, treatment process, and additional maintenance.

241. This specific revenue requirement ($4.7 million – FY 2017-2018) is needed for additional services, chemical, and equipment costs. See, PWD Hearing Exhibit 4 at 2.

242. Additional abatement costs provide for the replacement of household water heaters and furnaces in the event of water main breaks and sewer blockage and abatement plumbing services for customer owned service lines and laterals. *Id.*

243. Additional phosphoric acid is necessary for the Northeast Water Pollution Control Plant (WPCP) to support the microbiological health of the secondary treatment during colder weather. Id.

[23] Although Mr. Morgan's testimony does not specifically address revenue requirements associated with the Affordable Rates Program, his revenue requirement adjustments include the elimination of additional expenses associated with the program. See, Public Advocate Statement 1 at 3 and 34-37.

244. Additional maintenance costs include Northeast WPCP drydocking recycler inspection, digester cleaning, chiller rental, and cogeneration facility maintenance; Southeast WPCP digester and flocculation cleaning, paving, and emergency HVAC repair; and Southwest WPCP LED lighting and HVAC replacement.

245. The additional abatement expenses are necessary to provide critical customer services. Tr. 49-56 (4/6/16).

246. The additional process and maintenance costs are necessary to provide continuous quality wastewater treatment services. PWD Hearing Exhibit 4 at 2.

247. The Public Advocate's recommendation to remove this revenue requirement should be rejected.

P. Human Resources and Administration Division Additional Services Expenses

248. The Advocate recommends the elimination of the Human Resources and Administration Division additional services costs for facility repair and maintenance costs inadvertently omitted from the FY 2016 budget.

249. This specific revenue requirement ($2.0 million – FY 2017-2018) is needed for additional services costs. See, PWD Hearing Exhibit 4 at 1.

250. The additional facility repair and maintenance costs are necessary to maintain Department facilities and provide continuous quality services. *Id.*

251. The Public Advocate's recommendation to remove this revenue requirement should be rejected.

Q. Planning and Environmental Services Division Additional Services Expenses

252. The Advocate recommends the elimination of the Planning and Environmental Services Division additional services costs for additional stormwater facilities inspection and maintenance.

253. This specific revenue requirement ($1.4 million – FY 2017-2018) is needed for additional services costs. See, PWD Hearing Exhibit 4 at 3.

254. The additional facility repair and maintenance costs are necessary to inspect and maintain stormwater facilities and meet COA regulatory requirements. *Id.*

255. The Public Advocate's recommendation to remove this revenue requirement should be rejected.[24]

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[24] In addition to the various adjustments of the Public Advocate, PECO/Exelon proffers the testimony of Robert Rosenthal. His testimony recommends (i) revising the water and wastewater revenue increases to balance the total debt service coverage together with (ii) a downward adjustment to the chemical cost escalation factor. PECO Statement 1 (Exhibit 1).

As to the first issue, Mr. Rosenthal proposes to revise the proposed revenue increase to balance debt service coverage. He would essentially shift the revenue requirements for water and wastewater systems for this purpose. In advancing his position, he ignores the fact that the PWD cost of service study allocates revenue requirements including operation and maintenance expense, debt service, and capital account deposit based on cost of service principles. As explained in the context of bond covenant

PWD Proposed Cost Allocation and Rate Design Are Reasonable

256. The Department's proposed cost allocation and rate design are consistent with industry best practices and are premised upon cost causation. PA Statement 9A at 17; PA Statement 2 at 5.

257. The base-extra capacity method is used in the cost of service study to allocate costs to the various customer types. This methodology is widely recognized in the industry and is sanctioned in the AWWA Rate Manual.

258. The Department's rates are devised with use of the most complete information available.

259. Absent ideal data parameters, reasonable judgment is used in making allocations and establishing rates. The important concern is that the end result is a reasonable one.

260. The water and wastewater cost of service studies consist of essentially three components (1) the determination of the cost of service to be recovered from charges for water and wastewater service; (2) the allocation of cost of service to functional cost components which recognizes the system characteristics; and (3) the distribution of functionalized cost of service components to customer types based on levels of service. PWD Statement 9A at 40.

261. The total revenue requirements to be derived from charges for water and wastewater service are synonymous with, and are the definition of, the total cost of service. As a basis for developing an equitable rate structure, these costs are allocable to the various customer types according to respective service requirements. *Id.* at 41.

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

263. For the wastewater utility, factors considered in estimating service requirements of each customer type include the annual volume and peak rates of sanitary wastewater, infiltration, and stormwater flows; wastewater strengths; the number and sizes of customers served; and proprietary interest in system investment. *Id.*

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

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requirements, the Department is also required to provide net revenues to meet the senior debt service coverage policy objectives and the Rate Covenants. An arbitrary balancing of the total debt coverage would cause a deviation from cot of service principles and violate bond covenant requirements. Mr. Rosenthal's proposed revisions to water and wastewater revenue increases should be rejected. See. Tr.65-70 (4/13/16).

In addition to the above adjustment, Mr. Rosenthal recommends that the chemical escalation factor for the FY 2017-FY 2018 Rate Period should be based on the most recent three year Producer Price Index (PPI) for industrial chemicals. As noted in the record, however, escalation factors are more appropriately utilized in the absence of historical data for the utility. PWD has actual experience upon which to base its projections. The chemical cost projections presented by the Department in the record are representative of actual experience and should be the preferred basis for rate setting. Tr. 71-72 (4/13/16). The use of PWD's three-year historical actual average to project chemical costs is appropriate and reasonable in this context. See PWD Statement 9B, Exhibit BV-S1, at 20.

cost of service being the sum of the allocated costs for all cost components. The units of service of each customer type provide a means of proportionate distribution of costs previously allocated to functional cost components to the customer types. *Id.* at 57; 86-87.

