**VOLUME 8** 

#### PENNSYLVANIA-AMERICAN WATER COMPANY

2020 GENERAL BASE RATE CASE R-2020-3019369 (WATER) R-2020-3019371 (WASTEWATER)

> DIRECT TESTIMONY STATEMENTS NO. 1-10

Statement No. 1 Nevirauskas

# DIRECT TESTIMONY OF ROD P. NEVIRAUSKAS

#### WITH REGARD TO

PENNSYLVANIA-AMERICAN WATER AN OVERVIEW OF (1) COMPANY'S RATE FILING AND PRINCIPAL ACCOUNTING EXHIBIT, **INCLUDING A SUMMARY OF THE FACTORS DRIVING ITS NEED FOR RATE RELIEF; (2) INTRODUCTION OF OTHER WITNESSES AND** SUMMARY OF THE AREAS THEY ADDRESS; (3) SUPPORT FOR SPECIFIC CLAIMS, INCLUDING THE COMPANY'S PROPOSED MULTI-YEAR RATE PLAN, REGIONALIZATION AND CONSOLIDATION SURCHARGE, AND PENSION AND OTHER POST-EMPLOYMENT BENEFITS TRACKER; ALLOCATION OF A PORTION OF WASTEWATER REVENUE REOUIREMENT TO WATER OPERATIONS; DECLINING RESIDENTIAL AND COMMERCIAL CONSUMPTION; **RECOGNITION OF THE EFFECTS OF THE TAX CUTS AND JOBS ACT;** AND COMPLIANCE WITH SECTION 1301.1(B) OF THE PENNSYLVANIA PUBLIC UTILITY CODE; (4) PERFORMANCE FACTORS UNDER SECTION 523 OF THE CODE AND THE POLICY STATEMENT AT 69 PA. CODE § 69.711; AND (5) COMPARISON OF CLAIMED RATE BASE AND EXPENSES FROM THE LAST RATE CASE, COMMITMENTS FROM PRIOR CASE SETTLEMENT AND THE MCKEESPORT ACQUISITION

### DOCKET NOS. R-2020-3019369 (WATER) R-2020-3019371 (WASTEWATER)

DATE: April 29, 2020

# PENNSYLVANIA-AMERICAN WATER COMPANY DIRECT TESTIMONY OF ROD P. NEVIRAUSKAS

#### **INTRODUCTION**

#### 1 Q. Please state your name and business address.

2 A. My name is Rod P. Nevirauskas, and my business address is 852 Wesley Drive,

### 3 Mechanicsburg, PA 17055.

# 4 Q. By whom are you employed and in what capacity?

A. I am employed by American Water Works Service Company, Inc. ("Service Company" or
"AWWSC") as Senior Director of Rates and Regulations for Pennsylvania-American Water
Company ("PAWC" or the "Company"). The Service Company is a wholly owned
subsidiary of American Water Works Company, Inc. ("American Water" or "AWW") that
provides services to Pennsylvania-American Water Company ("PAWC", or "Company")
and its affiliates.

# 11 Q. Please describe your educational background and business experience.

12 I received a Bachelor's Degree in Economics from the University of Massachusetts. Since A. 13 beginning my employment with Service Company in 1980, I have held various positions of 14 increasing responsibilities in rates and finance. In October 2004, I was named Manager of 15 Rates and Regulations for the Service Company. In 2005, I was promoted to the position of 16 Director of Financial Services. In that capacity, I led the Service Company Rates and 17 Regulations group in supporting rate case filings for all of AWW's regulated operating 18 subsidiaries. On January 1, 2009, I assumed the position of Director of Rates and 19 Regulations for the states of Pennsylvania, Virginia and Maryland. In late 2011, AWW

		reorganized its divisional structure, and responsibility for rate and regulatory matters in
2		West Virginia was transferred to the Mid-Atlantic Division of American Water, of which
3		PAWC is a member. In 2016, I became Senior Director of Rates and Regulations. On
4		March 1, 2017, AWW revised its divisional structure and created a new Mid-Atlantic
5		Division consisting of only Pennsylvania and West Virginia, which are within the scope of
6		my responsibility.
7	Q.	Have you previously testified before regulatory agencies?
8	A.	Yes, I have testified on numerous occasions on behalf of utility subsidiaries of AWW in
9		support of rate filings, acquisitions, and financings in the States of Connecticut, Rhode
10		Island, New Jersey, New Hampshire, Maryland, New York, Ohio, Virginia and West
11		Virginia and the Commonwealths of Massachusetts and Pennsylvania.
12		PURPOSE OF TESTIMONY
13	Q.	What is the purpose of your testimony and how is it organized?
14	A.	The purpose of my testimony is to explain the overall structure of PAWC's case and to
14 15	A.	The purpose of my testimony is to explain the overall structure of PAWC's case and to address certain specific claims being made by the Company to support its proposed rates.
14 15 16	A.	The purpose of my testimony is to explain the overall structure of PAWC's case and to address certain specific claims being made by the Company to support its proposed rates. My testimony is organized into five principal parts.
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1	summary of the factors responsible for PAWC's revenue deficiency. As part of this
2	discussion, I explain the sources of the accounting data that were the starting point for the
3	Company's rate case presentation; identify the test years the Company is employing in this
4	case; and give an overview of PAWC's Exhibit No. 3-A.
5	Second, I will identify the other witnesses who are providing testimony on behalf of
6	the Company and summarize the topics that each witness addresses.
7	Third, I will discuss and, together with other PAWC witnesses, support the following
8	specific parts of the Company's case:
9	(1) The Company's proposals to implement alternative ratemaking mechanisms
10	consisting of a multi-year rate plan covering periods ending December 31,
11	2021 and 2022; a Regionalization and Consolidation Surcharge mechanism;
12	and tracker and deferral accounts for the Company's pension and other post-
13	employment benefit ("OPEB") expenses;
14	(2) The Company's use of authority conferred by Act 11 of 2012 ("Act 11") and
15	Section 1311(c) of the Pennsylvania Public Utility Code ("Code") to mitigate
16	the impact of revenue increases on wastewater customers by recovering a
17	portion of the Company's wastewater revenue requirement from its total water
18	and wastewater customer base;
19	(3) The Company's recognition of declining residential and commercial per-
20	customer consumption in its pro forma sales and revenues claimed in this case;
21	(4) The Company's recognition of the changes in federal income tax law made by
22	the Tax Cuts and Jobs Act ("TCJA") in developing its revenue requirement in
23	this case; and

