

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

**In the Matter of a Proposed Rate       :**  
**Increase in Water, Sewer and       :**     **FY 2019-2021 Rates**  
**Storm Water Rates                       :**

HEARING EXHIBIT \_\_\_\_

On Behalf of the Public Advocate

May \_\_\_\_, 2018



# § 314. Investigation of interstate rates, facilities and service

## Research References

**Treatises and Practice Aids**  
**Standard** Pennsylvania Practice  
 § 166:1359, Investigation of Interstate Rates, Facilities, and Services, and Reporting to Federal Government.

## § 315. Burden of proof

(a) **Reasonableness of rates.**—In any proceeding upon the motion of the commission, involving any proposed or existing rate of any public utility, or in any proceedings upon complaint involving any proposed increase in rates, the burden of proof to show that the rate involved is just and reasonable shall be upon the public utility. The commission shall give to the hearing and decision of any such proceeding preference over all other proceedings, and decide the same as speedily as possible.

(b) **Compliance with commission determinations and orders.**—In any case involving any alleged violation by a public utility, contract carrier by motor vehicle, or broker of any lawful determination or order of the commission, the burden of proof shall be upon the public utility, contract carrier by motor vehicle, or broker complained against, to show that the determination or order of the commission has been complied with.

(c) **Adequacy of services and facilities.**—In any proceeding upon the motion of the commission, involving the service or facilities of any public utility, the burden of proof to show that the service and facilities involved are adequate, efficient, safe, and reasonable shall be upon the public utility.

(d) **Justification of accounting entries.**—The burden of proof to justify every accounting entry questioned by the commission shall be upon the public utility making, authorizing, or requiring such entry, and the commission may suspend any charge or credit pending submission of such proof by such public utility.

(e) **Use of future test year.**—In discharging its burden of proof the utility may utilize a future test year or a fully projected future test year, which shall be the 12-month period beginning with the first month that the new rates will be placed in effect after application of the full suspension period permitted under section 1308(d) (relating to voluntary changes in rates). The commission shall promptly adopt rules and regulations regarding the information and data to be submitted when and if a future test period or a fully projected future test year is to be utilized. Whenever a utility utilizes a future test year or a fully projected future test year in any rate proceeding and such future test year or a fully projected test year forms a substantive basis for the final rate determination of the commission, the utility shall provide, as specified by the commission in its final order, appropriate data evidencing the accuracy of the estimates contained in the future test year or a fully projected future test year, and the commission may after reasonable notice and hearing, in its discretion, adjust the utility's rates on the basis of such data. Notwithstanding section 1315 (relating to limitation on consideration of certain costs for electric utilities), the commission may permit facilities which are projected to be in service during the fully projected future test year to be included in the rate base.

1978, July 1, P.L. 598, No. 116, § 1, effective in 60 days. Amended 2012, Feb. 14, P.L. 72, No. 11, § 1, effective in 60 days [April 16, 2012].

## Research References

**Treatises and Practice Aids**  
**Standard** Pennsylvania Practice  
 § 166:1623, Burden of Proof.  
 § 166:1563, Proceedings Involving Alleged Violations.  
**Standard** Pennsylvania Practice  
 § 166:1564, Proceeding Involving Service of Utility.  
**Standard** Pennsylvania Practice  
 § 166:1620, Scheduling Hearings in Rate Proceedings.

## Notes of Decisions

1. **In general**  
 Provision of Public Utility Code stating that, in any proceeding upon motion of the Public Utility Commission, involving service or facilities of any public utility, the burden of proof to show that the service and facilities involved are adequate, efficient, safe, and reasonable shall be upon the public utility was irrelevant with respect to sanction to be imposed on taxicab licensee for bribery. *Hui v. City of Philadelphia Parking Authority*, 913 A.2d 994, Cmwth.2006. Automobiles ⇨ 106; Automobiles ⇨ 108

5. **Rate base**  
 A single issue rate making is prohibited if it impacts on a matter considered in a public utility's base rate case. *Popowsky v. Pennsylvania Public Utility Com'n*, 869 A.2d 1144, Cmwth.2005, appeal denied 895 A.2d 552, 586 Pa. 761. Public Utilities ⇨ 119.1

12. **Sufficiency of evidence**  
 Public Utility Commission was authorized by statute granting Commission discretion to order water utility to refund to patrons the amount of any excess paid by patrons, in consequence of unlawful collection, within four years prior to filing of complaint to proposed rates, together with interest at the legal rate from the date of each such excessive payment, although utility collected less than the \$680,004 in actual annual revenues authorized by order of Commission, although authority to order refunds was discretionary, and utility urged that Commission abused that discretion by treating refunds as mandatory and failing to follow appellate decisions requiring the Commission to consider a utility's current financial condition in deciding whether a refund is warranted; utility did not present any evidence of any imminent financial collapse or service failure that would justify retaining the ratepayers' money. *Emporium Water Co. v. Public Utility Com'n*, 859 A.2d 20, Cmwth.2004. Water Law ⇨ 2236

## § 316. Effect of commission action

## Research References

**Treatises and Practice Aids**  
**Standard** Pennsylvania Practice  
 § 166:1424, General Rule.

## Notes of Decisions

3. **Conclusiveness of orders and findings**  
 Public Utility Code section providing that Public Utility Commission (PUC) determinations are conclusive upon all parties affected thereby unless set aside, annulled, or modified on judicial review does not bar the making of a revised price determination in a subsequent and separate proceeding. *Bell Atlantic-Pennsylvania, Inc. v. Pennsylvania Public Utility Com'n*, 763 A.2d 440, Cmwth.2000, reargument denied, appeal denied 788 A.2d 378, 567 Pa. 745, appeal denied 788 A.2d 378, 567 Pa. 746, appeal denied 788 A.2d 380, 567 Pa. 749, appeal denied 788 A.2d 381, 567 Pa. 751, appeal denied 788 A.2d 382, 567 Pa. 752, appeal granted 793 A.2d 911, 568 Pa. 639, vacated 844 A.2d 1239, 577 Pa. 294. Public Utilities ⇨ 170

**PENNSYLVANIA  
PUBLIC UTILITY COMMISSION  
Harrisburg, PA 17105-3265**

Public Meeting held December 21, 2017

Commissioners Present:

Gladys M. Brown, Chairman  
Andrew G. Place, Vice Chairman  
Norman J. Kennard  
John F. Coleman, Jr.  
David W. Sweet

Use of Fully Projected Future Test Year  
52 Pa. Code Chapter 53

L-2012-2317273

**ADVANCE NOTICE OF PROPOSED RULEMAKING ORDER**

**BY THE COMMISSION:**

This advance notice of proposed rulemaking (ANOPR) identifies proposed procedures and filing requirements for use of a fully projected future test year (FPFTY) by eligible utilities in base rate cases. Any new FPFTY procedures and filing requirements, if adopted, would comprise a new Exhibit E *Fully Projected Future Test Year – All Jurisdictional Public Utilities and Other Regulated Entities Electing To Use a Fully Projected Future Test Year (FPFTY) Except Communications Utilities* to Section 53.53 of Title 52 of the Pennsylvania Code. The Commission has jurisdiction to employ the concept of a FPFTY as authorized by Act 11 of 2012, which amended Section 315 of the Public Utility Code.

Additionally, this advance notice requests stakeholder input on proposed or alternative updates, as well as stakeholder suggestions for updates or alternatives, to the existing Exhibits A (generally natural gas), C (electric), and D (water and waste water) or other sections of the filing requirement regulations related to Sections 53.51-53.56 *Information Furnished with the Filing of Rate Changes*.

The Commission will convene a stakeholder meeting to review the comments regarding the ANOPR. Thereafter, the Commission intends to initiate a proposed rulemaking regarding FPFTY procedures and filing requirements and may convene additional stakeholder meetings to gather further input from stakeholders.

## **Background**

On February 14, 2012, Governor Corbett signed into law Act 11 of 2012 (Act 11), which amended Chapters 3, 13, and 33 of the Pennsylvania Public Utility Code (Code). 66 Pa. C.S. §§ 308, 1307, 1311, 1327, and 1350-1360. Act 11, *inter alia*, authorizes water and wastewater utilities, electric distribution companies (EDCs), and natural gas distribution companies (NGDCs) or a city natural gas distribution operation to use a FPFTY in their Section 1308(d) base rate proceedings. *See* 66 Pa. C.S. § 1308(d) (relating to voluntary changes in rates). A new Exhibit E is contemplated for applicability to utilities choosing to use a FPFTY. The new Exhibit E would standardize the procedures and filing requirements for rate case data across the utility categories. Changes are being proposed to the introductory and explanatory text in Section 53.53(a) – (c), and a new section 53.53 (d) is proposed.

The FPFTY is a ratemaking mechanism that allows a utility to project capital investment and correspondingly to include that projected investment in the utility's claimed revenue requirement throughout the twelve-month period beginning with the first month that the new rates would be placed in effect. 66 Pa. C.S. §§315, 1350-1360; *Pa. Public Utility Commission v. Columbia Gas of PA Inc.*, Docket No. R-2012-2321748, 2013 WL 2420877 (Pa. PUC). A public utility can also use the FPFTY mechanism to project other revenue requirement and ratemaking components such as operating revenues, operating expenses, depreciation, interest expense, taxes, and return.

Act 11 additionally allows eligible water, wastewater, gas, and electric utilities to petition the Commission for approval of a distribution system improvement charge

(DSIC) to recover the reasonable and prudently incurred costs related to the repair, improvement, and replacement of utility infrastructure. In conjunction with a DSIC, the utilities must file a long-term infrastructure improvement plan (LTIIP) which is a necessary component of a DSIC petition. 66 Pa. C.S. § 1353(b)(3). The purpose of a LTIIP is to ensure that utilities are planning and executing capital expenditures that will maintain and improve the efficiency, safety, adequacy, and reliability of existing distribution infrastructure at a faster pace than they have done historically. Water utilities with a previously-approved DSIC are not required to file a LTIIP unless otherwise directed by the Commission. *See* 66 Pa. C.S. § 1360. Further, Section 1356 of Act 11, 66 Pa. C.S. § 1356, requires a utility with an approved DSIC to file an Annual Asset Optimization Plan (AAO Plan). An AAO Plan is intended to provide the Commission and the public with an overall status report regarding a utility's progress in making infrastructure improvements pursuant to its Commission-approved LTIIP. *See Review of LTIIP*, Docket No. 2012-2317274 (May 23, 2014), establishing regulations at 52 Pa. Code §§ 121.1-121.8 (relating to LTIIPs).

We have addressed policy and tariff issues related to DSICs at *Implementation of Act 11: DSIC*, Docket No. M-2012-2293611. The purpose of this ANOPR is to solicit comments and input on the procedures and filing requirements for utilities that use a FPFTY.

## **Discussion**

### **A. New Exhibit E Specifically Referencing FPFTY Requirements**

Existing regulations for Section 1308 rate cases are set forth, in part, at Section 53.53 of our regulations, 52 Pa. Code § 53.53.<sup>1</sup> Exhibit A to that section

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<sup>1</sup> The provisions of Section 53.53 were adopted September 2, 1977, 7 *Pa.B.* 2527; amended through March 29, 1985, effective for rate increase requests filed on and after July 1, 1985. Those utilities meeting the filing requirements in the new regulations were permitted, upon request, to file under the new regulations at an earlier date, 15 *Pa.B.* 1178; amended October 23, 1987, effective November 23, 1987,

addresses, *inter alia*, gas utilities. Exhibit C addresses electric utilities. Exhibit D addresses water and wastewater utilities. These three exhibits provide the initial requirements and framework for the provision of utility data in support of rate cases using historic and future test years. No changes are contemplated to Exhibits A, C, or D.<sup>2</sup>

The term “historic test year” (HTY) as currently used in Exhibits A, C, and D refers to:

[T]he test year chosen by the utility to support its filing, that is, presumably future test year data would be supplied in most cases. “Historic test year,” as referred to in Exhibit D, is defined as book figures for the base test year. The term “future test year,” [(FTY)] as used in Exhibit D, refers to the adjusted historic test year for known and measurable changes 12 months beyond the book figures for the base year, or the utility’s final claimed supporting data.

52 Pa.Code § 53.53(b) (last amended effective May 21, 2005, *see* 35 Pa.B. 3024). To the extent not otherwise indicated, the requirements of Exhibits A, B, C, and D are to be preserved relative to cases in which a utility is not using a FPFTY. A utility using a FPFTY would be required to provide the data and support required if using a HTY or a FTY in conjunction with providing the FPFTY data and support as indicated in the proposed Exhibit E. HTY and FTY data and support would not be submitted as separate components but rather submitted in proximity and association with the data and support relative to the FPFTY data.

We note that there are several points of divergence between the data and support required in the existing Exhibits A, C, and D for the various utility categories. Some of these differences would be preserved in a new Exhibit E. Some, however, seem to serve no particular purpose and will be proposed for deletion. A new Exhibit E would

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17 Pa.B. 4221; corrected May 13, 1994, effective December 3, 1983, 24 Pa.B. 2533; amended May 20, 2005, effective May 21, 2005, 35 Pa.B. 3024.