265. Analysis of resulting costs of service to each customer type provides the basis for design of the proposed rate schedules. In this case, rate schedules for water and wastewater service to retail customers were designed to consist of a service charge and volume charges applicable to billable usage for each utility. A surcharge rate applicable to customers with high strength wastewater is also included in the proposed wastewater rate schedule. *Id.* (Tables W-19, WW-18).

266. Proposed charges for water and wastewater service recognize that eligible senior citizens, charities and schools (among others) are provided service at a discounted rate. *Id.* at 100.

Alternative Cost Allocation/Rate Design Recommendation Is Unsupported in this Record

267. The Public Advocate proffers the testimony of Jerome Mierzwa in connection with cost allocation and rate design issues. PA Statement 2.

268. Mr. Mierzwa generally agrees that the cost allocation/rate design for water service is reasonable. *Id.* at 3-4.

269. He specifically indicates that the base-extra capacity methodology used in the Department's cost of service study is one of the most commonly used and widely recognized methods of cost allocation in the industry. *Id.* at 5.

270. He recommends one modification to cost allocation based upon maximum day and maximum hour extra capacity factors applicable to City Government and City Leased Properties. *Id.* at 7.

271. Mr. Mierzwa notes that the Department's customers are served under one rate structure with four usage blocks. *Id.* at 16.

272. In framing his recommendation, Mr. Mierzwa he also observes that there are fourteen customer types served under the Department's rate structure. *Id.* at 15 (Table 3).

272. He indicates that there are basic challenges in tracking cost of service for various customer types utilizing the four usage blocks (e.g., changes in one usage block affects the others). *Id.* at 16.

273. Mr. Mierzwa's Table 3 specifically indicates the indicated cost of service (comparing cost of service and revenues at proposed rates).

274. He does not disagree that the indicated cost of service (depicted in the table) is a reasonable basis to set rates. *Id.*

275. He observes that that there are variances in the indicated cost of service for certain customer types and proposed rates for those customers (e.g., Public Housing, Hospitals and Universities, Hand Billed, City Government and City Leased Properties). *Id.* at 15 (Table 3)

276. Mr. Mierzwa seems to suggest that his Table 3 flags the issue that under the current rate structure, certain customer types are not paying the indicated cost of service to the extent he would like to see. *Id.* at 16.

277. His recommendation, however, only focuses upon City Government and City Leased Properties for which 5% increases were slated in the rate filing. *Id.* at 3; See. PWD Statement 9A at Table W-18.

278. Mr. Mierzwa recommends an 8.5% increase for these two customer types instead and would recover same through a new rate structure. *Id.* at 3.

279. This change in rate structure would be undertaken in isolation for these two customer types. *Id.* at 16-17.

280. He offers, as a premise for the recommended change in rate structure, that the maximum day and maximum hour extra capacity factors are understated for City Government and City Leased Properties. *Id.* at 16.

281. Mr. Mierzwa offers Schedule JDM-1 (detailing calculations related to the aforesaid capacity factors) purportedly in support of his recommendation.

282. This schedule includes erroneous data (system maximum day and maximum month average day ratio) and data surrogates (proxies for demand study information used for the weekly usage adjustment and maximum hour/maximum day ratio) which in combination produce a flawed analysis rendering his recommendation without substantial basis. Response to TR-9A; Tr. 56-68 (4/11/16).

283. In the first instance, Mr. Mierzwa misstates the system maximum day/maximum month average daily ratio (1.4) set forth in Column 6 of his schedule. The system maximum day to average annual day ratio is 1.3 (PWD Exhibit 6 (B&V Workpapers) – WCOS, Wptallo-4), so arithmetically his calculation is erroneous (it would be lower since the maximum month average daily flow would be lower than the annual average daily flow). Tr. 59 (4/11/16) See, Response to TR-9A.

284. Secondly, he relies upon surrogate weekly demand data to make his adjustment in Column 7 of Schedule JDM-1. Tr. 60-61 (4/11/16). This data has questionable applicability to this utility.

285. Mr. Mierzwa gleaned this generic data from an example buried in the Appendix of the AWWA Rate Manual. The manual specifically states that such surrogate data was not the best source and that the information provided was for illustrative purposes. AWWA Rate Manual, Appendix A at 316; Tr. 80 (4/11/16).

286. Thirdly, Mr. Mierzwa uses more surrogate data for his maximum hour/maximum day ratios (Column 7 – lower portion of schedule) used to compute unit costs. Raising the question of whether the preparation of Schedule JDM-1 was factually tied to PWD or just a theoretical exercise.[25]

287. Upon cross examination, Mr. Mierzwa conceded that the detailed calculations displayed in the various columns in the schedule were <u>not</u> the actual source of his recommendation. Tr. 56-57 (4/11/16).

288. It seems that his new rate structure recommendation was more of a back-of-the-envelope derivation. The calculations in Schedule JDM-1 are merely illustrative.

289. None of the foregoing suggests a comprehensive analysis supports this recommendation.

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[25] Mr. Mierzwa's use of surrogate data for maximum hour/maximum day ratios instead of the Department's system data may lead to his indicated maximum hour demand diversity factor of 1.48 – which is outside the range identified as acceptable by the AWWA. See, AWWA Rate Manual at 317.

290. If anything, Mr. Mierzwa's testimony may indicate that an overall review of PWD's rate structure (which has not been undertaken in many years) may be in order. Tr. 12; 29; 40-41 (4/11/16).

291. An *ad hoc* change in rate structure for two customer types based upon a flawed analysis, however, is mistaken and should not be approved. *Id.*

PWD's Affordable Rates Program Recommendation Should Be Accepted

A. Structure and Operation of IWRAP.

1. Requirements of IWRAP Ordinance.

292. The IWRAP Ordinance (Bill No. 140607AA, as amended) enacted on December 1, 2015, provides for the establishment of an affordable rates program by amending Title 19 of the Philadelphia Code (Chapter 19-1605). *See* Philadelphia Code, §19-1605, n. 295.