1		(5) The Company's compliance with Section 1301.1(b) of the Code by calculating
2		the "differential" in tax costs recognized for ratemaking purposes before and
3		after the enactment of Act 40 of 2016 and identifying how 50% of that
4		differential will be invested in water and wastewater infrastructure.
5		Fourth, I will discuss the Company's overall management performance in relation to
6		the factors identified in Section 523 of the Code and the Commission's Policy Statement at
7		52 Pa. Code § 69.711 and explain why the Company's superior management performance
8		supports a rate of return on equity at the upper end of the range determined by PAWC's rate
9		of return witness, Ms. Ann E. Bulkley, in PAWC Statement No. 13.
10		Fifth, I will discuss, or identify other witnesses who discuss, the Company's
11		compliance with commitments it made in the Joint Petition for Settlement of Rate
12		Investigation in its last base rate case.
13 14		OVERVIEW: GENERAL INFORMATION ABOUT THE COMPANY AND THIS CASE
15 16		PAWC's Management Philosophy
17	Q.	What is the Company's management philosophy?
18	A.	It is a fundamental principle of Company management to strive to balance the interests of its
19		customers, its employees, and its investors in all the functions the Company performs.
20		Consistent with that principle:
21		• The Company believes that customers are entitled to safe, reliable, high-quality
		water and wastewater service that is provided at a reasonable price.
22		
22 23		• The Company believes – and market forces demand – that it provide its employees

compensation packages, including appropriately designed incentives to improve
 performance and promote efficiency.

The Company believes that its investors are entitled to earn a fair return on their
 investment because PAWC is competing with other companies and industries in the
 marketplace for capital and is competing with its peers within the AWW system for
 discretionary allocations of AWW's investment and financing capacity.

The Company's commitment to reliable service is reflected in the capital investments that it has made and continues to make in developing and maintaining adequate sources of supply, treatment, pumping, transmission, distribution and collection facilities, as well as the investments it has made and continues to make to comply with the increasingly stringent requirements of the Safe Drinking Water Act, the Clean Water Act, and other applicable federal and state environmental laws and regulations.

Another of the Company's fundamental management principles is transparency with regulators and other stakeholders. This is a personal commitment on the part of senior management, and one that has been embraced by the Company at all levels of our organization. Our vision is to be our water customers' trusted water resource company and our wastewater customers' safe and reliable collection and treatment company that is dedicated to delivering innovative, high-quality solutions at a fair and reasonable cost.

19 The Company firmly believes that human capital is central to accomplishing its 20 mission and, therefore, employee training and development is an essential contributor to the 21 Company's success. Company employees who work directly with customers are trained to 22 respond efficiently, effectively and courteously to customers' inquiries and requests. 23 Company management personnel receive formal training in Company procedures and

effective customer service and also participate in relevant industry meetings and seminar
 presentations about specific water and wastewater utility issues. In fact, every employee has
 a mandatory minimum training requirement of twenty hours per year. These and other
 practices aid the Company in meeting its obligations as a public utility and furnishing its
 customers the high quality service they have come to expect.

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#### **PAWC's Proposals For Act 58 Alternative Ratemaking Mechanisms**

# Q. Please identify the elements of this case that are based on the authority granted by Act 58 for the Commission to approve alternative ratemaking mechanisms.

9 There are three alternative ratemaking components in this case. First, the Company is A. 10 proposing a multi-year rate plan as permitted by Section 1330(b)(1)(iv) of the Code. 11 Specifically, the Company is proposing rates that will become effective at the end of the 12 suspension period for this case and will remain in effect until December 31, 2021, which the 13 Company is designating Rate Year 1, and rates that will become effective on January 1, 14 2022 and remain in effect until December 31, 2022, which is designated Rate Year 2. The 15 rates in effect in Rate Year 2 will remain in effect until the conclusion of another rate filing 16 by the Company. I will explain the Company's multi-year rate plan in more detail in a 17 subsequent section of my testimony

18 Second, pursuant to Section 1330(b)(2) of the Code, the Company is proposing a 19 Regionalization and Consolidation Surcharge mechanism under Section 1307 of the Code. 20 The Regionalization and Consolidation Surcharge mechanism is designed to reflect and 21 recover, between base rate cases, the revenue deficiency that may exist upon the Company's 22 acquisition of the water or wastewater assets of a municipal corporation or authority at a fair 23 market valuation established pursuant to Section 1329 of the Code.