<sup>2</sup> Exhibit B is not at issue either as it refers to communications utilities, which are not affected by Act 11.

therefore, also, standardize many of the procedures and filing requirements for rate case data among the eligible utility categories while spelling out instances where differences will continue.

Changes would also be necessary to the introductory and explanatory text in Section 53.53(a) – (c), and a new section 53.53(d) would be proposed.

Thus, we anticipate proposing, in a future rulemaking, to establish a new exhibit, Exhibit E, for any utility which is eligible to use and which elects to use a FPFTY. The new Exhibit E would standardize the procedures and filing requirements for rate case data among the utility categories. By statute, “fully projected future test year” is defined as the 12-month period beginning with the first month that the new rates will be placed in effect after application of the full suspension period permitted under section 1308(d) (relating to voluntary changes in rates). Thus, the term “test year,” as used in Exhibit E, would refer to the FPFTY.

Based upon these considerations, the following changes to Section 53.53 and incorporation of a new Exhibit E are contemplated:

- **Section 53.53(a) & (b) – Information to be furnished with proposed general rate increase filing in excess of \$1 million.**

We would add a notation referring to the new “Exhibit E – all utilities electing Fully Projected Future Test Year (FPFTY),” to distinguish the differences in definitions of terms used in Exhibits A – D and in Exhibit E, and to define “FPFTY.”



- **Section 53.53, Exhibit E – Fully Projected Future Test Year – All Jurisdictional Public Utilities and Other Regulated Entities Electing To Use A Fully Projected Future Test Year (FPFTY) – Except Communications Utilities.**

Subsection I. We would add a definitions section for use in FPFTY filings.

Subsection II. We would add a general filings requirements section that delineates the following:

- A. Summary of the Filing.
- B. Description of Utility Operations.
- C. Rate Base.
- D. Rate of Return (ROR).
- E. Balance Sheet.
- F. Income Statement and Statement of Cash Flow.
- G. Operating Revenue.
- H. Operating Expenses.
- I. Employee Costs, including Related Costs such as Benefits and Retiree Costs.
- J. Depreciation.
- K. Taxes.
- L. Long Term Infrastructure Improvement Plan (LTIIIP) and Annual Asset Optimization Plan (AAO Plan)
- M. Industry-specific data.

We are particularly interested in comments regarding existing data production requirements that exist in Exhibits A, C, and D but which are not contemplated herein for retention in a new Exhibit E. We also request stakeholders to comment on data productions requirements that could be added to Exhibit E to enhance decision making in cases involving FPFTY considerations. Further, we request comments on how much historical and current data should be covered by the various requests.

## **B. Additional Section 53.53 Matters**

The contemplated new Exhibit E addresses data to be provided with the filing. To the extent that there are non-discovery questions related to use of a FPFTY that should be addressed in regulations, we shall address those matters in a new Subsection 53.53(d). Stakeholders are invited to comment on those issues and contemplated resolutions.

## **C. Housekeeping Updates to Existing Regulations**

1. 52 Pa. Code § 5.423 – Section 5.423 is referenced in Exhibit D (water and wastewater), Section VII.25. Section 5.324 has, however, been replaced by 52 Pa. Code § 5.365 (relating to orders to limit availability of proprietary information), effective September 21, 2013, 43 *Pa.B.* 5593. We would update the cross reference.

2. 52 Pa. Code § 53.51(d) – Section 53.51(d) provides that utilities filing for proposed rate changes shall serve a copy of the proposed rate changes and supporting data on the Office of Consumer Advocate (OCA). We would revise this provision consistent with the Commission’s e-service procedures and to direct that the Office of Small Business Advocate (OSBA) and the Commission’s Bureau of Investigation and Enforcement (I&E) also be served.

3. 52 Pa. Code § 53.52(a) – Section 53.52(a)(7) uses the term “subsection” to refer to itself, and Section 53.52(a)(8) uses “paragraph” to refer to itself. We would use “paragraph” for both internal references.

4. 52 Pa. Code §§ 53.51 – 53.56 – We invite comments on any other provisions Sections 53.51 – 53.56 that would require similar updates.

## **D. Comments Invited**

We invite interested parties to file comments on the anticipated changes to be proposed in a future rulemaking. Stakeholders are invited to identify other substantive,

procedural, and housekeeping matters related to FPFTY rate case filings related to electric, water, wastewater, and natural gas.

Stakeholders are also invited to comment on the applicability of FPFTY regulations to municipal utilities subject to Commission jurisdiction.

#### **E. Stakeholder Meetings For The ANOPR**

We shall convene a stakeholder meeting within thirty (30) days of receipt of the comments regarding the ANOPR. Thereafter, we shall determine if further stakeholder meetings would be beneficial, and we will set an appropriate schedule accordingly. The Law Bureau, in consultation with the other Commission bureaus and offices and based on the stakeholder input from the ANOPR process, will prepare a recommendation regarding the FPFTY NOPR.

#### **F. NOPR**

Based on the staff recommendation, we shall commence a proposed rulemaking with a FPFTY proposal. We shall publish the NOPR and proposed procedures and filing requirements and establish comment and reply comment periods. We will schedule stakeholder meetings as appropriate.

#### **Conclusion**

Accordingly, under sections 501, 1350-1360 and 1501 of the Public Utility Code, 66 Pa. C.S. §§ 501, 1350-1360, and 1501 and the Commonwealth Documents Law, Act of July 31, 1968, P.L. 769, *as amended*, 45 P.S. §§1201, *et seq.*, and the regulations promulgated thereunder, at 1 Pa. Code §§ 7.1-7.4, we contemplate adopting new regulations at 52 Pa. Code § 53.53 as set forth in Annex A. As noted herein, comments on the ANOPR are requested within 45 days of publication; **THEREFORE,**

**IT IS ORDERED:**

1. That interested parties are requested to comment on this advance notice of proposed rulemaking regarding the procedures and filing requirements for utilities using a fully projected future test year, as set forth in Annex A.

2. That the Law Bureau shall deposit this Order and Annex A with the Legislative Reference Bureau to be published in the *Pennsylvania Bulletin*.

3. That an original copy of any comments referencing the docket number of the proposed regulations set out in Annex A to this Order, be submitted within 45 days of publication in the *Pennsylvania Bulletin*, to Secretary Rosemary Chiavetta, Pennsylvania Public Utility Commission, 400 North Street, Harrisburg, PA 17120. Comments may be e-filed instead consistent with the Commission's e-filing instructions at: <http://www.puc.pa.gov/efiling/default.aspx>.

4. Electronic copies in Microsoft Word®-compatible format of all filings shall be provided via email to following Commission email account: [RA-PC-FPFTY2317273E@pa.gov](mailto:RA-PC-FPFTY2317273E@pa.gov).

5. That the contact person regarding legal issues for this rulemaking is Assistant Counsel Louise Fink Smith, Law Bureau, [finksmith@pa.gov](mailto:finksmith@pa.gov). The contact person for technical issues is Erin Laudenslager, Bureau of Technical Utility Services, [elaudensla@pa.gov](mailto:elaudensla@pa.gov). Alternate formats of this document are available for persons with disabilities and may be obtained by contacting Alyson Zerbe, Regulatory Coordinator, [alzerbe@pa.gov](mailto:alzerbe@pa.gov).

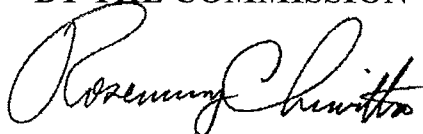
6. The Law Bureau in conjunction with the Bureau of Technical Services will convene a stakeholder meeting within thirty (30) days of receipt of comments regarding

this advance notice of proposed rulemaking regarding the procedures and filing requirements for utilities using a fully projected future test year.

7. That the Law Bureau in conjunction with the Bureau of Technical Services and other Commission bureaus will prepare a recommendation regarding a fully projected future test year proposed rulemaking.

8. That a copy of this Order and Annex A shall be served upon the Energy Association of Pennsylvania (EAP), the National Association of Water Companies (NWWC) all jurisdictional electric distribution companies, all jurisdictional natural gas distribution companies and city natural gas distribution companies, all jurisdictional water and wastewater utilities, all municipal utilities subject to Commission jurisdiction, other jurisdictional utilities except communication utilities, the Commission's Bureau of Investigation and Enforcement, the Office of Consumer Advocate, and the Office of Small Business Advocate.

**BY THE COMMISSION**

A handwritten signature in black ink, appearing to read "Rosemary Chiavetta", is written over a horizontal line.

Rosemary Chiavetta  
Secretary

(SEAL)

ORDER ADOPTED: December 21, 2017

ORDER ENTERED: December 22, 2017

ANNEX A<sup>1</sup>  
TITLE 52. PUBLIC UTILITIES  
PART I. PUBLIC UTILITY COMMISSION  
Subpart C. FIXED SERVICE UTILITIES  
CHAPTER 53. TARIFFS FOR NONCOMMON CARRIERS

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INFORMATION FURNISHED WITH THE FILING OF RATE CHANGES

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§ 53.51. General

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(d) Each utility filing a proposed rate change with the Commission shall serve a copy of the proposed rate change and supporting data required by this chapter upon the Office of the Consumer Advocate, the Office of the Small Business Advocate, the Commission's Bureau of Investigation and Enforcement and the Commission's Bureau of Technical Utility Services. Verification of service of this information upon the Office of Consumer Advocate shall be filed with the Commission. Additionally, the utility shall file verification of service of this information with the Commission. The utility may serve hard copies or comply with the Commission's e-service requirements.

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§ 53.53. Information to be furnished with proposed general rate increase filings in excess of \$1 million.

(a) When a public utility under the jurisdiction of the Commission, other than a canal, turnpike, tunnel, bridge or wharf company, files a tariff or tariff supplement seeking a general rate increase within the meaning of 66 Pa. C.S. § 1308(d) (relating to voluntary changes in rates), and the general rate increase exceeds \$1 million in gross annual revenues, in addition to the data required by other provisions of this chapter, the tariff or tariff supplement shall be accompanied by responses to the data requests contained in the following exhibits which apply to the utility types or specific test year, as indicated. Utilities not using the Fully Projected Future Test Year (FPFTY) method shall refer to Exhibits A, B, C or D, consistent with their utility type. Utilities using the FPFTY method shall refer to Exhibit E which is predicated on Exhibits A, C, and D but reflects adjustments required for consideration of a FPFTY proceeding. Information provided in conjunction with rate cases is subject to the act of February 14, 2008 (P.L. 6, No. 3) (65

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<sup>1</sup> For ease of reference during the advance notice process, we are using standard redlining available in Microsoft Word-compatible programs for existing regulations. When the Annex is finalized for proposed rulemaking purposes, we shall use standard rulemaking formatting to indicate changes.

P.S. §§101-3104), known as the Right to Know Law, 52 Pa. Code §§ 102.1-102.4 (relating to confidential security information), and 52 Pa. Code § 5.365 (relating to Orders to limit availability of proprietary information). The exhibits in this section are as follows:

(1) Exhibit A – Utilities except communications, electric, water, and wastewater utilities.

(2) Exhibit B – Communications utilities.

(3) Exhibit C – Electric utilities.

(4) Exhibit D – Water and wastewater utilities.

(5) Exhibit E – All jurisdictional public utilities and other regulated entities electing to use a Fully Projected Future Test Year (FPFTY) except Communications utilities.

(b) In providing responses to these data requests, if the requested data have been previously filed with the Commission, they may be incorporated by reference. Also, the term “historic test year” as used in these exhibits refers to the test year chosen by the utility to support its filing, that is, presumably future test year data would be supplied in most cases. The term “test year” as used in Exhibits A-D refers to the test year chosen by the utility to support its filing. “Historic test year,” as referred to in Exhibit D, is defined as book figures for the base test year. The term “future test year,” as used in Exhibit D, refers to the adjusted historic test year for known and measurable changes 12 months beyond the book figures for the base year, or the utility’s final claimed supporting data. These terms may have different meanings when used in conjunction with a FPFTY. See Exhibit E for specific applicability of these and other terms to the FPFTY method.

~~(c) Initial utility direct testimony of a witness who shall testify in support of the utility’s position shall be provided as part of the filing materials. The testimony of the filing utility shall include a complete explanation and justification of claims which depart from the unadjusted test year results of operations, including the methodology and rationale. The testimony shall be accompanied by supporting worksheets, if necessary, and shall refer to supporting exhibits to which the testimony relates. The explanation and documentation of the proposed adjustments shall enable a reasonably informed party to determine how the amount was calculated and to understand why the amount is being claimed.~~

(c) Testimony.

(1) Filed materials shall include the direct testimony of all utility witnesses who testified in support of the utility’s position. The utility witnesses’ testimony shall be accompanied

by supporting worksheets, if necessary, and shall refer to supporting exhibits to which the testimony relates.

(2) If adjustments from the test year are proposed, the utility witnesses' testimony shall also include a complete explanation and justification of any claims which depart from the unadjusted test year results of operations, including the methodology and rationale. The utility witnesses' testimony, explanation and documentation of the proposed adjustments shall enable a reasonably informed party to determine how the amount was calculated and to understand why the amount is being claimed.