293. The IWRAP Ordinance prescribes the framework for the Department's proposal for an affordable rates program in this proceeding. *See* Philadelphia Code, §19-1605(3)

294. The IWRAP Ordinance states that affordability goals shall be achieved through a "discount on generally applicable residential rates" or "other bill calculation mechanism based upon each customer's actual income." *See* Philadelphia Code, §19-1605(3)(a)

295. The IWRAP Ordinance requires the Rate Board to establish the affordability goal for each income tier and to consider the customer's historical usage if applicable. *Id.*

296. The IWRAP Ordinance states that low-income customers who are enrolled in IWRAP shall be required to make no additional payments to maintain service with respect to pre-IWRAP arrears. *See* Philadelphia Code, §19-1605(3)(h). The IWRAP Ordinance authorizes minimum bill amounts consistent with the goal of providing affordability. *See* Philadelphia Code, §19-1605(3)(h)(1).

297. The IWRAP Ordinance requires that the Revenue Department promulgate rules and regulations necessary to effectuate the purpose of the Ordinance. *See* Philadelphia Code, §19-1605(6.

2. Program Structure Complies with IWRAP Ordinance.

298. The Department's proposed program is a tiered discount program providing for discounts of generally applicable residential rates. PWD Statement 8 (Davis) at 3 and Tr. 22:4-21 (4/13/16).

299. The Department's proposed program includes affordability goals for each of three income tiers referenced in the IWRAP Ordinance and takes into account a customer's historical usage to enhance the affordability of the proposal. Tr. 66:19-24 and 140:19-141:11 (4/12/16) and 127:21-128:9 (4/13/16).

300. The AWWA Manual refers to both discounts on the full bill and percentage of income programs as accepted water rate affordability programs. See AWWA Rate Manual at 191-192.

301. The proposed affordability goals provide meaningful assistance to each income tier and should be approved by the Rate Board. PWD Statement 8 (Davis) at 3 and Tr. 28:11-14 (4/12/16).

302. Additional tiers would add complexity, and thus increase the costs of program implementation and administration, and would not significantly increase the benefit to customers, since many of the customers in the lowest tier would still receive a minimum bill and many of the customers at

the highest tier with low usage would receive no discount. Tr. 66:67:13 and 68:22-70:20 (4/12/16). The Departments' proposal provides sufficient bill discounts to allow IWRAP bills to include a minimum payment toward pre-IWRAP arrears, while still resulting in a total bill that will achieve the proposed affordability targets for most enrolled low-income customers. The proposal assumes a minimum charge toward pre-IWRAP arrears of $5 per month for customers with household income at or below 100% of FPL and $25 per month for customers with household income from 100% to 150% of FPL. See PA Hearing Exhibit 5 at 12; Tr. 109:24-110:0 (4/13/16).

303. The cost of arrearage forgiveness has not been included in the program, and the Rate Board need not consider "arrearage forgiveness" because the IWRAP Ordinance requires forgiveness to be covered by regulations to be issued by the Revenue Department. *See* Philadelphia Code, §19-1605(6) and See, Tr. 34:17-35:5; 58:17-59:1; 144:7-18 (4/12/16).

3. Program Includes Generally Accepted Cost Control Features.

304. The Department's proposal included a minimum bill of $12 per month. Public Advocate witness, Roger Colton, agreed that a minimum bill of $12 monthly would be imminently reasonable. Tr. 56:21-57:1 (4/13/16).

305. The Rate Board can consider a maximum credit as another cost control feature. Tr. 22:14-11 and 102:24-103:9 (4/12/16) and 42:9-16 (4/13/16).

B. IWRAP Cost Recovery.

1. Cost of IWRAP Discount.

306. IWRAP once implemented is projected to result in approximately $16.3 million per year of lost revenue. This projection is associated with an 80% confidence interval, and includes adjustments for upfront startup costs ($1.1 million), ongoing program administration cost ($2.8 million annually) and savings from eliminating certain City grants ($2.7 million annually). The projection is reasonable and supported by the testimony and other substantial evidence in the record. PWD Statement 8 (J. Davis) at 4-5; Tr. 6:16- 22:24, 35:19-37:5, 44:10-45:13, 49:4-58:12, TR-9, Tr. 66:9-18, 142:21-143:16 (4/12/16).

307. The lost revenue estimate was developed by first quantifying the number of households by income tiers using census data, which provide household income stratification data within the City of Philadelphia, and then estimating the number of households with water accounts by using the U.S. Census Bureau's American Community Survey (AMS) Public Use Microdata Samples (PUMS) files, which provide more in depth responses for a representative sample of City households. This data was used to estimate the number of City households (approximately 580,000 total households) and residential water customers (approximately 427,000 total customers) by income tier. PWD Statement 8 (J. Davis) at 4, Table 1; TR-9; Tr. 48:20-53:4 (4/12/16).

308. A range of subscription rates was then developed for each income tier based on actual subscription levels reported by the Philadelphia Gas Works (PGW) for residential gas customers in the same three income tiers and a Monte Carlo simulation which set variable profiles for the subscription rates within each tier. The simulation involved running multiple trials and plotting the lost revenue forecast for each trial with variable subscription rates to determine the range of potential lost revenue impacts. The projected lost revenue of $16.3 million corresponds to a level that met 80% of the forecast outcomes in the simulations. PWD Statement 8 (J. Davis) at 4-5; TR-9; Tr. 8:18-9:4, 16:3-11, 35:19-58:12 (4/12/16).

309. The subscription rates provided by PGW were 50% for Tier 1 (0-50% FPL), 84% for Tier 2 (50-100% FPL) and 36% for Tier 3(100-150% FPL). Tr. 16:3-11 (4/12/16); and PA Hearing Exhibit 5 at page 12 of 12.