1		Third, pursuant to the general authority that Section 1330(b) grants the Commission
2		to approve alternative ratemaking mechanisms, the Company is proposing to establish
3		trackers and deferral accounts to reflect differences that occur, between base rate cases, in
4		the annual amount of pension and OPEB expense reflected in base rates and the actual
5		annual amounts of pension and OPEB expense the Company incurs. The differences, which
6		could be positive or negative, would be reflected in rates in a subsequent base rate case.
7 8		PAWC's Need For Rate Relief And <u>The Factors Responsible For Its Revenue Deficiency</u>
9	Q.	Please summarize the rate increase sought by PAWC in this proceeding.
10	A.	The Company is seeking an increase in the rates of its water and wastewater operations that
11		will produce additional annual operating revenues of \$138.6 million over the two years of
12		Company's proposed multi-year rate plan. The proposed increase in Rate Year 1 is \$92.4
13		million, or 12.9%, over PAWC's annualized total-Company Rate Year 1 revenues at present
14		rates including Distribution System Improvement Charge ("DSIC") revenue. The proposed
15		increase in Rate Year 2 is \$46.2 million, or 5.8% over PAWC's annualized total-Company
16		Rate Year 2 revenues at proposed Rate Year 1 rates. The key elements of the Company's
17		rate request are summarized on Schedule RPN-1 to this statement. Schedule RPN-2 to this
18		statement is a more-detailed summary that provides an overview of revenue requirements
19		and revenues at existing and proposed rates on a total-Company basis.
20	Q.	Why is PAWC requesting a rate increase at this time?
21	A.	PAWC has made, and must continue to make, substantial investments in new and
22		replacement plant and equipment in order to replace aging infrastructure, comply with
23		mandates imposed by the Safe Drinking Water Act, the Clean Water Act and the Clean
24		Streams Law and their associated regulations, and meet customers' demands for water and

1		wastewater service. From the end of the fully projected future test year in the Company's
2		last base rate case (December 31, 2018) through the end of Rate Year 2 in this case
3		(December 31, 2022), the Company will have invested over \$1.64 billion in new or
4		replacement plant and equipment, and the overwhelming majority of this investment is and
5		will be in source of supply, treatment, distribution and collection assets. Part of this
6		investment is also being used to improve service to small, troubled water and wastewater
7		systems that PAWC has acquired. As evidenced by PAWC's prior and continuing pattern of
8		acquisitions, which are discussed by Mr. Grundusky in PAWC Statement No. 8, PAWC has
9		been an industry leader in helping the Commission meet the significant challenges posed by
10		the many small, troubled systems that still exist across the state. To address all of these
11		diverse capital needs, PAWC must raise substantial amounts of debt and equity capital and,
12		in the process, must demonstrate its ability to provide a reasonable return in order to
13		convince investors to commit their funds to the Company for its use.
14		As shown in Schedule RPN-2 and explained in the Statement of Specific Reasons for
15		Proposed Increase in Rates that accompanies the Company's filing, absent rate relief, the
16		Company's overall rate of return on an original cost basis will be only 6.31% and 5.62% as
17		of December 31, 2021 and 2022, respectively. More significantly, the indicated return on
18		common equity is anticipated to be 7.85% and 6.70% as of December 31, 2021 and 2022,
19		respectively, which is clearly far less than is required.
20	Q.	What are the principal factors that have contributed to the decline in PAWC's equity
21		return?
22	A.	In broad terms, PAWC's rate request is driven primarily by (1) its investment in new and
23		replacement plant, including acquired water and wastewater systems; and (2) declining

residential and commercial water consumption. These factors, as well as additional factors
 of lesser magnitude, are discussed in greater detail by other witnesses submitting statements
 on behalf of the Company. I will introduce each of these witnesses later in my testimony.

- 4 Q. Has the Company taken steps to control the growth of its operating expenses?
- 5 A. Yes, the Company's claims for its water operations' operating and maintenance expenses, 6 excluding depreciation, at December 31, 2022 have only increased by a compound annual 7 growth rate of 1.76% since the conclusion of the fully projected future test year in the Company's last base rate proceeding (December 31, 2018) or four years. The Company's 8 9 current rates have been in effect since January 2018, and the Company has expanded its water service footprint since its last base rate case.<sup>1</sup> The Company's ability to control costs, 10 11 evidenced by the comparison I provided above, is attributable to the Company's prudent 12 management of operating costs.

#### 13 Source Of Accounting Data And The Test Years Employed By The Company

#### 14 Q. What is PAWC's principal accounting exhibit in this case?

15 A. PAWC Exhibit No. 3-A is PAWC's principal accounting exhibit in this case. PAWC

16 Exhibit No. 3-A includes eight separate revenue requirement studies, two of which relate to

17 the Company's water operations and six relate to its wastewater operations.

#### 18 Q. What is the source of the accounting data used in PAWC Exhibit No. 3-A?

- 19 A. The starting point for each of the revenue requirement studies in PAWC Exhibit No. 3-A is
- 20 the accounting information recorded in the Company's books and records for the twelve
- 21 months ended December 31, 2019. The Company's books and records are maintained in

<sup>&</sup>lt;sup>1</sup> A similar comparison for the Company's wastewater operations would not be meaningful. In fact, it would be an "apples to oranges" comparison because of the larger number and size of the wastewater systems PAWC has absorbed since its last base rate case.

1		conformity with the National Association of Regulatory Utility Commissioners ("NARUC")
2		Uniform System of Accounts for Water Companies, the NARUC Uniform System of
3		Accounts for Wastewater Companies and generally accepted accounting principles.
4		Because the purpose of ratemaking is to establish rates to be applied in the future, per-book
5		data were adjusted on a pro forma basis, as appropriate, to reflect known and measurable
6		changes in operating conditions that are not fully reflected in the book data for the historic
7		test year ("HTY"), the future test year ("FTY") or Rate Years 1 and 2.
8	Q.	Why is the Company presenting eight separate revenue requirement studies in PAWC
9		Exhibit No. 3-A?
10	A.	The Company is presenting eight separate revenue requirement studies in its Exhibit No. 3-
11		A to comply with the terms set forth in the Joint Petition for Settlement of Rate Investigation
12		("Joint Petition for Settlement") of its last base rate case, at Docket No. R-2017-2595853,
13		and the terms and conditions of the Commission's approvals of PAWC's acquisitions of
14		certain water and wastewater systems that are included in this case.
15		Paragraph 11 of the Joint Petition for Settlement provided that, in PAWC's next base
16		rate case, it would submit separate revenue requiremenct studies for each combined sewer
17		system ("CSS") and would file a cost-of-service study that separately identifies storm water
18		costs for its CSS operations. <sup>2</sup> Accordingly, PAWC Exhibit No. 3-A includes separate
19		revenue requirement studies for the wastewater systems the Company acquired in Scranton
20		and McKeesport, which are both CSSs. The Company also acquired the sanitary sewer
21		systems ("SSSs") that provide wastewater service in Sadsbury and Exeter Townships,
22		Chester County and the water system that provides water service in the Borough of Steelton.