(d) The utility shall provide a summary table of the most recent approved long-term infrastructure improvement plan (LTIIP) showing a list of eligible projects, year of anticipated construction, description of project and estimated cost of each project. If a proposed LTIIP is pending, the utility also shall provide a summary table of the proposed LTIIP. The utility shall provide docket numbers for approved or proposed LTIIPs.

(e) The utility shall provide working electronic copies of schedules in Microsoft Excel or similar electronic spreadsheet format (with all formulas and links intact).

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## **Exhibit E<sup>2</sup>**

### **FULLY PROJECTED FUTURE TEST YEAR – ALL JURISDICTIONAL PUBLIC UTILITIES AND OTHER REGULATED ENTITIES ELECTING TO USE A FULLY PROJECTED FUTURE TEST YEAR (FPFTY) EXCEPT COMMUNICATIONS UTILITIES**

Exhibit E sets forth definitions in Section I and common filing requirements in Subsections II.A. through II.L. for all utilities electing to use a FPFTY. Subsection II.M. sets forth further specific requirements unique to a particular industry if the utility elects to use a FPFTY.

#### **I. Definitions.**

Construction Work in Progress (CWIP) – A holding account for property costs not yet ready to be placed in service.

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<sup>2</sup> Note: Exhibit E is anticipated proposed new material and printed in regular type to enhance readability. When the Annex is finalized for proposed rulemaking purposes, we shall use standard rulemaking formatting to indicate changes.



Distribution (of) Service/Infrastructure – Systems and facilities required to distribute utility services to the utility’s customers, including the systems and facilities required to collect wastewater from a utility’s customers.

Distribution System Improvement Charge (DSIC) – A ratemaking mechanism that may be approved by the Commission subsequent to or in conjunction with Commission approval of a utility’s LTIP that allows for the recovery of prudently incurred costs related to the repair, improvement, and replacement of eligible utility infrastructure through a surcharge that is subject to reconciliation, audit, and other consumer protections.

Fully projected future test year (FPFTY) – A 12-consecutive-month period beginning with the first full month that the new rates will be in effect after the application of the full suspension period permitted under section 1308(d).

Future test year (FTY) – A 12-consecutive-month period beginning the day after the end of the HTY reflecting anticipated or projected results of operations.

Historic test year (HTY) – 12-month period that reflects the actual (*e.g.*, historic) results of operations.

Long-term infrastructure improvement plan (LTIP) – A utility’s filed and approved plan to ensure that the utility is planning for and executing capital expenditures that will maintain and improve the efficiency, safety, adequacy, and reliability of its distribution (or collection) infrastructure at a faster pace than it has done historically, approval of which is a precondition or concurrent condition to Commission approval of a utility’s DSIC.

Parent – Includes the municipality if the utility is a municipal utility or entity subject to Commission regulation.

Test year (TY) – 12-consecutive-month period chosen by the utility to support its filing.

Uniform System of Accounts (USoA) – An accounting system prescribed by the Pennsylvania Public Utility Commission (Commission) and the Federal Energy Regulatory Commission (FERC) applicable to public utilities regulated by the Commission. The accounting system prescribes the manner and form by which such accounts shall be maintained.

## II. General filing requirements of all jurisdictional utilities and other entities under the Commission’s jurisdiction using the FPFTY method – except communications utilities

To the extent any of the information required is subject to a claim of confidentiality or proprietary nature, the utility shall so designate, with specificity, which information is claimed to be confidential or proprietary, and that claim shall be subject to review by the presiding officer. *See* 52 Pa. Code § 5.365.

A. Summary of filing

1. Provide a summary discussion of the rate change request, including the total requested increase in dollars, and specific reasons for each adjustment. Also provide a breakdown which identifies the revenue requirement value of the major items generating the requested rate change.
2. Identify the specific witnesses for all statements and schedules of revenues, expenses, taxes, cash flow, debt, debt coverage, property, valuation, etc., and provide direct testimony supporting the rate increase.
3. Provide a set of the following statements at *Present Rates* Income Statement, Cash Flow Statement, Debt Service Coverage schedule, and Balance Sheet showing columns for the following: Columns for each of the two years prior to the HTY, including book amounts for the base test year, a column for the HTY actuals, pro forma adjustments (between HTY and FTY, including the adjusted HTY for known and measurable changes twelve months beyond the book figures for the base test year), a column for FTY claims, pro forma adjustments between FTY and FPFTY, including twelve consecutive month period beginning with the first full month that new rates will be effect after the application of the full suspension period permitted under Section 1308(d) amounts, and a column for the FPFTY claim amounts. In each schedule, provide references in the pro forma adjustments column for each adjustment which ties to corresponding supporting schedule detailing and explaining each operating budget adjustment.
4. Provide a set of the following statements at *Proposed Rates*: Income Statement, Cash Flow Statement, Debt Service Coverage schedule, and Balance Sheet showing columns for the following: Columns for each of the two years prior to the HTY, the HTY actuals, pro forma adjustments between FTY and FPFTY claims, and FPFTY claim amounts. In each schedule provide references in the pro forma adjustments column for each adjustment which ties to corresponding supporting schedule detailing and explaining each operating budget adjustment.
5. Provide a schedule showing the number of customers by:

- a. Tariff subdivision, whose bills will be increased.
  - b. Tariff subdivision, whose bills will be decreased.
6. Provide FERC and/or Commission orders or rulings applicable to the filing.
7. Provide a list of reports, data, or statements requested by and submitted to the Commission from one year prior to the HTY through the current date.
8. Submit a statement of past and anticipated changes, since the previous rate case, in major accounting procedures.
9. Provide an explanation of any differences between the basis or procedure used in allocations of revenues, expenses, depreciation, and taxes in the current rate case and that were used in the prior rate case. Also provide allocation of utility costs and allocation methods among affiliate companies.
10. Whenever major addition to plant or facilities are to be placed in operating service or removed from operating service, the utility shall so indicate in the summary of the filing. The supporting documentation shall indicate the effect of the plant addition or removal from service upon rate bases, revenue, expense, tax, income, and revenue requirement.
11. If the utility's present rates were established based upon data for a FPFTY, provide the following supplemental information:
  - a. The data for the HTY and the first year that new rates were in effect from the utility's last base rate case if the time periods for the data requested relative to the current base rate case do not include the HTY and first year under new rates from the utility's last base rate case.
  - b. A schedule listing the *projected* data used for operating revenue, operating expenses, depreciation, taxes, net income, and rate base in the FPFTY used to establish present rates and the *actual* data for those same rate-making components for the same test year.
  - c. Explain any differences in projections, techniques, and adjustments made for that prior base rate case as compared to the projections, techniques, and assumptions made relative to the current rate case.
  - d. Details of any reconciliations and adjustments made relative to the last base rate case. Explain whether (and now) they would be expected to be rolled into base rates in the current rate case or whether they are expected to be recovered in a surcharge or rider.

12. If more recent year-end information becomes available during the course of the rate case, supplement the filing with the most recent information.

B. Description of utility operations

1. Provide a corporate history (include the dates of original incorporation, subsequent mergers and/or acquisitions). Indicate all counties, cities, and other governmental subdivisions to which service is provided (including service areas outside this Commonwealth) and the total number of customers by customer class or billed units in the areas served.
2. Provide an overall system map, including and labeling all measuring and regulating stations, storage facilities, production facilities, transmission, and distribution facilities, by size, and all interconnections with other utilities and pipelines.
3. Attach a chart explaining utility's corporate relationship to its affiliates showing system structure.
4. Supply copies of the two most recent internal and independent audit reports, noting any exceptions and recommendations and disposition thereof.
5. Provide a working electronic copy in Microsoft Excel or similar electronic spreadsheet format (with all formulas intact) linking the amounts in the income statements, proof of revenue, expenses, cash flow statement, debt, and debt coverage schedules for the HTY, FTY and FPFTY.
6. Provide a working electronic copy in Microsoft Excel or similar electronic spreadsheet format (with all formulas intact) linking the cost of service study, the customer cost analysis, and supporting schedules for the FTY and FPFTY.

C. Rate Base

1. Provide a schedule showing the measures of value and the rates of return at the original cost. All claims made on this schedule should be cross-referenced to appropriate exhibits.
2. Construction Work In Progress (CWIP) – Provide an exhibit with a description of each project; a summary of all work orders; amount expended at the end of the HTY and the FTY and at the completion of the project; whether project will be funded by the Distribution System

Improvement Charge (DSIC); and anticipated in-service dates. Include a list of items needed to complete each project subsequent to the date of filing. Indicate whether each project is revenue producing or non-revenue producing.

3. For a claim made for plant held for future use, supply the following:
  - a. A brief description of the plant or land site and its original cost.
  - b. Expected date of use for each item claimed.
  - c. Explain why it is necessary to acquire each item in advance of its date of use.
  - d. Date when each item was acquired.
  - e. Date when each item was placed in the plant held for future use account.
4. If a claim is made for materials and supplies or fuel inventory, provide a supporting schedule for each claim showing the most current actual 13 monthly balances and showing in the case of fuel inventory claims, the type of fuel, and location, as in station, and the quantity and price claimed.
5. If a claim is made for cash working capital, provide a supporting schedule setting forth the method and all data utilized to determine the cash working capital, requirement. If not provided in the support data, provide a lead-lag study of working capital, completed no more than 6 months prior to the rate increase filing.
6. If fuel stocks comprise part of the cash working capital claim, provide an exhibit showing the actual book balances, noting quantity and price for the fuel inventories by type of fuel, for the 13 months prior to the beginning of the HTY and for the HTY, the FTY, and the FPFTY, by location, station, etc. Explain the method of determining the claim if other than that described above.
7. Explain in detail by statement or exhibit the appropriateness of claiming any additional items, not previously mentioned, in the measures of value.
8. Provide schedules and data in support of the following working capital items:
  - a. Prepayments – list and identify all items.
  - b. Federal Excise Tax accrued or prepaid.
  - c. Federal Income Tax accrued or prepaid.
  - d. Pennsylvania State Income Tax accrued or prepaid.
  - e. Pennsylvania Gross Receipts Tax accrued or prepaid.
  - f. Pennsylvania Capital Stock Tax accrued or prepaid.

- g. Pennsylvania Public Utility Realty Tax accrued or prepaid.
  - h. State sales tax accrued or prepaid.
  - i. Payroll taxes accrued or prepaid.
  - j. Any adjustments related to the above items for ratemaking purposes.
9. Provide detailed calculations showing the derivation of the tax liability offset against gross cash working capital requirements.
  10. Supply an exhibit supporting the claim for cash working capital requirement based on the lead-lag method.
    - a. *Pro forma* expenses and revenues are to be used in lieu of book data for computing lead-lag days.
    - b. The utility must either include sales for resale and related expenses in revenues and in expenses or exclude from revenues and expenses. Explain procedures followed.
  11. Indicate if amortized expenses have been removed from the lead-lag study. If so, provide documentation showing such removal. If not, provide a list of such amortization expenses included.
  12. Identify the fund's availability arrangements or terms which the utility has with its banks with respect to deposits of customer checks. For example, does the utility have same day or next day access to funds deposited?
  13. In reference to materials and supplies:
    - a. What method of inventory valuation was used to develop the claim for materials and supplies?
    - b. Does the utility use a material and supply model to calculate needed material and supply levels? If so, provide the model. Supply an illustrative example of how the monthly balances are derived.
    - c. Provide the actual monthly value for the inventory of materials and supplies for the HTY. Supply as of the end of the HTY, a 13-month average, by month, for the material and supply account.
    - d. Provide the monthly level of materials and supplies for one prior year, the HTY, the FTY, and the FPFTY.
  14. For each projected plant addition to cost the greater of \$100,000 or 0.5% of current rate base, included in the FPFTY, provide:
    - a. Description of the project.
    - b. Starting date of project.
    - c. Amount expended to date.
    - d. Percent of project currently complete.

- e. Original budgeted cost broken down by allowance for funds used during construction (AFUDC) and non-AFUDC components.
  - f. Current budgeted cost broken by AFUDC and non-AFUDC components.
  - g. Reason for any change in budgeted cost.
  - h. Original estimated timeline and date(s) of completion and in service.
  - i. Current estimated timeline and date(s) of completion and in service.
  - j. Reason for any change in timeline and date(s) of completion and in service.
  - k. Anticipated retirement related to the plant addition.
  - l. The depreciation rate applicable.
  - m. Identify which projects are mandated by the Pennsylvania Department of Environmental Protection (PA DEP) or the Department Environmental Protection Agency (EPA) or other governmental entity.
15. Explain how the FTY and the FPFTY plant balances were projected and provide supporting workpapers and documentation.
  16. Are all of the assets included in the plant-in-service claim used exclusively by the utility to provide jurisdictional service? If not, provide the estimated percentage that each shared asset is used by other entities or for non-jurisdictional service.
  17. Identify all plant that will not be providing jurisdictional service and prepare a schedule listing those plant items identified by account. In addition, provide a narrative explaining the reason why such plant is not being used and the anticipated future disposition of the plant. If plant is used to provide more than one mode of jurisdictional service, so indicate.
  18. Provide all workpapers and supporting documentation showing the derivation of the projected balances of contributions in aid of construction, customer and developer advances for construction and utility service line, and customer deposits for the FTY and the FPFTY.
  19. Provide a schedule showing the HTY rate base and rates of return at original cost less accrued depreciation under present rates and under proposed rates. Claims made on this schedule should be cross-referenced to appropriate supporting schedules. Show *pro forma* for the FTY and the FPFTY.