310. In developing recommendations for the structure of the program and estimating the subscription rates and associated lost revenue and costs, the Departments made conservative and well-considered estimates.

311. Rigorous and conservative development of program costs is essential to the success of the program so as not to overburden City ratepayers or be detrimental to the stability of the utility. PWD Statement 8 (J. Davis) at 3.

312. The program by its nature transfers certain charges for utility service from the bills of participating customers to the bills of the non-participating customers. PA Statement 3 at 54-56.

313. Bond covenants restrict the ability to cover program costs with transfers from the Rate Stabilization Fund. Subscription rates to the new program that significantly exceeded estimates could produce revenue reductions that result in a default of these covenants. PWD Statement 8 (J. Davis) at 6.

314. A failure to comply with any provision of any Bond Covenant (a "Covenant Default") constitutes an event of default as defined under the 1989 General Ordinance. In the event of a Covenant Default, a bondholder of any of the Department's revenue bonds will be entitled to all of the remedies provided under the First Class City Revenue Bond Act (the "Act"). Upon such event, the holders of 25% in aggregate principal amount of the affected series of the Department's revenue bonds may appoint a trustee to represent such bondholders to exercise remedies. Such trustee may, and upon the written request of the holders of 25% in aggregate principal amount of such revenue bonds must, sue the City at law or in equity to enforce the rights of the aforesaid bondholders. See PWD Statement 2 at 7-8.

315. The 80% confidence interval is an appropriate confidence interval to safely manage that risk. Tr. 44:22-45:9 (4/12/16).

316. Even if the program costs are projected using a 50% confidence interval instead of the more conservative 80% confidence interval, and assuming subscription rates equivalent to those experienced by the Philadelphia Gas Works (PGW) for its low-income customer assistance program, lost revenue would be approximately $13.6 to $13.7 million annually. Tr. 15:21-22:24 (4/12/16); and PA Hearing Exhibit 5 at page 1 of 12.

317. If subscription ever reached one hundred percent, lost revenue would be approximately $22.8 million annually, or approximately $6.5 million per year more than the projection of $16.3 million per year. Tr. 44:10-45:9 (4/12/16) and PA Hearing Exhibit 5 at page 1 of 12.

318. Given these considerations and the requirements of the bond covenants, it is reasonable to project lost revenues using the Monte Carlo method with conservative assumptions. Tr. 139:17-140:15 (4/13/16).

2. Proposed Participation Rate.

319. In calculating the program cost, both Mr. Davis and Mr. Colton estimated a program participation figure of approximately 31,000 to 32,000 low-income customers. PA-Statement3, R. Colton

at 30; PWD Statement 8 (J. Davis) at 4, Table 1; TR-9, Step 2; Tr. at 47:11-48:12, 56:16-57:2 and 66:9-18 (4/12/16) and 43:5-13 (4/13/16).

320 None of the Participants argued that this estimate was unreasonable.

3. Administrative Costs.

321. Ongoing program administration costs are reasonably estimated to be $2.8 million per year. PWD Statement 8 (J. Davis) at 3.

322. This estimate is based on a "bottoms-up" approach for determining the total amount of costs and number of employees necessary to implement a new low-income rate and payment plan program that works well immediately upon its initiation. The estimate accounts for continuation of the current staff of nine employees responsible for implementing the current low-income programs, 2.5 new positions for information technology (IT) support to keep the billing system in optimal working condition (new IT positions), and 22 new employees who would be responsible for implementing the new program (new non-IT positions). PWD Statement 8 (J. Davis) at 3-4; PA Statement3, R. Colton at 33, n.26; Response to PA-RDC-51; Tr. 141:12-142:20 (4/12/16) and at 129:10-131:10 (4/13/16).

333. Limit funding of administrative costs to 10% of program benefits would materially underfund program administration and adversely affect the ultimate success of the program. Tr. 131:2-10 (4/13/16).

334. It is reasonable to continue budgeting for the nine current employees who handle the existing customer assistance program. These employees have duties related to a grant program, the senior citizen discount, and customer service intake. Tr. 89:19-90:23 (4/12/16).

335. The Departments expect some level of funding for existing low-income programs to continue after IWRAP is implemented. Tr. 142:21-143:16 (4/12/16).

336. The Senior Citizen Discount is established by Philadelphia Code, Section 19-1902, which provides that the Water Commissioner is authorized to establish a reduction in charge for water and sewer services, for any eligible senior citizen age 65 or older in the amount of 25% of the service charges and quantity charges to his or her primary residence. The discount is subject to a household income limitation of $31,500 per year. *See* The Philadelphia Code, Chapter 19-1900 and Regulation 305.2(b) in PWD Exhibits 3 and 3A.

337. The Public Advocate and the Departments agree that the senior discount will continue along with IWRAP as an alternative program for income-eligible senior citizens, as some customers would receive more affordable bills under the senior citizen discount than under IWRAP. PWD Statement 4 at 7; Tr. 123:12-19 (4/12/16) and 57:2-17 (4/13/16).

338. Many customers with existing long-term payment agreements may choose to remain in their current agreements, and not all customers with current extended payment agreements will qualify for IWRAP. Tr. 121:14-123:9 and 128:9-129:4 (4/12/16).

339. It is reasonable to budget for an additional 22 employees to administer the new program given the projected number of applicants and program participants. Tr. at 129:10-131:10 (4/13/16).

340. While some efficiencies may result by accepting determinations of income and residency made within the prior twelve months pursuant to the City's Real Estate Tax Regulations, those efficiencies will be limited to customers who pay real estate taxes and will not extend to tenant or occupant customers.

341. An enrollment process involving submission and approval of a completed application will be necessary to verify a new applicant's status as a customer or rate payer, as required by Section 3(i)(.1) of the IWRAP Ordinance and as recommended by the PUC policy for customer assistance programs. *See* Philadelphia Code, §19-1605(3)(i)(.1) and 52 Pa. Code §69.265(4).