 $<sup>^{2}</sup>$  The cost of service studies that separately identify and quantify storm water costs are sponsored by Ms. Constance E. Heppenstall and are explained in the direct testimony (PAWC Statement No. 12).

1 The terms of the Commission's approvals under Section 1329 of the Code, under which the

- 2 Company and the sellers proceeded in those acquisitions, provided that the Company would
- 3 submit separate cost of service studies for those systems in its next base rate case.
- 4 Q. Briefly explain what is set forth in Exhibit No. 3-A.
- 5 A. As previously explained, PAWC Exhibit No. 3-A contains eight separate revenue
- 6 requirement studies, each of which is set forth at a separate tab within the exhibit, consisting
- 7 of the following:

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Tab 1	Water Operations – Excluding Steelton
Tab 2	Water Operations – Steelton
Tab 3	Wastewater Operations (SSS) – Excluding Sadsbury and Exeter
Tab 4	Wastewater Operations (SSS) – Sadsbury
Tab 5	Wastewater Operations (SSS) – Exeter
Tab 6	Wastewater Operations (CSS) – Scranton
Tab 7	Wastewater Operations (CSS) – McKeesport
Tab 8	Wastewater Operations (CSS) – Kane <sup>3</sup>
A summary	page at the beginning of PAWC Exhibit No. 3-A shows the Company's
rate request on a con	nsolidated (total Company) basis. Applicable workpapers and
supporting document	ntation for PAWC Exhibit No. 3-A are set forth in PAWC Exhibits 3-B
and 3-C. I am respo	onsible for portions of each of these exhibits. Other witnesses are
responsible for othe	r portions of these exhibits as explained in their respective statements.
Each page of PAW	C Exhibit No. 3-A identifies the witness responsible for that portion of
the exhibit.	
In order to re	eflect data for Rate Years 1 and 2 of the Company's multi-year rate plan,
PAWC Exhibit No.	3-A presents PAWC's rate base, revenues, expenses and tax information

<sup>&</sup>lt;sup>3</sup> PAWC's Application for approval to acquire the wastewater assets of the Borough of Kane Authority is currently pending before the PUC at Docket No. A-2019-3014248, and the Company expects the acquisition to be completed during 2020.

1		on the basis of an HTY ended December 31, 2019, a FTY ending December 31, 2020, Rate
2		Year 1 ending December 31, 2021 and Rate Year 2 ending December 31, 2022. The support
3		for the Company's requested revenue increase is based principally upon the data presented
4		for Rate Years 1 and 2. Within PAWC Exhibit No. 3-A, HTY data are generally identified
5		by the title or heading "Present Rates at December 31, 2019" and FTY data are generally
6		identified by the title or heading "Present Rates at December 31, 2020." Data for Rate
7		Years 1 and 2 are generally identified by the title or heading "Present Rates at December 31,
8		2021" and "Present Rates at December 31, 2022," respectively.
9		<b>INTRODUCTION OF OTHER WITNESSES</b>
10	Q.	Please identify the other witnesses who are providing direct testimony on behalf of
11		PAWC in this proceeding.
12	A.	In addition to me, the following witnesses will be responsible for presenting PAWC's direct
13		case:
14		William A. Clarkson is the Vice President of Operations for PAWC. Mr.
15		Clarkson's testimony, which is PAWC Statement No. 2, discusses the general operations of
16		the Company; PAWC's commitment to improve water quality; initiatives taken to increase
17		efficiency, improve service and control costs; installation of advanced metering
18		infrastructure; employee safety and employee training and development; support for
19		employee levels; and efforts to control non-revenue water.
20		Bruce W. Aiton is the Vice President of Engineering for PAWC. Mr. Aiton's
21		testimony, which is PAWC Statement No. 3, discusses the Company's claim for plant
22		additions to be placed in service during the FTY and Rate Years 1 and 2, PAWC's
23		fulfillment of main extension commitments from its 2017 base rate case, PAWC's major

acquisitions since the last case, operational and regulatory risks associated with the
 provision of public water and wastewater service, and the implementation of the Company's
 Lead Service Line Replacement Program.

Ashley E. Everette is Director of Rates and Regulations for PAWC. Ms. Everette's
testimony, which is PAWC Statement No. 4, discusses the Company's claimed revenues, its
rate structure and rate design proposals, certain specific expense items not covered by other
witnesses, proposed tariff changes, the Company's low income assistance program, the
refunding of tax effects of the TCJA during the period from January 1 through June 30,
2018, and the disposition of the gain associated with depreciable assets realized on the sale
of the Company's former Corporate Office in Hershey, Pennsylvania.

11**Dr. Christina Chard** is a Rate Director for AWWSC. Her testimony is PAWC12Statement No. 5 and addresses the Company's claims for rate base, depreciation and13amortization, taxes other than income and acquisitions since its last rate case that the14Company has reflected in its proposed rate base in this case.