## The Philadelphia Code

**CHAPTER 13-100. WATER, SEWER AND STORM WATER RATES 1****§ 13-101. Fixing and Regulating Rates and Charges. 2**

(1) *Councilmanic Examination.* At least once in every four years Council shall make or cause to be made an independent examination of the current operations and Capital Programming and Budgeting of the Water Department, and in connection therewith employ qualified consultants to advise the Council directly with respect to:

(a) The formulated policy as prescribed by the Water Department for its capital program and capital budget and sinking fund requirements.

(b) The economic soundness of operational methods, universal meter operations, bill collecting and accounts receivable procedures, inventory control and similar factors.

(c) The reserves necessary to stabilize rates for 3, 4 and 5 year periods.

(2) *Water Department Financial Stability Plan.* The Water Department shall develop a comprehensive plan ("Financial Stability Plan") which shall forecast capital and operating costs and expenses and corresponding revenue requirements. It shall identify the strengths and challenges to the Water Department's overall financial status including the Water Fund's credit ratings, planned and actual debt service coverage, capital and operating reserves and utility service benchmarks. It shall compare the Water Department to similar agencies in peer cities in the United States. A Financial Stability Plan shall be submitted to Council every four (4) years, and updated prior to proposing revisions in rates and charge.

(3) *Independent Rate-Making Body.* Pursuant to Section 5-801 of the Charter, an independent rate-making body shall fix and regulate rates and charges for supplying water, sewer and storm water service for accounts and properties located in the City of Philadelphia, in accordance with the standards established in this Section 13-101 3 without further authorization of Council.

(a) The independent rate-making body shall be known as the Philadelphia Water, Sewer and Storm Water Rate Board (the "Board").

(b) The Board shall consist of five (5) members appointed by the Mayor who shall serve upon confirmation by Council. In order that members with experience shall serve on a continuous basis, there shall be five (5) classes of members. The first members shall serve from their date of confirmation to a date of termination set forth below. Future appointments to the Board shall be made by class for a term of five (5) years:

Members	Class	Date of Termination
1	A	July 1, 2014
1	B	July 1, 2015
1	C	July 1, 2016
1	D	July 1, 2017
1	E	July 1, 2018



The Mayor may remove any Board member for cause, including conflicts of interest and neglect of duty. Board members removed for any reason shall be replaced with a new member appointed by the Mayor and confirmed by Council to serve for the remaining term of the member who was replaced.

(c) The Board members shall be residents of the City and shall have a minimum of five (5) years professional experience in one or more of the following fields: public or business administration, finance, utilities, engineering and water resources management. At least one member shall have experience as a consumer advocate in utility rate cases and one member shall be a commercial and/or industrial ratepayer with knowledge and experience related to storm water management and rates.

(d) The Board members shall not be compensated for their services, but shall be entitled to reasonable expenses consistent with their duties. In addition, the Board shall receive an appropriation sufficient to allow it to carry out its responsibilities.

(e) The Board shall establish open and transparent processes and procedures for public input and comment on proposed water rates and charges. The Water Department shall promulgate regulations incorporating the Board's processes and procedures. The Board shall adopt regulations for rate hearings and determining rates and charges consistent with Section 13-101. Until such regulations are adopted, the Board shall act in accordance with the Philadelphia Water Department Regulations at Section 300 and Section 301.0 - 301.11 in effect as of April 4, 2013, with such modifications as necessary to be consistent with the powers and duties of the Board under Section 13-101.

(f) Prior to fixing and regulating rates, the Board shall hold public hearings.

(4) *Standards for Rates and Charges.*

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

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

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

(ii) Rates and charges shall be developed in accordance with sound utility rate making practices and consistent with the current industry standards for water, wastewater and storm water rates. Industry standards include the current versions of: American Waterworks Association (AWWA) Principles of Rates, Fees and Charges Manual (M-1) and Water Environment Federation's Wastewater Financing & Charges for Wastewater Systems.

(iii) Whenever the Water Department has proposed changes to the rates and charges, the Board, having acted in accordance with this Section 13-101, 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 as established in this Section.

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

(d) The rates and charges shall be just, reasonable and nondiscriminatory as to the same class of consumers.

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

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

(5) *Sewer Charge Where City Water Not Used.* For properties which use other than City supplied water, the charge for sewage disposal service shall be based upon the quantity of water discharged into the sewer system. A meter or other measuring device satisfactory to the Water Department shall be installed by the consumer and the charge for such service shall be comparable to that charged for sewage disposal service for City water having a meter of equal size.

(6) *Sewer Charge Where City Water Not Discharged Into Sewage Disposal System.* Where commercial and industrial properties which use City water do not discharge all or part of such water into the sewage disposal system of the City, the quantity of such water may be excluded in determining the proper sewage service charge, provided, the minimum sewage service charge, as set forth in regulations of the Water Department, is not reduced thereby. To determine the amount of such exclusion, the consumer shall install a meter or measuring device satisfactory to the Water Department; provided, that if, in the opinion of the Water Department, it is not feasible to install a meter or measuring device, some other satisfactory method of measuring may be designated by the Water Department.

(7) *Notice of Proposed Changes.* The Water Department shall give written notice to Council and the Board at least 30 days in advance of the filing of notice of any proposed change in rates or charges or of any proposed revision in service rates, and shall submit therewith financial, engineering and other data upon which the proposed water, sewer and storm water rates and charges are based. Proposed revisions of rates to be made within 90 days prior to the enactment of the next annual operating budget shall be submitted to Council forthwith.

(8) *Report of the Board on Proposed Changes.* The decision by the Board to approve, modify or reject proposed rates and charges 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 as established in this Section. The Board's Rate Report shall be filed with the Department of Records. If the Board is unable to act on proposed rates and charges in the time required herein, the Water Department may establish emergency rates and charges on a temporary basis pending a final determination by the Board.

(9) *Appeals of Board's Rate Report.* Any party to the proceedings of the Board affected by the Rate Report may appeal to the Court of Common Pleas in Philadelphia. Appeals shall be made within thirty (30) days of the filing of the Board's Rate Report with the Department of Records.

(10) *Annual Report.* Water rates and charges shall be reviewed by the Water Department at least once a year, and a report thereof shall be submitted to Council and the Board.

## Notes

- 1       Caption amended, Bill No. 130251-A (approved January 20, 2014).
- 2       **Source:** New. Based on Charter § 5-801; amended, 1957 Ordinances, p. 257; amended, 1974 Ordinances, p. 462; amended, 1978 Ordinances, p. 1592; amended, Bill No. 980384 (approved June 25, 1998); caption and section amended, Bill No. 130251-A (approved January 20, 2014).
- 3       Enrolled Bill read "Section 13-100".

**FUTURE WATER DEMAND - CITY OF PHILADELPHIA**

**Submitted for the Coordinating Committee  
for the Reappraisal of Water Supply  
Resources of the Delaware River Basin  
and Survey Area (DRBC Resolution 67-4)**

**Prepared by the Research and Development Unit  
Philadelphia, Water Department**

**Samuel S. Baxter  
Water Commissioner  
November, 1969**

swimming facilities. In order to do this effectively, the City issues sprinkler permits to residents upon request. Despite our efforts in trying to minimize unauthorized use of fire hydrants, the problem persists to an undesirable degree.

D. RATE SCHEDULE

The consumption of water is regulated to a great degree by the adequacy of charges for the services. The Commissioner of the Water Department is empowered by the provisions of the City Charter to establish an adequate rate schedule. The Department must remain self-sustaining and operate on a pay-as-you-go basis for operating expenses and for the amortization of capital expenditures.

The Water Department is a service motivated, rather than profit motivated, utility. Experience indicates that the Department must raise its rates about every four years in order to keep abreast of inflation. This raise allows the Department to operate with a surplus during the first two years of the four-year period, while the last two, the Department experiences deficit spending. These four-year raises in rates are necessitated by the cost of living, by innovations in and improvements of facilities and services to the consumer. The largest factor causing these rate adjustments is the absence of a depreciation account for system replacements. Capital financing has been substituted for this

# Rate-Setting Considerations

**Philadelphia**

**Water, Sewer and Storm Water Rate Board**

**February 2018**

**Amawalk**  
**Consulting Group LLC**

# Contents

- **Potential Objectives of Rate-Making**
- **Overview: Rate Proposal Development**
- **Revenue Requirements**
- **Debt Service Coverage**
- **Customer Base**
- **Rate Design**
- **A Few Observations**

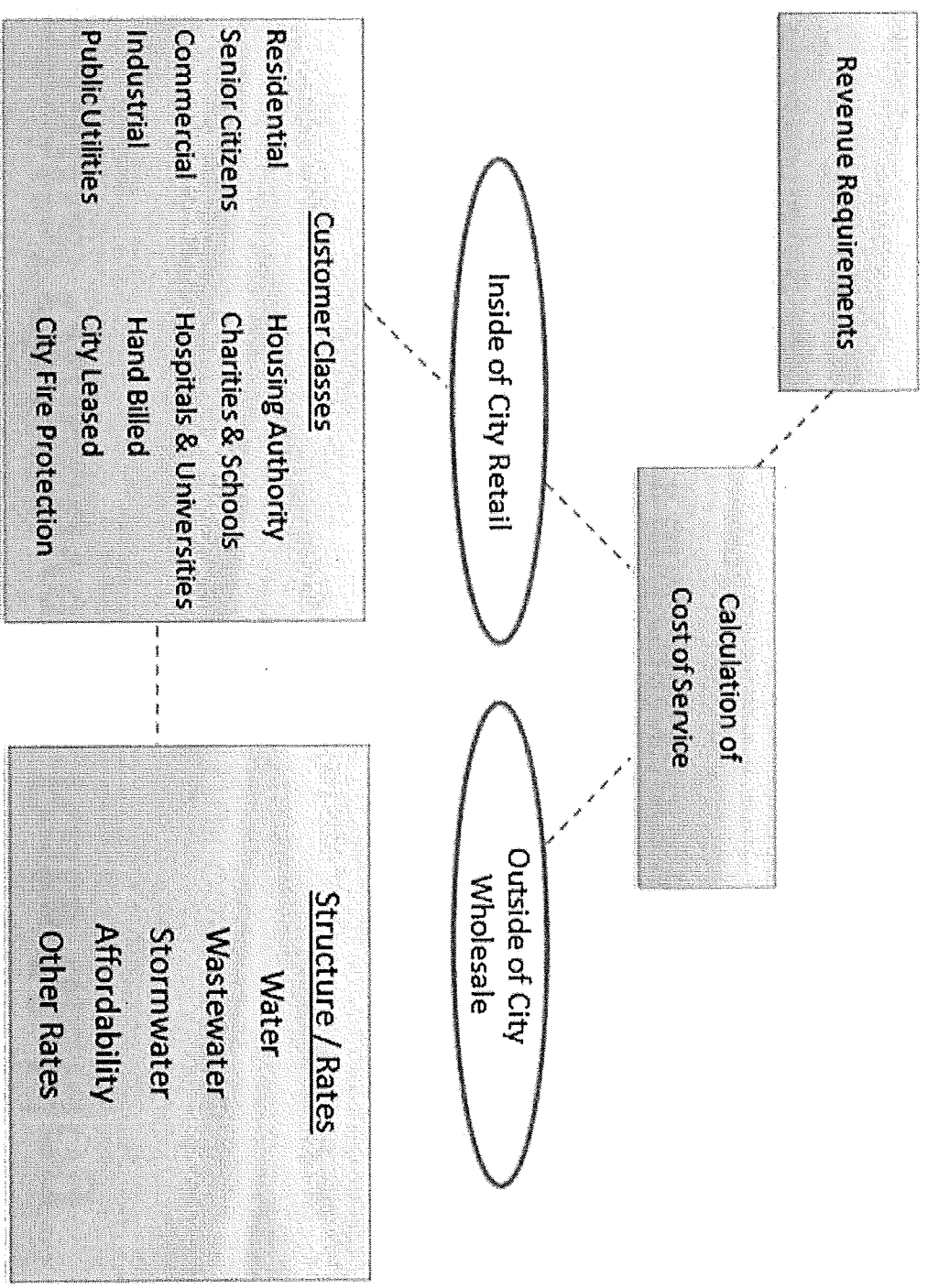


# Potential Objectives of Rate-Making

- Meet total revenue requirements (full cost recovery)
- Produces stable and predictable revenues
- Produces charges that are affordable
- Promotes the efficient use of resources (e.g., water conservation or reducing stormwater runoff)
- Reflects the cost of providing each service (i.e., water, wastewater and stormwater as well as other services)
- Fairly apportions the total cost of service among the different classes of ratepayers and customers within a class
  - Easy for customers to understand
  - Reasonable for the utility to administer
- Complies with the law and regulations and is defensible
- Achieves agreed-upon financial objectives