342. The enrollment process will need to be adequately staffed so as to ensure that applicants are informed of their responsibilities for continued enrollment and of the consequences of default.

343. There is insufficient information in the record to conclude that outsourcing of intake and verification or transitioning to a paperless application process is feasible for the City at this time. Tr. 91:1-93:7, 118:1-120:7 and 124:13-125:22 and 141:12-142:20 (4/12/16).

344. The proposed addition of 2.5 new IT positions is reasonable given that after the billing system is redesigned and tested with a new billing program for IWRAP customers, ongoing IT support will be necessary to maintain the billing system in optimal working condition and to facilitate the process of billing customers and applying payments. PWD Statement 8 (J. Davis) at 3.

4. Start-Up Costs.

345. The Departments' projection of approximately $1.1 million per year of start-up costs for the first two years is reasonable and supported by the evidence in the record. Upfront IT costs are estimated to involve five person years of effort and are necessary to design, test and implement the new program within the current billing system, PWD Statement 8 (J. Davis) at 3.

5. IWRAP Cost Offsets.

346. The cost of service study need not consider changes to the collection rates resulting from the new program because any the program is expected to result in only *de minimus* changes to the blended collection factor. PWD Statement 8 (J. Davis) at 4.

347. Under the City's accounting practices the discount for low-income customers would be booked as a contra-revenue, which always corresponds to a collection factor of 100 percent for accounting and ratemaking purposes. Tr. 133:24-134:16 (4/13/16).

348. Actual data comparing collection rates for the Water Department's low-income customers or potential IWRAP customers to other customers is not available. Tr. 143:18-144:7 (4/12/16); PA Statement 3 at 48-51.

349. The Board need not consider double recovery or embedded revenue issues given the City's accounting practices and the fact that costs for arrearage forgiveness were not included in the estimate of program costs. Tr.144:8-18 (4/12/16).

350. Neither Mr. Davis nor Mr. Colton made any adjustments to reflect decreased credit and collection expenses attributable to IWRAP. The program may improve payment patterns only insofar as it reduces bill amounts, but the overall level of credit and collection expenses expenditures are reasonably be expected to remain constant. As a result, no adjustment is necessary. PA Statement 3 at 58-59.

6. IWRAP Rider.

351. The feasibility and appropriateness of recovering program cost through a rider rather than base rates needs to take into consideration the City's bond covenants which limit the ability of the Water Department to make large transfers to cover operations.

352. The City's bond covenants include an insurance covenant which requires the City to establish rates sufficient to produce net revenues (excluding amounts transferred from the Rate Stabilization Fund into the Revenue Fund for a given year) equal to at least 90% of debt service requirements (as defined by the 1989 General Ordinance) . PWD Statement 2 at 7.

353. Subscription rates to the new program that significantly exceed estimates could produce revenue reductions that cannot be covered by transfers and that result in a default of the covenants. This risk is of particular concern in this two-year rate period given the uncertainties associated with implementing a substantial new customer assistance program. PWD Statement 8 (J. Davis) at 6.

354. A rider that is reconcilable annually raises the risk of having to transfer funds from the Rate Stabilization Fund in one year but not being able to recover the funds in the following year. Before adopting a rider that is reconciled annually, it is necessary to evaluate whether the Water Department will be able to manage additional withdrawals from the Rate Stabilization Fund in a given fiscal year without triggering default of the 90 Percent Rule in the insurance covenant, taking into consideration the delay in collection of funds to the following year under the rider and the fact that the compliance with the covenant is determined retrospectively. Tr. 9:12-42:8 (4/12/16); *see also* Tr. 45:7-46:5 (4/6/16)(regarding retrospective testing for compliance).

355. Reconciliation quarterly or semiannually would present other challenges given the present billing system. Programming new rates into the present billing system requires approximately 30 to 45 days before bills can be issued with the new rates. Thus, there would be a considerable lag time between the results of any reconciliation audit and the first day on which new bills can be issued after reconciliation. This could result in higher rates in the later months of the reconciliation period given the need to compress the revenue requirement into shorter time periods. Tr. 134:17-138:17, 139:17-140:10 (4/13/16).

7. Allocation

356. Allocation of revenue reductions and costs associated with IWRAP to all retail rate classes and customers is reasonable based on: (i) United States Environmental Protection Agency (EPA) regulations regarding allocation of costs of low-income rate programs offered by water utilities that have received federal grants to assist in construction of wastewater treatment facilities; (ii) the approval of this approach in prior rate proceedings for the Water Department's other discount programs such as the senior citizen discount; (iii) the administrative complexity associated with any potential change in the billing system; and (iv) the potential wide range of positive benefits to all customer classes. See PWD Statement 9A, B&V at 97.

357. PGW allocates the costs of its low-income program to all of its customers. Tr. at 118:18-119:1 (4/13/16).

Customer Service Recommendations Should be Rejected As Outside of the Rate Board's Jurisdiction

A. The Rate Board's Jurisdiction

358. Section 13-101(8) of the Philadelphia Code allows the Board to approve, modify or reject proposed rates and charges.

359. Neither the Charter nor the Philadelphia Code vests the Board with the power or authority to require the Water Department, Revenue Department or other City departments to: (a) conduct certain studies, (b) report collection activities or outcomes, (c) collect certain data on payment plans, (d) exempt accounts from disconnection of service, (e) stay all service disconnections or other pending enforcement actions pending certain affirmative demonstrations of policy revisions, staff training or information technology modifications, (f) modify their regulations, policies and procedures for termination and/or restoration of service, (g) implement IWRAP or other programs in a particular manner, (h) engage in mediation and/or (i) conduct customer satisfaction surveys.