15 Stacey D. Gress is a Senior Manager of Regulatory Services for AWWSC. Her 16 testimony is PAWC Statement No. 6 and addresses the Company's claim for labor and 17 labor-related expenses, Annual Performance Plan and Long-Term Performance Plan 18 expenses, pension and OPEB costs, Service Company expenses, inflation, rate case and 19 regulatory expenses, and the allocation of expenses between water and wastewater 20 operations.

Dominic DeGrazia is a Principal Financial Analyst for AWWSC. His testimony,
 PAWC Statement No. 7 supports the Company's adjustments for fuel and power, waste
 disposal, purchased water, chemicals, transportation, insurance other than group, and rent.

1	Bernard J. Grundusky, Jr. is Director of Business Development for PAWC. His
2	testimony, which is PAWC Statement No. 8, describes PAWC's various acquisitions made,
3	or pending, since the Company's last base rate case. He will also discuss why the
4	Company's proposed Regionalization and Consolidation Surcharge mechanism is necessary
5	and appropriate.
6	Gregory P. Roach is Senior Director of American Water Revenue Analytics. His
7	testimony, which is PAWC Statement No. 9, explains his detailed analysis demonstrating
8	the continuing decline in residential and commercial per customer consumption that has
9	been reflected in the Company's revenue claims in this case.
10	John R. Wilde is Senior Director-Tax of AWWSC. His testimony, which is PAWC
11	Statement No. 10, supports the Company's claim for Federal and state income taxes.
12	John J. Spanos is President of Gannett Fleming Valuation and Rate Consultants
13	LLC. His testimony, which is PAWC Statement No. 11, explains the development of the
14	depreciated original cost of the Company's utility plant in service and its claims for annual
15	depreciation expense.
16	Constance E. Heppenstall is Senior Project Manager for rate studies of Gannet
17	Fleming Valuation and Rate Consultants LLC. Ms. Heppenstall's testimony is PAWC
18	Statement No. 12 and discusses the allocation of the cost of service to customer
19	classifications, the design of tariff rates and the identification of storm water related costs of
20	service of CSSs.
21	Ann E. Bulkley is a Senior Vice President of Concentric Energy Advisors, Inc. Her
22	testimony, which is PAWC Statement No. 13, presents her recommendation regarding the

1		rate of return that the Company should be afforded an opportunity to earn on its rate base
2		and assesses the reasonableness of PAWC's proposed capital structure.
3		SUPPORT FOR SPECIFIC ELEMENTS OF THE COMPANY'S FILING
4		The Company's Act 58 Alternative Ratemaking Proposals
5	Q.	When was Act 58 enacted and what changes did it make to the Code?
6	A.	On June 28, 2018, Governor Tom Wolf signed Act 58 into law to be effective in 60 days, or
7		by August 27, 2018. In Section 1330(a)(2), the General Assembly stated the purpose
8		underlying the enactment of Act 58, as follows:
9 10 11 12 13		It is the policy of the Commonwealth that utility ratemaking should encourage and sustain investment through appropriate cost-recovery mechanisms to enhance the safety, security, reliability or availability of utility infrastructure and be consistent with the efficient consumption of utility service.
14		Act 58 add Section 1330 to the Code, which authorizes the Commission to approve
15		an application by a utility to establish alternative rates and rate mechanisms. Specifically,
16		Section 1330(b) provides:
17 18 19 20 21 22		(1) Notwithstanding any other provision of law, including, but not limited to, sections $2806.1(k)(2)$ (relating to energy efficiency and conservation program) and $2807(f)(4)$ (relating to duties of electric distribution companies), the commission may approve an application by a utility in a base rate proceeding to establish alternative rates and rate mechanisms, including, but not limited to, the following mechanisms:
23 24 25 26 27 28 29		<ul> <li>(i) decoupling mechanisms;</li> <li>(ii) performance-based rates;</li> <li>(iii) formula rates;</li> <li>(iv) multiyear rate plans; or</li> <li>(v) rates based on a combination of more than one of the mechanisms in subparagraphs (i),(ii), (iii) and (iv) or other ratemaking mechanisms as provided under this chapter.</li> </ul>
30 31 32		(2) An alternative rate mechanism established under this section may include rates under section 1307 (relating to sliding scale of rates; adjustments) or 1308 (relating to voluntary changes in rates) and may