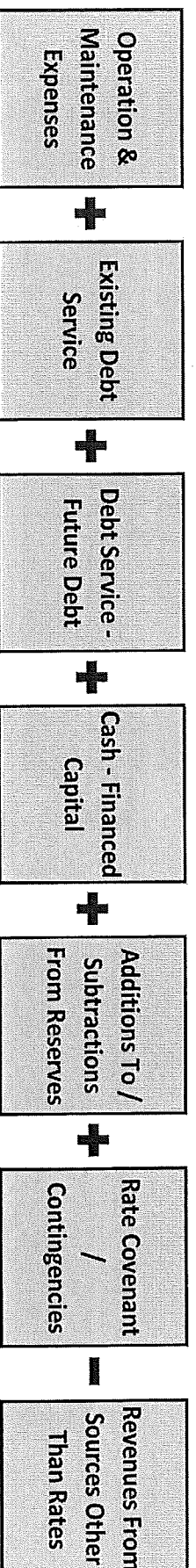


# Overview: Rate Proposal Development



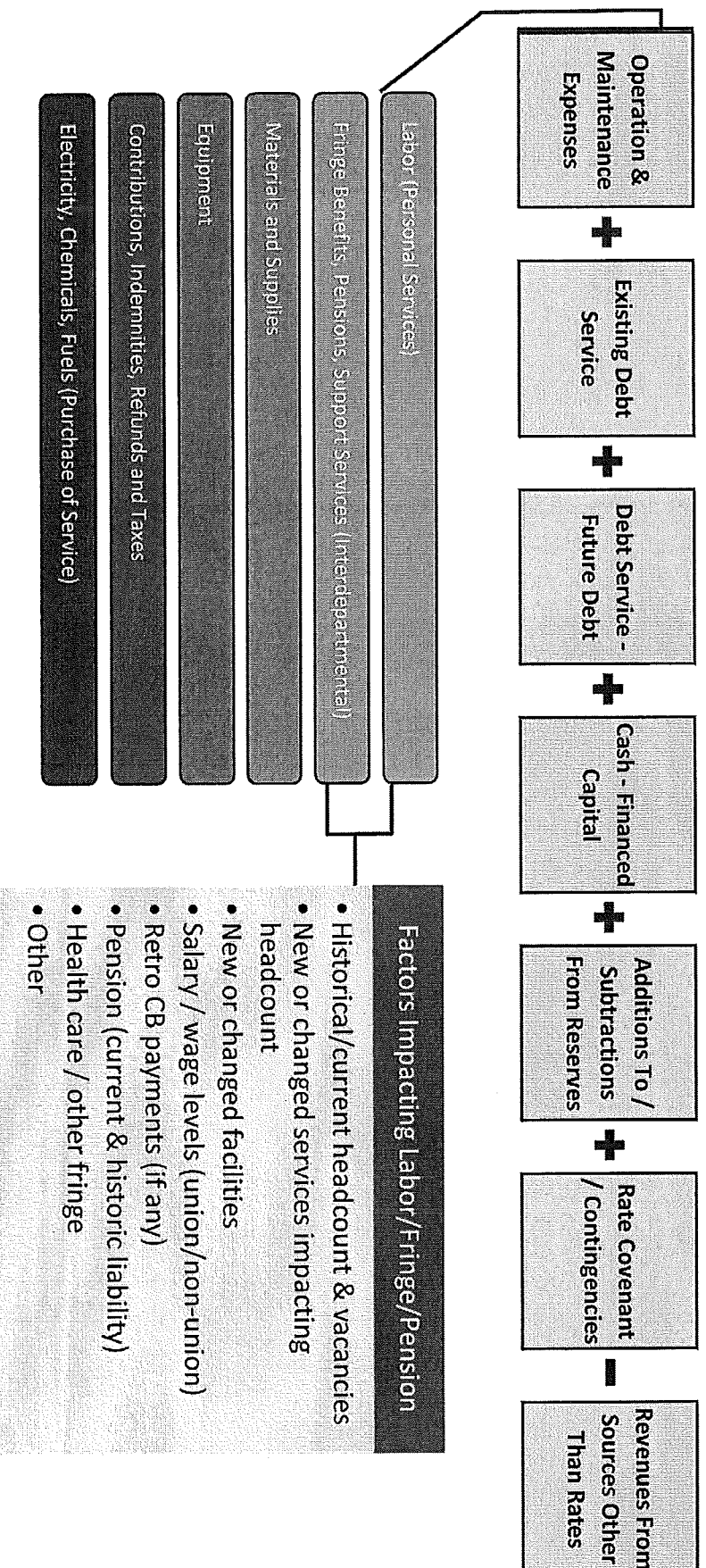
# Revenue Requirements

How much money needs to be raised from retail rates in each year?



# Revenue Requirements

## Operation & Maintenance Expense Components: Labor/Fringe/Pension Example



# Revenue Requirements: Future Debt Service & Rate Revenue – An Illustration

Sources & Uses of Capital Funds				
<b>Construction Fund Activity:</b>				
Beginning of Year (BOY) Balance		2018	2019	2020
Net Proceeds of Bonds		80	105	110
Cash from Rate Revenue		150	175	195
Cash from Other Sources		65	75	75
Less: Cash Needed to Pay for Capital		20	-	5
End of Year (EOY) Balance		(210)	(245)	(290)
		105	110	95
Debt & Debt Service				
Future Bond Issues		Debt Service		
Year	Principal Amount*	2018	2019	2020
2018	165		13	13
2019	193			16
2020	215			
Debt Service on Future Obligations			13	29
Rate Revenue for Capital Construction		65	75	75

## Notes

All amounts in \$ millions

Debt Service = Principal & Interest payments

\* Includes 10% more than the net proceeds needed to allow for deposits to reserves and costs of issuing debt

Assumes 30 year bonds @ 7% interest, level annual payments

These figures become inputs to the revenue requirements

# Debt Service Coverage: An Illustration

Sample Annual Coverage Calculation (amounts in \$ millions)	
Revenues	310
Plus: Transfers From Rate Stabilization	
Less: Transfers To Rate Stabilization	
Less: O&M Expenses	(160)
Less: Required Deposits	(5)
Net Revenues Available for Debt Service	145
Divided by: Debt Service	111
Equals: Debt Service Coverage	1.31

# Customer Base

## Potential Billing Units

- Number of customers by meter size
- Annual volume of water sales by billing tier
- Annual volume of wastewater sales
- Total property area for stormwater billing
- Impervious property area
- High strength wastewater

## Factors Affecting the Billing Units

- Adding/subtracting customers
- Changes in the number of meters by meter size
- Changes in the volume of water use & volume of wastewater use
- Impervious area changes
- Stormwater credits
- TAP program
- Rates of bill collection

# Rate Design – Multiple Options

- Rates per volume of water use:
  - Uniform rate for all water consumption
  - Inclining block; the > the usage, the higher the unit rate
  - Declining block; the > the usage, the lower the unit rate
- Rates per volume of water use for wastewater
- Wastewater credits for water consumed on the premises
- Charges based on meter size
- Fees per account (e.g., for billing & collection)
- Surcharges for wastewater of high strength
- Discounts to defined classes of customers, e.g., religious non-profits
- Affordability assistance
- Fees for fire protection and miscellaneous services

# Rate Design – Current Household Structure

## What's in my bill?

### Your bill consists of three parts:

**Usage Charges** for treatment and delivery of drinking water, the collection and treatment of sewage and related environmental services.

**Stormwater Charge** is a standard amount for residential customers based on the average surface area of impervious cover on residential properties and the average square footage throughout the city.

**Service Charge** for costs associated with metering, billing, and collection operations.

*Here's how we calculate a typical residential bill, using 600 cubic feet and a 5/8" meter.*

Usage Charges	
Water Usage	
600 cf x \$41.11 / 1,000 cf =	\$24.67
Wastewater Usage	
600 cf x \$30.55 / 1,000 cf =	\$18.33
<b>Stormwater Charge</b>	<b>\$14.12</b>
Service Charge for 5/8" meter	\$13.75
<b>Total Monthly Bill</b>	<b>\$70.87</b>





# A Few Observations

- Things to consider during the process:
  - Historical budget vs actual for revenues, expenses, et al
  - Historical vs projected revenues, expenses, et al
  - Performance: Operating, capital and system strengths as well as opportunities for improvement
  - Risks and how they are mitigated
  - Rate projections after the next three years
- The Board must review PWD targets:
  - Debt service coverage
  - Rate Stabilization & Residual Funds - projected balances and minimums
  - Cash-financed construction vs the use of bond proceeds
  - Other financial policies and/or guidelines
- No rate structure is perfect: utilities typically cannot satisfy every objective simultaneously

# Appendix– References

- Manuals of Rate Practice prepared by:
  - American Water Works Association
  - Water Environment Federation

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

Line No.	Description	Fiscal Year Ending June 30,						
		2017 (a)	2018	2019	2020	2021	2022	2023
OPERATING REVENUE								
1	Water Service - Existing Rates	271,124	280,852	272,455	270,409	268,152	266,038	263,948
2	Wastewater Service - Existing Rates	413,732	430,818	431,108	428,705	425,776	422,912	420,084
3	Total Service Revenue - Existing Rates	684,856	711,670	703,564	699,115	693,929	688,950	684,032
	Additional Service Revenue Required							
	Year	Percent Increase	Months Effective					
4	FY 2019	1.60%	10	9,204	11,186	11,103	11,023	10,945
5	FY 2020	4.50%	10		26,133	31,726	31,499	31,274
6	FY 2021	4.50%	10			27,107	32,916	32,681
7	FY 2022	6.80%	10				42,497	51,607
8	FY 2023	6.80%	10					45,063
9	Total Additional Service Revenue Required	-	-	9,204	37,319	69,936	117,936	171,570
10	Total Water & Wastewater Service Revenue	684,856	711,670	712,767	736,434	763,865	806,886	855,603
	Other Income (b)							
11	Other Operating Revenue	32,287	39,647	16,187	13,008	10,025	9,948	9,871
12	Debt Reserve Fund Interest Income	-	-	-	-	-	-	-
13	Operating Fund Interest Income	386	406	364	358	376	398	417
14	Rate Stabilization Interest Income	733	702	660	601	543	516	508
15	Total Revenues	718,260	752,425	729,978	750,401	774,810	817,748	866,398
OPERATING EXPENSES								
16	Total Operating Expenses	(455,742)	(464,118)	(485,844)	(500,535)	(514,420)	(528,771)	(543,451)
NET REVENUES								
17	Transfer From/(To) Rate Stabilization Fund	4,563	12,200	11,400	21,200	11,100	3,900	700
18	NET REVENUES AFTER OPERATIONS	267,082	300,508	255,534	271,066	271,490	292,876	323,647
DEBT SERVICE								
	Senior Debt Service							
	Revenue Bonds							
19	Outstanding Bonds	(193,841)	(185,756)	(133,964)	(123,040)	(115,891)	(109,229)	(105,309)
20	Pennvest Parity Bonds	(11,816)	(11,500)	(11,682)	(11,636)	(11,636)	(11,636)	(11,636)
21	Projected Future Bonds	-	(22,770)	(53,933)	(73,782)	(81,257)	(104,356)	(132,006)
22	Total Senior Debt Service	(205,657)	(220,026)	(199,579)	(208,458)	(208,783)	(225,221)	(248,951)
23	TOTAL SENIOR DEBT SERVICE COVERAGE (L18/L22)	1.29 x	1.36 x	1.28 x	1.30 x	1.30 x	1.30 x	1.30 x
24	Subordinate Debt Service	-	-	-	-	-	-	-
25	Transfer to Escrow	(11,000)	(19,000)	-	-	-	-	-
26	Total Debt Service on Bonds	(216,657)	(239,026)	(199,579)	(208,458)	(208,783)	(225,221)	(248,951)
27	CAPITAL ACCOUNT DEPOSIT	(22,302)	(23,061)	(35,767)	(36,983)	(38,241)	(39,541)	(40,885)
28	TOTAL COVERAGE (L18/(L22+L24+L27))	1.17 x	1.23 x	1.08 x	1.10 x	1.09 x	1.10 x	1.11 x
RESIDUAL FUND								
29	Beginning of Year Balance	15,189	15,065	15,040	15,083	15,061	15,082	15,051
30	Interest Income	54	54	54	54	54	54	54
	Plus:							
31	End of Year Revenue Fund Balance	28,122	38,421	20,188	25,625	24,466	28,115	33,810
32	Deposit for Transfer to City General Fund (c)	1,866	756	722	736	751	793	865
	Less:							
33	Transfer to Construction Fund	(28,300)	(38,500)	(20,200)	(25,700)	(24,500)	(28,200)	(33,900)
34	Transfer to City General Fund	(1,866)	(756)	(722)	(736)	(751)	(793)	(865)
35	Transfer to Debt Service Reserve Fund	-	-	-	-	-	-	-
36	End of Year Balance	15,065	15,040	15,083	15,061	15,082	15,051	15,015
RATE STABILIZATION FUND								
37	Beginning of Year Balance	205,761	201,198	188,998	177,598	156,398	145,298	141,398
38	Deposit From/(To) Revenue Fund	(4,563)	(12,200)	(11,400)	(21,200)	(11,100)	(3,900)	(700)
39	End of Year Balance	201,198	188,998	177,598	156,398	145,298	141,398	140,698

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

(b) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund. Includes Debt Service Reserve Fund Release in FY 2017 and FY 2018 and projected contra revenue credits for Affordability Program Discounts in FY 2018 to FY 2023.