360. Nothing in the Charter or the Philadelphia Code empowers the Board to precondition approval on City departments agreeing to perform one or more of the various actions described above.

361. Section 13-101 of the Philadelphia Code does not expressly authorize the Board to set standards of customer service or to modify or reject a request to increase rates and charges because the customer services rendered by other City departments are found to be inadequate or fail to meet certain standards.

Stipulation in the 2012 Rate Proceeding

362. In the 2012 Rate Proceeding, under the former rate process and as part of a Joint Petition for Settlement, the Water Department agreed to enter into entered into a Stipulation to Mediation between PWD/WRB and the Public Advocate ("Stipulation"). PA Hearing Exhibit 2 at 4.

363. The Stipulation provided that: (a) the mediation would be a series of interactions and conversation between PWD/WRB and the Public Advocate concerning certain quality of service subject areas; (b) the mediation would involve an outside mediation who would be mutually agreed to by the Public Advocate and PWD/WRB; (c) the mediation would be structure, in that there would be a regularly scheduled sessions and a per-determined timeline; (d) PWD would budget and provide the Public Advocate with sufficient resources to participate meaningfully in the process; and (e) the issue areas to address in the mediation, in order of priority, would be: improvement of the informal dispute and hearing process, the structure and delivery of WRAP, the delivery of deferred payment agreements, and the treatment of tenant arrears and applications for service. PA Hearing Exhibit 2 at14 of 15, ¶¶ 2-6.

364. As described in the Stipulation, the mediation was expected to take approximately two years. PA Hearing Exhibit 2 at14-15 of 15, ¶ 7.

365. The Stipulation provided that in the mediator would identify any specific, discrete point of disagreement and present a proposed resolution of those points to the Deputy Revenue Commissioner, Revenue Commissioner and Water Commissioner (the "Commissioners"). The Commissioners would then issue a decision and note any exceptions to the mediator's proposed resolution. PA Hearing Exhibit II at15 of 15, ¶ 10.

366. The City of Philadelphia issued a Request for Proposals in March 2013 and entered into a contract with the Mediator for the mediation services in 2013, effective on June 1, 2013. Gail Bingham

of RESOLVE, Inc. was selected to serve as mediator. She was supported by Scott Rubin and Mitchell Miller in the mediation. PA Hearing Exhibit 7, Commissioners Decision at 2.

367. Nothing in the record of this proceeding suggests that the Public Advocate was not consulted or did not agree with the firm selected to act as the mediator.

368. The parties met in person to discuss and prepared for the mediation on June 6, 2013. PA Hearing Exhibit 7, Commissioners Decision at 2, n.3.

369. From December 2013 through November 2014, the Mediator presided over a series of meetings and telephone conferences between PWD/WRB and the Public Advocate related to informal dispute and hearing process. The Mediator's report on this issue was issued on November 11, 2014, and the Commissioners issued their decision on the mediator's proposed resolution of unresolved issues on December 11, 2014. *See* PA Hearing Exhibit 7, Commissioners' Decision at 12 and the Mediation Report attached to the Commissioners Decision as Exhibit B.

370. By agreement of the Parties, the next issue addressed through the mediation process was tenant arrears and applications for service. The Mediator proposed a general framework for the mediation of this issue in a memo dated February 12, 2015, and presided over scheduled mediation sessions on April 7, 2015 and May 19, 2015. The Parties submitted written memoranda confirming agreements reached and stating their positions on the unresolved issues in June 2015. The Mediator issued a Mediation Report on Tenant and Application Issues on December 11, 2015, and the Commissioners issued their decision on the mediator's proposed resolution of unresolved issues on January 11, 2016. *See* PA Hearing Exhibit 8 at 2, 8.

371. Even though the Stipulation provided that the next issue to be addressed in the mediation in order of priority would be the structure and delivery of WRAP, Mr. Colton appears to acknowledge that mediation of that issue is unnecessary given his claim that WRAP is subsumed by IWRAP. Instead, he alleges that the treatment of deferred payment agreements is the next outstanding issue that should be addressed through mediation. PA Statement 3 at 75, 83.

372. Nothing in the record of this proceeding suggests that the Public Advocate requested the Mediator or the Departments to resolve issues regarding deferred payment agreement through the continuation of the formal mediation process under the Stipulation entered into in the prior rate proceeding, other than Mr. Colton's unsupported claim in testimony. To the contrary, in the memo submitted by the Public Advocate to the Mediator on June 30, 2015, the Public Advocate merely recommended that the parties revisit and come to an agreement regarding how to address and resolve those issues. PA Hearing Exhibit 8 at 27.

373. The Public Advocate raised the issue of deferred payment agreements during the mediation of issues on tenant arrears and applications for service. In the Mediation Report issued on December 11, 2015, the Mediator did not recommend any change in the City policies and procedures at the present time in light of the recent enactment of the IWRAP Ordinance. PA Hearing Exhibit 8 at 6, 26, 38 (Issue K).

374. The Department drafted revisions to the regulations on deferred payment agreements and provided the draft proposed revisions to the Public Advocate for review on January 29, 2016. At the request of the Public Advocate, those draft revisions have not yet been formally proposed or filed with the Department of Records. Tr. 144:21-145:20, 153:17-154:15; and 157:24-159:9 (4/12/16).

375. Nothing in the records suggests and the Departments failed to provide the Public Advocate with sufficient resources to participate meaningfully in the mediation process. To the contrary, the City has made a combined total of over $540,000 in payments to CLS as the Public Advocate for services related to the 2012 rate proceeding and mediation. PA-EXE-107.

376. At the public input hearings, five customers raised customer service issues that the Water Revenue Bureau was able to address and resolve by the time of the technical hearing on April 12, 2016. Tr. 145:21-149:8 (4/12/16).