1 2 3		provide for recovery of returns on and return of capital investments or, in the case of city natural gas distribution operations, recovery under the cash flow ratemaking method.
4		While Act 58 identifies certain specific ratemaking mechanisms, as summarized above, it
5		also states that alternative ratemaking mechanisms are "not limited to" those listed in Act
6		58.
7		As I previously explained, based on the grant of authority to the PUC set forth in Act
8		58, the Company is proposing three alternative ratemaking mechanisms in this case, namely,
9		a multi-year rate plan, a Regionalization and Consolidation Surcharge mechanism and
10		trackers and deferral accounts for pension and OPEB expenses. I discuss each of these
11		mechanisms separately below.
12		<u>Multi-Year Rate Plan</u>
13	Q.	Please describe the multi-year rate plan the Company is proposing in this case.
14	A.	The Company is proposing a two-year rate plan. Rate Year 1 will cover the period from the
14 15	A.	The Company is proposing a two-year rate plan. Rate Year 1 will cover the period from the end of the suspension period in this case through December 31, 2021, which would
14 15 16	A.	The Company is proposing a two-year rate plan. Rate Year 1 will cover the period from the end of the suspension period in this case through December 31, 2021, which would correspond to a fully projected future test year ("FPFTY") authorized by Section 315(e) of
14 15 16 17	Α.	The Company is proposing a two-year rate plan. Rate Year 1 will cover the period from the end of the suspension period in this case through December 31, 2021, which would correspond to a fully projected future test year ("FPFTY") authorized by Section 315(e) of the Code. Rate Year 2 will be the twelve months ending December 31, 2022.
14 15 16 17 18	Α.	The Company is proposing a two-year rate plan. Rate Year 1 will cover the period from the end of the suspension period in this case through December 31, 2021, which would correspond to a fully projected future test year ("FPFTY") authorized by Section 315(e) of the Code. Rate Year 2 will be the twelve months ending December 31, 2022. The Company is proposing base rates to be in effect for Rate Year 1 to recover its
14 15 16 17 18 19	A.	The Company is proposing a two-year rate plan. Rate Year 1 will cover the period from the end of the suspension period in this case through December 31, 2021, which would correspond to a fully projected future test year ("FPFTY") authorized by Section 315(e) of the Code. Rate Year 2 will be the twelve months ending December 31, 2022. The Company is proposing base rates to be in effect for Rate Year 1 to recover its Rate Year 1 revenue requirement and a second set of base rates to be in effect for Rate Year
14 15 16 17 18 19 20	Α.	The Company is proposing a two-year rate plan. Rate Year 1 will cover the period from the end of the suspension period in this case through December 31, 2021, which would correspond to a fully projected future test year ("FPFTY") authorized by Section 315(e) of the Code. Rate Year 2 will be the twelve months ending December 31, 2022. The Company is proposing base rates to be in effect for Rate Year 1 to recover its Rate Year 1 revenue requirement and a second set of base rates to be in effect for Rate Year 2 based on the revenue requirement developed for Rate Year 2. Each revenue requirement
<ol> <li>14</li> <li>15</li> <li>16</li> <li>17</li> <li>18</li> <li>19</li> <li>20</li> <li>21</li> </ol>	Α.	The Company is proposing a two-year rate plan. Rate Year 1 will cover the period from the end of the suspension period in this case through December 31, 2021, which would correspond to a fully projected future test year ("FPFTY") authorized by Section 315(e) of the Code. Rate Year 2 will be the twelve months ending December 31, 2022. The Company is proposing base rates to be in effect for Rate Year 1 to recover its Rate Year 1 revenue requirement and a second set of base rates to be in effect for Rate Year 2 based on the revenue requirement developed for Rate Year 2. Each revenue requirement study in PAWC Exhibit No. 3-A shows the development of the Company's revenue
<ol> <li>14</li> <li>15</li> <li>16</li> <li>17</li> <li>18</li> <li>19</li> <li>20</li> <li>21</li> <li>22</li> </ol>	A.	The Company is proposing a two-year rate plan. Rate Year 1 will cover the period from the end of the suspension period in this case through December 31, 2021, which would correspond to a fully projected future test year ("FPFTY") authorized by Section 315(e) of the Code. Rate Year 2 will be the twelve months ending December 31, 2022. The Company is proposing base rates to be in effect for Rate Year 1 to recover its Rate Year 1 revenue requirement and a second set of base rates to be in effect for Rate Year 2 based on the revenue requirement developed for Rate Year 2. Each revenue requirement study in PAWC Exhibit No. 3-A shows the development of the Company's revenue requirements for the HTY, the FTY and Rate Years 1 and 2. As I previously explained, the
<ol> <li>14</li> <li>15</li> <li>16</li> <li>17</li> <li>18</li> <li>19</li> <li>20</li> <li>21</li> <li>22</li> <li>23</li> </ol>	Α.	The Company is proposing a two-year rate plan. Rate Year 1 will cover the period from the end of the suspension period in this case through December 31, 2021, which would correspond to a fully projected future test year ("FPFTY") authorized by Section 315(e) of the Code. Rate Year 2 will be the twelve months ending December 31, 2022. The Company is proposing base rates to be in effect for Rate Year 1 to recover its Rate Year 1 revenue requirement and a second set of base rates to be in effect for Rate Year 2 based on the revenue requirement developed for Rate Year 2. Each revenue requirement study in PAWC Exhibit No. 3-A shows the development of the Company's revenue requirements for the HTY, the FTY and Rate Years 1 and 2. As I previously explained, the rates proposed for Rate Year 1 will produce an increase of \$92.9 million (approximately

1		(including DSIC revenues), and the proposed rates for Rate Year 2 will produce an increase
2		of \$45.2 million, or approximately 5.6%, over PAWC's annualized total-Company revenues
3		at the proposed Rate Year 1 rates.
4		The Company would not file for another general base rate increase under Section
5		1308(d) of the Code to become effective prior to December 31, 2022, subject to certain
6		exceptions. <sup>4</sup> The base rates established for Rate Year 2 will remain in effect after December
7		31, 2022 until changed at the conclusion of another base rate case filed by the Company.
8	Q.	Under the Company's proposed multi-year rate plan, would the Company implement a
9		DSIC during Rate Years 1 or 2?
10	A.	No, it would not. All of the Company's planned plant additions and other rate case
11		elements, including additions to its accumulated deferred income taxes ("ADIT") associated
12		with those plant additions, are reflected in the development of the Company's revenue
13		requirements for Rate Years 1 and 2. If the Company does not file for new base rates that
14		become effective by April 1, 2023, the Company would be permitted to begin charging a
15		DSIC effective April 1, 2023 for DSIC-eligible plant investments it places in service on and
16		after January 1, 2023.
17	Q.	Please provide an overview of how the Company has calculated the revenue
18		requirements for Rate Years 1 and 2.
19	A.	As previously mentioned, PAWC is presenting supporting data for the twelve months ending
20		December 31, 2021 and for the twelve months ending December 31, 2022 in addition to the

21 HTY and FTY. The Company's claims for rate base, revenues, operating and maintenance

<sup>&</sup>lt;sup>4</sup> The exceptions would provide, for example, that the stay-out provision would not apply if a legislative body or administrative agency, including the Commission, orders or enacts fundamental changes in policy or statutes which directly and substantially affect the Company's rates or if certain large scale events, such as the current COVID-19 pandemic and Governor Wolf's Disaster Proclamation, were to occur.

expenses (including depreciation) and taxes have been projected through the end of year for 2021 and 2022.