(c) Transfer of interest earnings from the Bond Reserve Account to the Residual Fund as shown in Line 32 to satisfy the requirements for the transfer to the City General Fund shown on Line 34.

Capital Account Deposit	Assumptions - 21											
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
	Base Year	Test Year	Calculation	Calculation	Calculation	Calculation	Calculation	Calculation	Calculation	Calculation	Calculation	Calculation
Water System Net Plant Investment	915,733,670	946,868,615	979,062,147	1,012,350,260	1,046,770,169	1,082,360,355	1,119,160,607	1,157,212,068	1,196,557,278	1,237,240,226	1,279,306,393	1,322,802,811
Wastewater System Net Plant Investment	1,314,499,330	1,359,192,307	1,405,404,846	1,453,188,611	1,502,597,023	1,553,685,322	1,606,510,623	1,661,131,984	1,717,610,472	1,776,009,228	1,836,393,542	1,888,830,922
Total System Net Plant Investment	2,230,233,000	2,306,060,922	2,384,466,993	2,465,538,871	2,549,367,193	2,636,045,677	2,725,671,230	2,818,344,052	2,914,167,750	3,013,249,453	3,115,699,935	3,221,633,733
Estimated Increase in System Net Value	3.40%											
Capital Account Deposit %	1.00%	1.00%	1.00%	1.00%	1.00%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%

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

Line No.	Description	Fiscal Year Ending June 30,						
		2017 (a)	2018	2019	2020	2021	2022	2023
OPERATING REVENUE								
1	Water Service - Existing Rates	271,124	280,852	272,455	270,409	268,152	266,038	263,948
2	Wastewater Service - Existing Rates	413,732	430,818	431,108	428,705	425,776	422,912	420,084
3	Total Service Revenue - Existing Rates	684,856	711,670	703,564	699,115	693,929	688,950	684,032
	Additional Service Revenue Required							

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

(b) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund. Includes Debt Service Reserve Fund Release in FY 2017 and FY 2018 and projected contra revenue credits for Affordability Program Discounts in FY 2018 to FY 2023.

(c) Transfer of interest earnings from the Bond Reserve Account to the Residual Fund as shown in Line 32 to satisfy the requirements for the transfer to the City General Fund shown on Line 34.

Cost Center/Expense Class	Study Period												
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
O&M Adj 1													
Additional Ship Costs													
Human Resources and Administration													
100 Salaries & Wages													
200 Services													
300 Materials and Supplies													
400 Equipment													
500 Indemnities													
800 Transfers													
Subtotal Human Resources and Administration	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Finance													
100 Salaries & Wages													
200 Services													
2xx SMIP/GARP		5,000,000	-	-	-	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000
300 Materials and Supplies													
400 Equipment													
500 Indemnities													
800 Transfers													
Subtotal Finance	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000

O&M Adjustments - 1

O&M Adjustments - 1



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

Line No.	Description	Fiscal Year Ending June 30,							
		2017 (a)	2018	2019	2020	2021	2022	2023	
OPERATING REVENUE									
1	Water Service - Existing Rates	271,124	280,852	272,455	270,409	268,152	266,038	263,948	
2	Wastewater Service - Existing Rates	413,732	430,818	431,108	428,705	425,776	422,912	420,084	
3	Total Service Revenue - Existing Rates	684,856	711,670	703,564	699,115	693,929	688,950	684,032	
	Additional Service Revenue Required								
	Year	Percent Increase	Months Effective						
4	FY 2019	1.60%	10		9,204	11,186	11,103	11,023	10,945
5	FY 2020	4.50%	10			26,133	31,726	31,499	31,274
6	FY 2021	4.50%	10				27,107	32,916	32,681
7	FY 2022	6.80%	10					42,497	51,607
8	FY 2023	6.80%	10						45,063
9	Total Additional Service Revenue Required	-	-	9,204	37,319	69,936	117,936	171,570	
10	Total Water & Wastewater Service Revenue	684,856	711,670	712,767	736,434	763,865	806,886	855,603	
	Other Income (b)								
11	Other Operating Revenue	32,287	39,647	16,187	13,008	10,025	9,948	9,871	
12	Debt Reserve Fund Interest Income	-	-	-	-	-	-	-	
13	Operating Fund Interest Income	386	406	382	376	395	398	417	
14	Rate Stabilization Interest Income	733	702	660	601	543	516	508	
15	Total Revenues	718,260	752,425	729,996	750,419	774,828	817,748	866,398	
OPERATING EXPENSES									
16	Total Operating Expenses	(455,742)	(464,118)	(475,844)	(490,535)	(504,420)	(528,771)	(543,451)	
NET REVENUES									
17	Transfer From/(To) Rate Stabilization Fund	4,563	12,200	11,400	21,200	11,100	3,900	700	
18	NET REVENUES AFTER OPERATIONS	267,082	300,508	265,552	281,084	281,508	292,876	323,647	
DEBT SERVICE									
	Senior Debt Service								
	Revenue Bonds								
19	Outstanding Bonds	(193,841)	(185,756)	(133,964)	(123,040)	(115,891)	(109,229)	(105,309)	
20	Pennvest Parity Bonds	(11,816)	(11,500)	(11,682)	(11,636)	(11,636)	(11,636)	(11,636)	
21	Projected Future Bonds	-	(22,770)	(53,933)	(73,782)	(81,257)	(104,356)	(132,006)	
22	Total Senior Debt Service	(205,657)	(220,026)	(199,579)	(208,458)	(208,783)	(225,221)	(248,951)	
23	TOTAL SENIOR DEBT SERVICE COVERAGE (L18/L22)	1.29 x	1.36 x	1.33 x	1.34 x	1.34 x	1.30 x	1.30 x	
24	Subordinate Debt Service	-	-	-	-	-	-	-	
25	Transfer to Escrow	(11,000)	(19,000)	-	-	-	-	-	
26	Total Debt Service on Bonds	(216,657)	(239,026)	(199,579)	(208,458)	(208,783)	(225,221)	(248,951)	
27	CAPITAL ACCOUNT DEPOSIT	(22,302)	(23,061)	(35,767)	(36,983)	(38,241)	(39,541)	(40,885)	
28	TOTAL COVERAGE (L18/(L22+L24+L27))	1.17 x	1.23 x	1.12 x	1.14 x	1.13 x	1.10 x	1.11 x	
RESIDUAL FUND									
29	Beginning of Year Balance	15,189	15,065	15,040	25,119	35,170	45,298	45,376	
30	Interest Income	54	54	72	108	145	163	163	
	Plus:								
31	End of Year Revenue Fund Balance	28,122	38,421	30,206	35,643	34,484	28,115	33,810	
32	Deposit for Transfer to City General Fund (c)	1,866	756	722	736	751	793	865	
	Less:								
33	Transfer to Construction Fund	(28,300)	(38,500)	(20,200)	(25,700)	(24,500)	(28,200)	(33,900)	
34	Transfer to City General Fund	(1,866)	(756)	(722)	(736)	(751)	(793)	(865)	
35	Transfer to Debt Service Reserve Fund	-	-	-	-	-	-	-	
36	End of Year Balance	15,065	15,040	25,119	35,170	45,298	45,376	45,450	
RATE STABILIZATION FUND									
37	Beginning of Year Balance	205,761	201,198	188,998	177,598	156,398	145,298	141,398	
38	Deposit From/(To) Revenue Fund	(4,563)	(12,200)	(11,400)	(21,200)	(11,100)	(3,900)	(700)	
39	End of Year Balance	201,198	188,998	177,598	156,398	145,298	141,398	140,698	

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

(b) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund. Includes Debt Service Reserve Fund Release in FY 2017 and FY 2018 and projected contra revenue credits for Affordability Program Discounts in FY 2018 to FY 2023.

(c) Transfer of interest earnings from the Bond Reserve Account to the Residual Fund as shown in Line 32 to satisfy the requirements for the transfer to the City General Fund shown on Line 34.

Cost Center/Expense Class	Study Period														
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
	O&M Adj 1														
	Additional S&WP Costs														
Direct O&M	O&M Adjustments - 1														
O&M Adj 1	O&M Adjustments - 1														
Human Resources and Administration															
100	Salaries & Wages														
200	Services														
300	Materials and Supplies														
400	Equipment														
500	Indemnities														
800	Transfers														
Subtotal Human Resources and Administration		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Finance															
100	Salaries & Wages														
200	Services														
2xx	SMIP/GARP		5,000,000	15,000,000	15,000,000	15,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000
300	Materials and Supplies														
400	Equipment														
500	Indemnities														
800	Transfers														
Subtotal Finance		\$ -	\$ 5,000,000	\$ 15,000,000	\$ 15,000,000	\$ 15,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000

O&M Adjustments - 1

O&M Adjustments - 1



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

Line No.	Description	Fiscal Year Ending June 30,						
		2017 (a)	2018	2019	2020	2021	2022	2023
OPERATING REVENUE								
1	Water Service - Existing Rates	271,124	280,852	272,455	270,409	268,152	266,038	263,948
2	Wastewater Service - Existing Rates	413,732	430,818	431,108	428,705	425,776	422,912	420,084
3	Total Service Revenue - Existing Rates	684,856	711,670	703,564	699,115	693,929	688,950	684,032
	Additional Service Revenue Required							
	Percent Increase							
	Months Effective							
4	FY 2019	1.60%	10	9,204	11,186	11,103	11,023	10,945
5	FY 2020	4.50%	10		26,133	31,726	31,499	31,274
6	FY 2021	4.50%	10			27,107	32,916	32,681
7	FY 2022	6.80%	10				42,497	51,607
8	FY 2023	6.80%	10					45,063
9	Total Additional Service Revenue Required	-	-	9,204	37,319	69,936	117,936	171,570
10	Total Water & Wastewater Service Revenue	684,856	711,670	712,767	736,434	763,865	806,886	855,603
	Other Income (b)							
11	Other Operating Revenue	32,287	39,647	16,187	13,008	10,025	9,948	9,871
12	Debt Reserve Fund Interest Income	-	-	-	-	-	-	-
13	Operating Fund Interest Income	386	406	355	349	367	398	417
14	Rate Stabilization Interest Income	733	702	660	601	543	516	508
15	Total Revenues	718,260	752,425	729,969	750,392	774,801	817,748	866,398
OPERATING EXPENSES								
16	Total Operating Expenses	(455,742)	(464,118)	(490,844)	(505,535)	(519,420)	(528,771)	(543,451)
NET REVENUES								
17	Transfer From/(To) Rate Stabilization Fund	4,563	12,200	11,400	21,200	11,100	3,900	700
18	NET REVENUES AFTER OPERATIONS	267,082	300,508	250,525	266,057	266,481	292,876	323,647
DEBT SERVICE								
	Senior Debt Service							
	Revenue Bonds							
19	Outstanding Bonds	(193,841)	(185,756)	(133,964)	(123,040)	(115,891)	(109,229)	(105,309)
20	Pennvest Parity Bonds	(11,816)	(11,500)	(11,682)	(11,636)	(11,636)	(11,636)	(11,636)
21	Projected Future Bonds	-	(22,770)	(53,933)	(73,782)	(81,257)	(104,356)	(132,006)
22	Total Senior Debt Service	(205,657)	(220,026)	(199,579)	(208,458)	(208,783)	(225,221)	(248,951)
23	TOTAL SENIOR DEBT SERVICE COVERAGE (L18/L22)	1.29 x	1.36 x	1.25 x	1.27 x	1.27 x	1.30 x	1.30 x
24	Subordinate Debt Service	-	-	-	-	-	-	-
25	Transfer to Escrow	(11,000)	(19,000)	-	-	-	-	-
26	Total Debt Service on Bonds	(216,657)	(239,026)	(199,579)	(208,458)	(208,783)	(225,221)	(248,951)
27	CAPITAL ACCOUNT DEPOSIT	(22,302)	(23,061)	(35,767)	(36,983)	(38,241)	(39,541)	(40,885)
28	TOTAL COVERAGE (L18/(L22+L24+L27))	1.17 x	1.23 x	1.06 x	1.08 x	1.07 x	1.10 x	1.11 x
RESIDUAL FUND								
29	Beginning of Year Balance	15,189	15,065	15,040	10,065	5,007	(27)	(112)
30	Interest Income	54	54	45	27	9	(0)	(1)
	Plus:							
31	End of Year Revenue Fund Balance	28,122	38,421	15,179	20,616	19,457	28,115	33,810
32	Deposit for Transfer to City General Fund (c)	1,866	756	722	736	751	793	865
	Less:							
33	Transfer to Construction Fund	(28,300)	(38,500)	(20,200)	(25,700)	(24,500)	(28,200)	(33,900)
34	Transfer to City General Fund	(1,866)	(756)	(722)	(736)	(751)	(793)	(865)
35	Transfer to Debt Service Reserve Fund	-	-	-	-	-	-	-
36	End of Year Balance	15,065	15,040	10,065	5,007	(27)	(112)	(202)
RATE STABILIZATION FUND								
37	Beginning of Year Balance	205,761	201,198	188,998	177,598	156,398	145,298	141,398
38	Deposit From/(To) Revenue Fund	(4,563)	(12,200)	(11,400)	(21,200)	(11,100)	(3,900)	(700)
39	End of Year Balance	201,198	188,998	177,598	156,398	145,298	141,398	140,698

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

(b) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund. Includes Debt Service Reserve Fund Release in FY 2017 and FY 2018 and projected contra revenue credits for Affordability Program Discounts in FY 2018 to FY 2023.