The Water Department's Customer Assistance Regulations and Enhanced CAP

377. The Water Department's Regulations consist of six chapters titled as follows:

Chapter 1	Customer Rights and Obligations
Chapter 2	Customer Assistance
Chapter 3	Rates and Charges
Chapter 4	Water
Chapter 5	Sewer & Wastewater Control
Chapter 6	Stormwater

See, PWD Regulations.

378. Enhanced CAP is one of the customer assistance programs in Chapter of the Water Department's regulations pertaining to customer assistance. See PWD Regulations, Chapter 2, Sections 204.0

379. Pursuant to a provision in the Joint Petition for Settlement in Phase 2 of the last rate proceeding, the Water Department evaluated various types of that might be developed to supplement or modify Enhanced CAP. The outcome of the evaluation was the implementation of GARP. See Response to PF I-1.

380. Penn Future and its expert, Mr. Russell, propose that the Water Department modify Enhance d CAP so that it the program would be phased out by Fiscal Year 2019. PF Statement 1 at 9-14.

381. The current parcel based system for stormwater cost recovery was sanctioned by various customer groups, as a part of the settlement of the 2012 rate case, because PWD offered an assistance program called Enhanced CAP to the most severely impacted non-residential customers. The Water Department considers Enhanced CAP critical to the success of the transition from meter-based to land-based recovery of stormwater charges in prior rate proceedings owing to the number of highly-impacted customers. Tr. 24:13-25:10 and 95:13-97:9 (4/7/16).

382. Enhanced CAP was put in place on January 1, 2013 and was closed for new enrollment on September 30, 2013. The number of accounts in the program declines each year as customers transition out of the program. Tr. 38:3-5, 55:23-56:19 and 94:7-95:11 (4/7/16); PF Statement 1 at 9; and PWD Statement 4 at 6.

383. PennFuture's and Mr. Russell's recommendation posits that all current Enhanced CAP participants can be transitioned to SMIP/GARP or can take advantage of other alternatives to manage stormwater run-off and qualify for SWMS credits. Penn Future Statement 1 at 2-3; 11-12. This is not the

case, however. Some Enhanced CAP participants have no alternatives to mitigate stormwater management costs. Tr. at 86:19-89:3 (4/7/16).

384. Moreover, many of these participants are also churches and non-profit organizations without funding to invest in stormwater management best practices even if they qualify for a partial grant. *Id.* and Tr. 53:1-54:10; 87-88 (4/7/16).

385. Mr. Russell did seem to fully appreciate the impact of eliminating the Enhanced CAP program on the above types of customers. More analysis is clearly required to support a change in policy given our commitment to these customers. As indicated in the record, PWD is agreeable to extend a targeted outreach to those Enhanced CAP participants that can take advantage of SMIP/GARP. Tr. 57:17-59:21 (4/7/16).

386. The remaining Enhanced CAP participants, however, will continue to need the assistance promised to them in the last proceeding. See, Tr. 89-90 (4/7/16).

PROPOSED CONCLUSIONS OF LAW

1. The Department must establish rates consistent with applicable legal requirements prescribed by the Charter, Rate Ordinance and the 1989 General Ordinance. See, Governing Legal Standards, *supra.*

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

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

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

> **Standards for Rates and Charges**. (a) The rates and charges shall be such as shall yield to the City at least an amount equal to operating expenses and debt service, on all general obligations of the City in respect of the water, sewer, stormwater systems and, in respect of Water and Wastewater Revenue Bonds, such additional amounts as shall be required to comply with the Rate Covenant and the Debt Reserve Requirement , and proportionate charges for all services performed for the Water Department by all officers, departments, boards or commissions of the City.
>
> (b) The rates and charges shall yield not more that 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, reasonable anticipated cost increases or diminutions in expected revenue, less the cost of supplying water to City facilities and fire systems and, in addition, such

amounts as, together with additional amounts charged in respect to the City's sewer system, shall be required to comply with the Rate Covenant and Debt Reserve Requirement in connection with the issuance of Water and Wastewater Revenue Bonds. Such rates and charges may provide for sufficient revenue to stabilize them over a reasonable number of years.

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

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

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

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

(c) The rates and charges shall be equitably apportioned among the various classes of consumers and shall be just, reasonable and non-discriminatory as to the same class of customers.

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

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

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

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

Appendix A

PHILADELPHIA WATER DEPARTMENT RATE PROCEEDING
(FY 2017-2018)

INDEX OF DOCUMENTS FILED WITH THE
FORMAL NOTICE OF PROPOSED CHANGES IN RATES AND CHARGES

Tab No.	Statement/Exhibit	Description of Statement/Exhibit
Philadelphia Water Department Statements		
1.	**PWD St.-1**	Direct Testimony and Exhibit of Debra A. McCarty
2.	**PWD St.-2**	Direct Testimony and Exhibits of Melissa LaBuda
3.	**PWD St.-3**	Direct Testimony and Exhibit of Stephen J. Furtek
4.	**PWD St.-4**	Direct Testimony and Exhibits of Joanne Dahme and Erin Williams
5.	**PWD St.-5**	Direct Testimony and Exhibits of James Palladino
6.	**PWD St.-6**	Direct Testimony and Exhibits of Michelle Bethel and Mark Harvey
7.	**PWD St.-7**	Direct Testimony and Exhibits of Katherine Clupper
8.	**PWD St.-8**	Direct Testimony and Exhibits of Raftelis Financial Consultants, Inc.
9.	**PWD St.-9A**	Direct Testimony and Exhibits of Black & Veatch Corporation
	PWD St.-9B	Supplemental Direct Testimony and Exhibits of Black & Veatch Corporation
Philadelphia Water Department (PWD) Exhibits		
10.	**PWD Exhibit-1**	Notifications of Rate Filing
11.	**PWD Exhibit-2**	Financial Plan
12.	**PWD Exhibit-3** **PWD Exhibit-3A**	Proposed Rates and Charges Proposed Rates and Charges (Redlined)
13.	**PWD Exhibit-4**	Standard Interrogatories and Responses with Attachments
14.	**PWD Exhibit -5**	Assumptions Provided to the Public Advocate on 12/8/15
15.	**PWD Exhibit -6**	Black & Veatch Corporation Cost of Service Study Work Papers
16.	**PWD Exhibit-7**	Newspaper Notices (to be supplemented upon publication)