3		For Rate Year 1, the Company has determined the capital additions, revenues,
4		expenses and taxes as of the end of 2021. However, the Company has calculated its Rate
5		Year 1 revenue requirement by employing a half-year convention so that the components of
6		its revenue requirement reflect an average for the entire year. Thus, the rate base on which
7		Rate Year 1 revenue requirement is calculated reflects the sum of Utility Plant in Service
8		balances at December 31, 2020 and December 31, 2021 divided by two. The depreciation
9		expense claimed by the Company was also calculated to correspond to its rate base claim.
10		In addition, revenues and certain expenses are averaged or prorated in determining the
11		appropriate levels for Rate Year 1.
12		The rates that will be established for Rate Year 2 will remain in effect until new rates
13		are established in a subsequent base rate case. For that reason, PAWC has calculated the
14		Rate Year 2 revenue requirement to reflect projected rate base, revenues, expenses and taxes
15		at December 31, 2022.
16	Q.	What are the merits of the Company's two-year rate plan that warrant the
17		Commission approving the Company's proposal in this case?
18	A.	PAWC's proposed two-year rate plan will provide customers an extended period of rate
19		stability. Residential customers will be able to establish household budgets that reflect this
20		stability in the base rates charged for water and wastewater service. Similarly, business

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customers will have an established benchmark for the base rates they pay for water and wastewater service, which will help them develop longer-term operating budgets.

The Company also benefits from have a two-year time horizon for its own operational and budget planning. Without a multi-year rate plan, the Company has an approximately one-year forward line-of-sight (if it employed a FPFTY) during which its revenue stream from customer rates would reasonably correspond to its projected costs to furnish water and wastewater service. The Company's proposed multi-year rate plan will extend by one full year the period when its rate-revenue stream is reasonably calculated to recover its costs.

10 The additional clarity about future operating and financial results that a multi-year 11 rate plan provides is particularly important given the capital intensity of the Company's 12 business. Capital intensity is a measure of the investment in property, plant and equipment a 13 company is required to make for each dollar of revenue produced. High capital intensity 14 means that a high proportion of a business' costs are fixed because the enterprise requires 15 substantial amounts of fixed assets to conduct its business. To illustrate the capital intensity 16 of the Company, its projected additions to water and wastewater utility plant in service for 17 the FTY, Rate Year 1 and Rate Year 2 (2020-2022) total over \$780 million before 18 acquisitions.

While all utilities are capital intensive, water/wastewater utilities are the most capital intensive segment of the utility industry. Moreover, many major water and wastewater projects, such as treatment plants, have long lead times and must be designed, engineered and constructed over several years. Additionally, the Company has construction programs for installing or replacing a large number of individual units of property, plant and

1		equipment. Examples include main replacement programs to address aging, undersized or
2		debilitated water mains and impaired portions of wastewater collection systems that are
3		responsible for excessive infiltration and in-flow. Furthermore, if the Company is able to
4		achieve increased efficiency and capture greater economies of scale and scope, then it can
5		commit with its contractors and suppliers to implement construction programs over longer
6		periods. A multi-year rate plan provides the the flexibility to commit to a multi-year
7		planning and implementation process for major construction programs and allows the
8		Company to avail itself of these efficiencies. The resulting increase in efficiency and
9		economies of scale and scope will produce direct benefits to our customers by allowing the
10		Company to complete needed improvements in less time while also helping to control the
11		costs to construct those improvements.
12		Regionalization and Consolidation Surcharge Mechanism
13	Q.	Please describe the Company's proposed Regionalization and Consolidation Surcharge
14		Mechanism.
15	A.	PAWC seeks approval to establish a Regionalization and Consolidation Surcharge pursuant
16		to Sections 1307 and 1330 of the Code. The Regionalization and Consolidation Surcharge is
17		a rate adjustment clause designed to operate in tandem with Section 1329, which was added
18		to the Code by Act 12 of 2016 ("Act 12"). By enacting Act 12, the General Assembly
19		created a legislative framework that authorizes and encourages PUC-regulated public
20		utilities to acquire at fair market value ("FMV") water and wastewater systems owned by
21		municipalities and authorities, many of which face significant financial and operational
22		challenges.

1		The proposed Regionalization and Consolidation Surcharge will provide PAWC a
2		reasonable opportunity to mitigate the earnings erosion created by the regulatory lag in
3		recognizing the revenue deficiency that occurs as soon as the acquisition is completed. This
4		revenue deficiency has several causes. Frequently, the existing rates of the acquired system,
5		which the Company adopts, are inadequate to recover the selling entity's actual cost to
6		provide service, creating an immediate revenue deficiency at the time the acquisition
7		occurred. A revenue deficiency is also created – or a pre-existing revenue deficiency is
8		enlarged – because the revenue stream produced by the selling entity's existing rates are not
9		initially adequate to support the Company's investment to acquire the seller's assets at the
10		rate base valuation approved and validated by the Commission pursuant to Section 1329.
11	Q.	Has the Company completed acquisitions that furnish examples of the revenue
12		deficiencies and earnings erosion you described?
13	A.	Yes, recent history illustrates the challenges that the proposed Regionalization and
14		Consolidation Surcharge would help the Company address. Act 12 was enacted on April 13,
15		2016 and became effective 60 days later, on June 12, 2016. The Company last filed a base
16		rate case in April 2017 that established rates effective January 1, 2018. Since the conclusion
17		of its 2017 case, the Company has completed four transactions under Section 1329 of the
18		Code by which it acquired the wastewater systems that provided service in McKeesport,
19		Sadsbury Township and Exeter Township and the water system that furnished water service
20		in the Borough of Steelton. The acquisitions of the wastewater assets in McKeesport,
21		Sadsbury and Exeter were completed on December 18, 2017, March 6, 2019 and October
22		24, 2019, respectively. The acquisition of the wastewater assets in Kane is expected to be
23		completed in 2020. The Steelton transaction closed on October 9, 2019. In aggregate, the

1 Company will have invested approximately \$296 million that is not currently reflected in 2 rate base and will not be reflected in the Company's rate base until the effective date of new 3 rates in this case.