(c) Transfer of interest earnings from the Bond Reserve Account to the Residual Fund as shown in Line 32 to satisfy the requirements for the transfer to the City General Fund shown on Line 34.

**TABLE 11**  
**PROJECTED REVENUE AND REVENUE REQUIREMENTS**  
(in thousands of dollars)

Line	Fiscal Year Ending June 30,							
No.	Description	2012	2013	2014	2015	2016	2017	2018
OPERATING REVENUE								
1	Water Service - Existing Rates	232,733	233,780	232,589	230,889	229,173	227,456	225,737
2	Wastewater Service - Existing Rates	331,065	332,284	331,007	329,631	328,240	326,855	325,465
3	Total Service Revenue - Existing Rates	563,798	566,064	563,596	560,520	557,413	554,311	551,202
Additional Service Revenue Required								
	Year	Percent Increase	Months Effective					
4	FY 2013	4.80%	9	15,488	27,053	26,756	26,607	26,458
5	FY 2014	5.30%	12	31,304	31,134	30,961	30,789	30,616
6	FY 2015	6.80%	12		42,062	41,829	41,596	41,363
7	FY 2016	6.50%	12			42,702	42,465	42,227
8	FY 2017	5.10%	12				35,484	35,285
9	FY 2018	5.10%	12					37,085
10	Total Additional Service Revenue Required	0	15,488	58,357	100,101	142,248	176,941	213,034
11	Total Water & Wastewater Service Revenue	563,798	581,552	621,953	660,621	699,661	731,252	764,236
12	Transfer From/(To) Rate Stabilization Fund	21,215	46,765	21,350	(5,550)	(14,220)	(14,585)	1,170
Other Income (a)								
13	Other Operating Revenue	16,645	19,612	19,667	19,622	19,477	19,430	19,385
14	Construction Fund Interest Income	1,160	1,236	868	915	3,054	2,070	2,571
15	Debt Reserve Fund Interest Income	0	0	0	0	0	0	0
16	Operating Fund Interest Income	360	559	759	964	1,177	1,479	1,749
17	Rate Stabilization Interest Income	732	843	783	881	1,207	1,665	2,051
18	Total Revenues	603,910	650,567	665,380	677,453	710,356	741,311	790,162
OPERATING EXPENSES								
19	Water & Wastewater Operations	322,875	350,766	359,031	364,332	376,627	391,690	407,412
20	Direct Interdepartmental Charges	48,900	51,745	52,418	52,424	53,669	55,392	57,170
21	Total Operating Expenses	371,775	402,511	411,449	416,756	430,296	447,082	464,582
22	NET REVENUES AFTER OPERATIONS	232,135	248,056	253,931	260,697	280,060	294,229	325,580
DEBT SERVICE								
Senior Debt Service								
Revenue Bonds								
23	Outstanding Bonds	178,515	181,629	182,001	173,843	174,149	115,363	115,444
24	Pennvest Parity Bonds	3,180	10,211	11,839	12,175	12,175	12,310	12,844
25	Projected Future Bonds	10,150	11,483	12,606	24,220	37,720	98,653	122,155
26	Total Senior Debt Service	191,845	203,323	206,446	210,238	224,044	226,326	250,443
27	TOTAL SENIOR DEBT SERVICE COVERAGE (L22/L26)	1.21 x	1.22 x	1.23 x	1.24 x	1.25 x	1.30 x	1.30 x
Subordinate Debt Service								
28	Outstanding General Obligation Bonds	0	0	0	0	0	0	0
29	Pennvest Subordinate Bonds	1,022	0	0	0	0	0	0
30	Total Subordinate Debt Service	1,022	0	0	0	0	0	0
31	Total Debt Service on Bonds	192,867	203,323	206,446	210,238	224,044	226,326	250,443
32	CAPITAL ACCOUNT DEPOSIT	18,475	18,846	19,222	19,606	19,999	20,399	20,807
33	TOTAL COVERAGE (L22/(L31+L32))	1.09 x	1.11 x	1.12 x	1.13 x	1.14 x	1.19 x	1.20 x
RESIDUAL FUND								
34	Beginning of Year Balance	34,909	52,079	7,812	9,735	12,088	15,105	15,108
35	Interest Income (b)	233	392	0	0	0	0	0
Plus:								
36	End of Year Revenue Fund Balance	20,793	25,887	28,263	30,853	36,017	47,504	54,330
37	Deposit for Transfer to City General Fund (c)	1,352	2,060	2,101	2,735	3,367	3,945	4,524
Less:								
38	Transfer to Construction Fund	0	0	25,500	28,500	33,000	47,500	54,000
39	Transfer to City General Fund	1,352	2,060	2,101	2,735	3,367	3,945	4,524
40	Transfer to Debt Service Reserve Fund	3,856	70,545	840	0	0	0	0
41	End of Year Balance	52,079	7,812	9,735	12,088	15,105	15,108	15,439
RATE STABILIZATION FUND								
42	Beginning of Year Balance	156,562	135,347	88,582	67,232	72,782	87,002	101,587
43	Deposit From/(To) Revenue Fund	(21,215)	(46,765)	(21,350)	5,550	14,220	14,585	(170)
44	End of Year Balance	135,347	88,582	67,232	72,782	87,002	101,587	101,417

(a) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund.

(b) Includes interest earnings on Debt Service Reserve substitution funds deposited in the Special Water Infrastructure Account.

(c) Transfer of interest earnings from the Bond Reserve Account to the Residual Fund as shown in Line 37 to satisfy the requirements for the Transfer to the City General Fund.

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

Line		Fiscal Year Ending June 30,						
No.	Description	2015	2016	2017	2018	2019	2020	2021
	<b>OPERATING REVENUE</b>							
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							
4	FY 2016	0.00%	12	0	0	0	0	0
5	FY 2017	5.42%	12		34,735	34,514	34,312	34,133
6	FY 2018	5.42%	12			36,392	36,180	35,991
7	FY 2019	4.73%	12				33,247	33,072
8	FY 2020	4.73%	12					34,659
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
	<b>OPERATING EXPENSES</b>							
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
	<b>DEBT SERVICE</b>							
	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 (L1/L2)	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
	<b>RESIDUAL FUND</b>							
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
	<b>RATE STABILIZATION FUND</b>							
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.

BRING DOWN OF FY 2017 to FY 2018 RATE PROCEEDING FINANCIAL PLAN

B&V Line No	Description	Initial Filing		Rate Board Decision		Actual Results		Difference Initial Filing Vs. Actuals		Difference Board Decision Vs. Actuals	
		2016	2017	2016	2017	2016	2017 (c)	2016	2017	2016	2017
11	Total Water & Wastewater Service Revenue	644,102	675,376	644,102	673,011	654,351	681,534	10,249	6,258	10,249	8,623
12	Transfer From/(To) Rate Stabilization Fund	36,900	19,300	36,900	15,600	1,629	4,563	(35,271)	(14,737)	(35,271)	(11,037)
13 to 17	Other Income (a)	23,829	23,178	23,829	23,245	24,555	39,011	726	15,833	726	15,766
18	Total Revenues	704,831	717,854	704,831	711,856	680,535	725,208	(24,296)	7,354	(24,296)	13,352
21	Liquidated Encumbrances	21,105	22,746	21,105	26,887	24,088	24,550	2,983	1,804	2,983	(2,337)
21	Total Operating Expense	(452,179)	(480,917)	(452,179)	(479,063)	(432,857)	(480,257)	19,322	660	19,322	(1,194)
22	Net Revenues available for Debt Service	273,757	259,683	273,757	259,680	271,766	269,501	(1,991)	9,818	(1,991)	9,821
26	Total Senior Debt Service	(220,713)	(207,715)	(220,713)	(207,715)	(219,133)	(206,390)	1,580	1,325	1,580	1,325
30	Total Subordinate Debt Service	0	0	0	0	0	0	0	0	0	0
30	Transfer to Escrow	0	0	0	0	0	(9,507)	0	(9,507)	0	(9,507)
	Net Revenues after Debt Service	53,044	51,968	53,044	51,965	52,633	53,603	(411)	1,635	(411)	1,638
32	Capital Account Deposit (1% NPPE)	(21,215)	(21,745)	(21,215)	(21,745)	(21,497)	(22,302)	(282)	(557)	(282)	(557)
36	Residual Fund Deposit from Water Operating	31,829	30,223	31,829	30,220	31,136	31,301	(693)	1,078	(693)	1,081
37	Residual Fund Deposit from Interest Earnings on DSRF (b)	789	794	789	794	1,556	1,866	767	1,072	767	1,072
38	Transfer to Construction Fund (discretionary Transfer to the capital Fund)	(31,800)	(30,400)	(31,800)	(30,400)	(31,000)	(31,301)	800	(901)	800	(901)
39	Transfer to City General Fund (SCOOP)	(789)	(794)	(789)	(794)	(1,556)	(1,866)	(767)	(1,072)	(767)	(1,072)
40	Transfer to Debt Service Reserve Fund	0	0	0	0	0	0	0	0	0	0
	Debt Service Coverage Ratios:										
33	Total Coverage	1.13	1.13	1.13	1.13	1.13	1.18	0.00	0.05	0.00	0.05
27	Total Senior Debt Service Coverage	1.24	1.25	1.13	1.25	1.24	1.31	0.00	0.06	0.00	0.06

(a) Includes other operating and nonoperation income, including interest income on funds and accounts transferable to the Revenue Fund.

(b) Transfer of interest earnings from the Bond Reserve Account to the Residual Fund as shown in Line 39 to satisfy the requirements for the Transfer to the City General Fund.

(c) FY 2017 figures are preliminary actual and subject to change.

- Presented in thousand dollars

DSRF - Debt Service Reserve Fund  
NPPE - Net Property, Plant and Equipment (Original Cost Less Depreciation)