TABLE C-1

COMBINED UTILITY: PROJECTED REVENUE AND REVENUE REQUIREMENTS
(in thousands of dollars)

Line No.	Description			Fiscal Year Ending June 30, 2015	2016	2017	2018	2019	2020	2021
	OPERATING REVENUE									
1	Water Service - Existing Rates			258,012	255,999	254,550	252,888	251,468	250,283	249,096
2	Wastewater Service - Existing Rates			390,651	388,102	386,091	383,669	381,385	379,270	377,144
3	Total Service Revenue - Existing Rates			648,663	644,101	640,641	636,557	632,853	629,553	626,240
	Additional Service Revenue Required									
	Year	Percent Increase	Months Effective							
4	FY 2016	0.00%	12		0	0	0	0	0	0
5	FY 2017	5.42%	12			34,735	34,514	34,312	34,133	33,952
6	FY 2018	5.42%	12				36,392	36,180	35,991	35,800
7	FY 2019	4.73%	12					33,247	33,072	32,896
8	FY 2020	4.73%	12						34,659	34,475
9	FY 2021	5.56%	12							42,451
10	Total Additional Service Revenue Required			0	0	34,735	70,906	103,740	137,854	179,574
11	Total Water & Wastewater Service Revenue			648,663	644,101	675,376	707,463	736,593	767,407	805,815
	Other Income (a)									
12	Other Operating Revenue			27,068	22,874	22,293	6,133	24,160	4,531	3,682
13	Debt Reserve Fund Interest Income			0	0	0	0	0	0	0
14	Operating Fund Interest Income			374	280	310	286	398	380	390
15	Rate Stabilization Interest Income			704	676	575	470	422	444	442
16	Total Revenues			676,809	667,931	698,553	714,352	761,572	772,763	810,329
	OPERATING EXPENSES									
17	Water & Wastewater Operations			(251,514)	(266,640)	(285,741)	(293,383)	(298,158)	(306,415)	(314,524)
18	Direct Interdepartmental Charges			(151,394)	(164,433)	(172,430)	(178,074)	(185,164)	(189,867)	(195,930)
19	Total Operating Expenses			(402,908)	(431,074)	(458,171)	(471,457)	(483,322)	(496,282)	(510,454)
20	Transfer From/(To) Rate Stabilization Fund			(21,410)	36,900	19,300	39,000	(12,300)	(100)	1,200
21	**NET REVENUES AFTER OPERATIONS**			252,491	273,757	259,683	281,895	265,950	276,381	301,075
	DEBT SERVICE									
	Senior Debt Service									
	Revenue Bonds									
22	Outstanding Bonds			(192,927)	(198,602)	(181,580)	(182,769)	(133,274)	(122,358)	(122,545)
23	Pennvest Parity Bonds			(12,343)	(12,343)	(12,343)	(12,927)	(13,120)	(13,074)	(13,074)
24	Projected Future Bonds			0	(9,769)	(13,791)	(27,966)	(50,525)	(69,262)	(87,329)
25	Total Senior Debt Service			(205,270)	(220,713)	(207,715)	(223,661)	(196,920)	(204,693)	(222,948)
26	**TOTAL SENIOR DEBT SERVICE COVERAGE (L:**			1.23 x	1.24 x	1.25 x	1.26 x	1.35 x	1.35 x	1.35 x
27	Subordinate Debt Service			0	0	0	0	0	0	0
28	Total Debt Service on Bonds			(205,270)	(220,713)	(207,715)	(223,661)	(196,920)	(204,693)	(222,948)
29	**CAPITAL ACCOUNT DEPOSIT**			(20,697)	(21,215)	(21,745)	(22,289)	(22,846)	(23,417)	(24,003)
30	**TOTAL COVERAGE (L21/(L28+L29))**			1.11 x	1.13 x	1.13 x	1.14 x	1.21 x	1.21 x	1.21 x
	RESIDUAL FUND									
31	Beginning of Year Balance			25,275	15,172	15,255	15,132	15,232	15,170	15,194
32	Interest Income			73	55	55	55	55	55	55
	Plus:									
33	End of Year Revenue Fund Balance			26,524	31,829	30,223	35,945	46,184	48,270	54,124
34	Deposit for Transfer to City General Fund (b)			776	789	794	799	766	764	813
	Less:									
35	Transfer to Construction Fund			(36,700)	(31,800)	(30,400)	(35,900)	(46,300)	(48,300)	(54,200)
36	Transfer to City General Fund			(776)	(789)	(794)	(799)	(766)	(764)	(813)
37	Transfer to Debt Service Reserve Fund			0	0	0	0	0	0	0
38	End of Year Balance			15,172	15,255	15,132	15,232	15,170	15,194	15,173
	RATE STABILIZATION FUND									
39	Beginning of Year Balance			184,796	206,206	169,306	150,006	111,006	123,306	123,406
40	Deposit From/(To) Revenue Fund			21,410	(36,900)	(19,300)	(39,000)	12,300	100	(1,200)
41	End of Year Balance			206,206	169,306	150,006	111,006	123,306	123,406	122,206

(a) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund. Includes Debt Service Reserve Fund Release in FY 2019 and projected contra revenue credits for Affordability Program Discounts in FY 2018 to FY 2021.

(b) Transfer of interest earnings from the Bond Reserve Account to the Residual Fund as shown in Line 34 to satisfy the requirements for the transfer to the City General Fund shown on Line 36.