BRING DOWN OF FY 2017 to FY 2018 RATE PROCEEDING FINANCIAL PLAN - COMPONENTS OF O&M EXPENSE

Description	Initial Assumptions		Rate Board Decision		Actuals		Difference Initial Filing Vs. Actuals		Difference Board Decision Vs. Actuals	
	2016	2017	2016	2017	2016	2017 (a)	2016	2017	2016	2017
<b>Division of Technology</b>	<b>(19,836)</b>	<b>(20,481)</b>	<b>(19,836)</b>	<b>(20,481)</b>	<b>(16,222)</b>	<b>(20,133)</b>	<b>3,614</b>	<b>348</b>	<b>3,614</b>	<b>348</b>
Personal Services	(5,115)	(5,268)	(5,115)	(5,268)	(5,416)	(5,893)	(302)	(625)	(302)	(625)
Purchase of Services	(13,167)	(13,628)	(13,167)	(13,628)	(9,958)	(12,605)	3,209	1,022	3,209	1,022
Materials, Supplies & Equipment	(1,555)	(1,586)	(1,555)	(1,586)	(848)	(1,635)	706	(49)	706	(49)
<b>Public Property</b>	<b>(4,043)</b>	<b>(4,005)</b>	<b>(4,043)</b>	<b>(4,005)</b>	<b>(4,043)</b>	<b>(4,043)</b>	<b>0</b>	<b>(38)</b>	<b>0</b>	<b>(38)</b>
Purchase of Services	(4,043)	(4,005)	(4,043)	(4,005)	(4,043)	(4,043)	0	(38)	0	(38)
<b>Office of Fleet Management</b>	<b>(8,045)</b>	<b>(8,251)</b>	<b>(8,045)</b>	<b>(8,251)</b>	<b>(7,871)</b>	<b>(7,756)</b>	<b>173</b>	<b>496</b>	<b>173</b>	<b>496</b>
Personal Services	(2,695)	(2,775)	(2,695)	(2,775)	(2,527)	(2,926)	168	(150)	168	(150)
Purchase of Services	(1,274)	(1,319)	(1,274)	(1,319)	(1,469)	(1,417)	(195)	(99)	(195)	(99)
Materials, Supplies & Equipment	(4,076)	(4,157)	(4,076)	(4,157)	(3,875)	(3,412)	201	745	201	745
<b>Water</b>	<b>(287,745)</b>	<b>(308,486)</b>	<b>(287,745)</b>	<b>(307,101)</b>	<b>(275,273)</b>	<b>(300,184)</b>	<b>12,472</b>	<b>8,303</b>	<b>12,472</b>	<b>6,918</b>
Personal Services	(102,962)	(107,852)	(102,962)	(107,852)	(98,159)	(102,685)	4,803	5,167	4,803	5,167
Purchase of Services	(135,512)	(147,643)	(135,512)	(146,383)	(128,828)	(144,294)	6,684	3,349	6,684	2,089
Materials, Supplies & Equipment	(42,726)	(44,450)	(42,726)	(44,325)	(40,186)	(40,707)	2,540	3,742	2,540	3,617
Contributions, Indemnities & Taxes	(6,545)	(8,541)	(6,545)	(8,541)	(8,100)	(400)	0	(400)	(1,555)	(400)
Payments to General Fund (interfund transfer)	(114,487)	(120,144)	(114,487)	(119,676)	(111,831)	(128,519)	2,656	(8,375)	2,656	(8,843)
<b>Finance</b>	<b>(107,987)</b>	<b>(113,644)</b>	<b>(107,987)</b>	<b>(113,644)</b>	<b>(106,391)</b>	<b>(121,567)</b>	<b>1,596</b>	<b>(7,923)</b>	<b>1,596</b>	<b>(7,923)</b>
Personal Services - Fringe Benefits	(6,500)	(6,500)	(6,500)	(6,032)	(5,440)	(6,952)	1,060	(452)	1,060	(920)
Contributions, Indemnities & Taxes	(14,934)	(16,364)	(14,934)	(16,364)	(15,020)	(16,635)	(86)	(270)	(86)	(270)
<b>Revenue</b>	<b>(9,897)</b>	<b>(11,048)</b>	<b>(9,897)</b>	<b>(11,048)</b>	<b>(9,948)</b>	<b>(10,845)</b>	<b>(52)</b>	<b>203</b>	<b>(52)</b>	<b>203</b>
Personal Services	(4,494)	(4,762)	(4,494)	(4,762)	(4,477)	(4,959)	17	(196)	17	(196)
Purchase of Services	(539)	(549)	(539)	(549)	(594)	(831)	(56)	(282)	(56)	(282)
Materials, Supplies & Equipment	(5)	(5)	(5)	(5)	(1)	(0)	4	5	4	5
Contributions, Indemnities & Taxes	(69)	(71)	(69)	(71)	(77)	(85)	(8)	(14)	(8)	(14)
<b>Procurement</b>	<b>(69)</b>	<b>(71)</b>	<b>(69)</b>	<b>(71)</b>	<b>(77)</b>	<b>(85)</b>	<b>(8)</b>	<b>(14)</b>	<b>(8)</b>	<b>(14)</b>
Personal Services	(2,794)	(2,881)	(2,794)	(2,881)	(2,287)	(2,572)	507	309	507	309
<b>Law</b>	<b>(2,266)</b>	<b>(2,334)</b>	<b>(2,266)</b>	<b>(2,334)</b>	<b>(2,085)</b>	<b>(2,369)</b>	<b>181</b>	<b>(35)</b>	<b>181</b>	<b>(35)</b>
Personal Services	(508)	(526)	(508)	(526)	(184)	(166)	324	360	324	360
Purchase of Services	(20)	(21)	(20)	(21)	(18)	(36)	2	(16)	2	(16)
Materials, Supplies & Equipment	(225)	(232)	(225)	(232)	(232)	(231)	(7)	1	(7)	1
<b>Mayor's Office of Transportation &amp; Utilities and Office</b>	<b>(196)</b>	<b>(202)</b>	<b>(196)</b>	<b>(202)</b>	<b>(202)</b>	<b>(202)</b>	<b>(6)</b>	<b>(0)</b>	<b>(6)</b>	<b>(0)</b>
Personal Services	(29)	(30)	(29)	(30)	(30)	(29)	(1)	1	(1)	1
Purchase of Services	0	0	0	0	0	(100)	0	(100)	0	(100)
Philadelphia Water, Sewer and Stormwater Rate Board	0	0	0	0	0	(4)	0	(4)	0	(4)
Personal Services	0	0	0	0	0	(96)	0	(96)	0	(96)
Purchase of Services	(452,178)	(480,916)	(452,178)	(479,063)	(432,857)	(480,257)	19,321	659	19,321	(1,194)
<b>Total Operating Expense</b>	<b>(452,178)</b>	<b>(480,916)</b>	<b>(452,178)</b>	<b>(479,063)</b>	<b>(432,857)</b>	<b>(480,257)</b>	<b>19,321</b>	<b>659</b>	<b>19,321</b>	<b>(1,194)</b>

## BRING DOWN OF FY 2017 to FY 2018 RATE PROCEEDING FINANCIAL PLAN - COMPONENTS OF O&amp;M EXPENSE

Description	Initial Assumptions		Rate Board Decision		Actuals		Difference Initial Filing Vs. Actuals		Difference Board Decision Vs. Actuals	
	2016	2017	2016	2017	2016	2017 (a)	2016	2017	2016	2017
<b>Summary by O&amp;M Cost Component</b>										
<i>Personal Services</i>	(123,199)	(129,551)	(123,199)	(129,551)	(118,415)	(125,010)	4,784	4,541	4,784	4,541
<i>Personal Services - Fringe Benefits</i>	(107,987)	(113,644)	(107,987)	(113,644)	(106,391)	(121,567)	1,596	(7,923)	1,596	(7,923)
<i>Purchase of Services</i>	(159,027)	(171,912)	(159,027)	(170,652)	(148,989)	(167,609)	10,038	4,303	10,038	3,043
<i>Materials, Supplies &amp; Equipment</i>	(48,916)	(50,763)	(48,916)	(50,638)	(45,522)	(46,622)	3,394	4,141	3,394	4,016
<i>Contributions, Indemnities &amp; Taxes</i>	(6,505)	(6,505)	(6,505)	(6,037)	(5,441)	(7,352)	1,064	(847)	1,064	(1,315)
<i>Payments to General Fund (interfund transfer)</i>	(6,545)	(8,541)	(6,545)	(8,541)	(8,100)	(12,097)	(1,555)	(3,556)	(1,555)	(3,556)
<b>Total Operating Expense</b>	<b>(452,178)</b>	<b>(480,916)</b>	<b>(452,178)</b>	<b>(479,063)</b>	<b>(432,857)</b>	<b>(480,257)</b>	<b>19,321</b>	<b>659</b>	<b>19,321</b>	<b>(1,194)</b>

(a) FY 2017 figures are preliminary actual and subject to change.

- Presented in thousand dollars

- Minor difference in total due to rounding

- Mayor's Office of Transportation &amp; Utilities includes Office of Sustainability and Water, Sewer, and Stormwater Rate Board

## IMPACT TO PROJECTED RATE STABILIZATION FUND TRANSFER BY COMPONENT

B&V Line No	Description	Initial Filing		Board Decision		Actuals		Difference Initial Filing Vs. Actuals		Difference Board Decision Vs. Actuals	
		2016	2017	2016	2017	2016	2017	2016	2017	2016	2017
11	Total Water & Wastewater Service Revenue	644,102	675,376	644,102	673,011	654,351	681,634	(10,249)	(6,258)	(10,249)	(8,623)
13 to 17	Other Income	23,829	23,178	23,829	23,245	24,555	39,011	(726)	(15,833)	(726)	(15,766)
21	Liquidated Encumbrances	21,105	22,746	21,105	26,887	24,088	24,550	(2,983)	(1,804)	(2,983)	2,337
21	Total Operating Expense	(452,179)	(480,917)	(452,179)	(479,063)	(432,857)	(480,257)	(19,322)	(660)	(19,322)	1,194
26	Total Senior Debt Service	(220,713)	(207,715)	(220,713)	(207,715)	(219,133)	(206,390)	(1,580)	(1,325)	(1,580)	(1,325)
30	Total Subordinate Debt Service	0	0	0	0	0	0	0	0	0	0
22	Less (Net Revenues available for Debt Service) (a)	(53,044)	(51,968)	(53,044)	(51,965)	(52,633)	(53,603)	(411)	1,635	(411)	1,638
	<b>Total Impact</b>							(35,271)	(24,244)	(35,271)	(20,544)

(a) Reflects total impact on additional revenues required for coverage.

- Presented in thousand dollars

RSF - Rate Stabilization Fund

f. Projected revenues under existing rates reflect the anticipated cumulative receipts for the water, sanitary sewer, and stormwater services (including retail, City and wholesale receipts) each fiscal year. The receipts for each fiscal year are estimated based on the projected system billings for a fiscal year and the billings of the prior two years and the associated projected collection factors for the fiscal year (“Current Year”) and each of the prior two years (“First Year Prior” and “Second Year Prior”).

(i) **Retail Excluding Stormwater Only:** The projected collection factors are based on a review of the historical collection factors provided by the RFC Collection Factor reports (RFC Report 3 and RFC Report 4). Figure 1 provides the collection factors used for FY 2013 through FY 2015 and the projected collection factors for FY 2016 to FY 2021.

Figure 1 – Retail Excluding Stormwater Only Collection Factors

Fiscal Year	Current Year	1st Year Prior	2nd Year Prior +	Collection Ever
	%	%	%	%
<b>Historical Collection Factors</b>				
2011			2.00	
2012	83.36	10.39	2.00	95.75
2013	83.29	10.19	2.00	95.48
2014	84.82	9.71		94.53
2015	84.82			85.55
<b>3 Year Average</b>				
	84.31	10.10		
<b>FY 2016 to FY 2021 Projection Basis</b>				
Projected Collection Factors	84.30	10.00	2.00	96.30

**FY 2013 through FY 2015**

- **Current Year Factor:** This factor is applied to “Fiscal Year” Billings, and reflects the “FY” Collection Factor provided for FY 2012, FY 2013; FY 2014; and FY 2015 in RFC Report 3.
- **First Year Prior Factor:** This factor is applied to the billings of the first prior year. The FY 2012 and FY 2013 factors are derived as that year’s “Collection Ever” factor less the sum of that year’s Current Year factor and Second Prior Year factor, respectively; the FY 2014 factor is derived as that year’s “Collection Ever” factor less the “Current Year” factor.
- **Second Year Prior Factor:** This factor is applied to the billings of the second prior year. This factor reflects the historical receipt factor of 2% (based on the FY



2010 billings collected during FY 2012 through FY 2014 per RFC Rpt 4). This 2% rounded factor is applied to FY 2013; FY 2014; and FY 2015.

FY 2016 through FY 2021

- Current Year Factor: Derived as the three year average of FY 13 through FY 15 Current Year factors.
- First Year Prior Factor: Derived as the three year average of FY 12 through FY 14 First Year Prior factors.
- Second Year Prior Factor: Derived as the two year average of the FY 12 and FY 13 Second Year Prior factors.

(ii) **Retail Stormwater Only:** The projected collection factors are based on a review of the historical collection factors provided by the RFC Collection Factor reports (RFC Report 3 and RFC Report 4). Figure 2 provides the collection factors used for FY 2013 through FY 2015 and the projected collection factors for FY 2016 to FY 2021.

Figure 2 – Retail Stormwater Only Collection Factors

Fiscal Year	Current Year	1st Year Prior	2nd Year Prior +	Collection Ever
	%	%	%	%
<b>Historical Collection Factors</b>				
2011			2.40	
2012	55.58	12.00	2.40	69.98
2013	57.30	8.47	2.40	68.16
2014	54.54	7.27		61.81
2015	54.56			55.09
<b>3-Year Average</b>				
	55.46	9.25		
<b>FY 2016 to FY 2021 Projection Basis</b>				
Projected Collection Factors	54.00	8.70	2.40	65.10

The same approach as described above for the *Retail Excluding Stormwater Only* was also used to determine the collection factors for Retail Stormwater Only presented in Figure 2. However the second year prior collection factor was estimated based on the projected collections relative to the actual system revenues. In addition, the projected collection factors were adjusted based on a review of the projected collections relative to the actual system revenues. These adjustments were made to reduce the first year and second year prior collection factors reflected in the historical data (FY 2012 and FY 2011) collection factors which were the initial

Non-Stormwater Only			
FY	Billing Year	Billing Year +1	Billing Year +2+
2016	86.84%	NA	NA
2015	87.03%	8.24%	NA
2014	86.17%	8.61%	1.00%
2013	84.80%	9.80%	1.69%
2012	84.67%	9.67%	1.99%
Average	85.90%	9.08%	1.56%
Total			96.54%

FY	Billing Year	Billing Year +1	Billing Year +2+
2016	86.84%	NA	NA
2015	87.03%	8.24%	NA
2014	86.17%	8.61%	1.00%
2013	84.80%	9.80%	1.69%
2012	84.67%	9.67%	1.99%
Average	86.68%	8.88%	1.56%
Total			97.12%

Increase (using 3 year average) 0.58%

Total			
FY	Billing Year	Billing Year +1	Billing Year +2+
2016	86.10%	NA	NA
2015	86.12%	8.23%	NA
2014	85.26%	8.52%	1.07%
2013	84.08%	9.73%	1.75%
2012	84.13%	9.66%	2.06%
Average	85.14%	9.04%	1.63%
Total			95.80%

FY	Billing Year	Billing Year +1	Billing Year +2+
2016	86.10%	NA	NA
2015	86.12%	8.23%	NA
2014	85.26%	8.52%	1.07%
2013	84.08%	9.73%	1.75%
2012	84.13%	9.66%	2.06%
Average	85.83%	8.83%	1.63%
Total			96.28%

0.48%

Rate Stabilization Fund	Residual Fund	Combined	Days Cash on Hand (PWD St 2-R)	Amount Per Day
\$110,000,000	0	\$110,000,000	86.5	\$1,271,676.30
\$150,000,000	\$15,000,000	\$165,000,000	244	\$676,229.51