4 Q. How does the Company propose to mitigate the earnings erosion created by the kind of
5 regulatory lag you identified and quantified above?

A. The Company's proposed Regionalization and Consolidation Surcharge will provide a
reasonable mechanism for adjusting the Company's rates between base rate cases to recover
the revenue shortfall created by acquisitions undertaken pursuant to the authority of Section
1329 of the Code.

Currently, the Company is required to notify customers of the potential impact on 10 11 their bills of a Section 1329 acquisition. The quantification the Company performs to notify 12 customers enables the Company to calculate the anticipated revenue shortfall that will begin 13 to accrue when the Section 1329 transaction closes. The amount of the Regionalization and 14 Consolidation Surcharge required by a Section 1329 acquisition would be calculated by 15 dividing this associated revenue shortfall by the Company's total water and wastewater 16 revenues. The resulting percentage would be the Regionalization and Consolidation 17 Surcharge rate, which would be applied to the total amount billed to customers under the 18 Company's applicable rates excluding DSIC and STAS. The revenue shortfall used in that 19 calculation would be the annual difference between the Company's total post-acquisition 20 cost of service for the acquired water or wastewater system and the revenue stream produced 21 under the rates the Company is authorized to charge the customers of the acquired system. 22 The Regionalization and Consolidation Surcharge would be initiated (and, once 23 initiated, revised) once per year, on April 1, and would remain in effect for the next twelve

months until it is revised on April 1 of the succeeding year or new base rates are established
reflecting the revenue shortfall. If the Company intends to initiate or revise a
Regionalization and Consolidation Surcharge by April 1, then, on or before January 31 of
that year, the Company will file with the Commission and serve on the statutory parties a
tariff supplement containing its proposed surcharge rate together with supporting data
setting forth the calculation of the surcharge.

7 The calculation of the surcharge would reflect the revenue shortfalls, as calculated in 8 the manner set forth in the proposed tariff supplement provided in this proceeding, of all of 9 the Section 1329 acquisitions that were completed during the period since the effective date 10 of the Company's then-existing base rates that are not reflected in the Company's then-11 existing base rates. Similar to the operation of the DSIC, when the Company files a 12 subsequent base rate case, all of the revenue shortfalls reflected in its Regionalization and 13 Consolidation Surcharge will be included in the calculation of its base rate revenue 14 requirement for consideration and approval by the Commission, and the Regionalization and 15 Consolidation Surcharge will be reset to zero on the effective date of the new base rates. 16 The Regionalization and Consolidation Surcharge would be subject to a subsequent 17 reconciliation of the revenue shortfall claimed for recovery and the amount of revenues 18 actually billed under the surcharge.

The Regionalization and Consolidation Surcharge will be calculated as a single rate applied equally to the bills of all of the Company's water and wastewater customers other than newly acquired systems whose rates are not subject to increase. This is the most administratively feasible approach for implementing a surcharge mechanism and, in fact, is the manner in which the DSIC is billed. Moreover, it is consistent with: (1) the

1 Commission-approved concept of single tariff pricing that is already reflected in the 2 Company's base rates: (2) the principles embodied in Section 1311(c) of the Code, which 3 authorizes recovering a combined water and wastewater revenue requirement from a 4 water/wastewater utility's total customer base; and (3) the Commission-endorsed policy of 5 promoting the consolidation and regionalization of smaller, operationally and financially-6 challenged utility systems while mitigating the impact on the customers of the acquired 7 systems. Additionally, to protect pre-acquisition customers as well as customers of acquired 8 systems, the Company proposes to cap the Regionalization and Consolidation Surcharge at 9 5% of its total water and wastewater revenues.

Q. What are the merits of the proposed Regionalization and Consolidation Surcharge that
 warrant the Commission granting the Company approval to implement it?

12 A. As I previously explained, the Regionalization and Consolidation Surcharge is proposed to 13 work in tandem with Section 1329 of the Code because it will provide the mechanism for 14 mitigating the adverse financial impact on the Company of acquiring water and wastewater 15 systems pursuant to the legislative framework created by Act 12 and the policy underlying 16 that legislation. These acquisitions provide a long-term benefit to PAWC's customers by 17 spreading costs across a larger customer base. The Commission should, accordingly, 18 address this initial financial burden on the Company through the use of an Act 58 19 mechanism and thereby facilitate Section 1329 acquisitions. 20 As Mr. Bernard J. Grundusky, Jr., PAWC's Director of Business Development,

explains in PAWC Statement No. 8, many of the municipal entities that are interested in
 proceeding under Section 1329 of the Code face significant financial, operational and other
 challenges that can be addressed only by monetizing the FMV of their water and wastewater

1		assets. Often, these entities face regulatory requirements, including possible non-
2		compliance with mandates under the Safe Drinking Water Act, the Clean Water Act, the
3		Clean Streams Law and applicable regulations, that create the need for large future
4		investments that these entities do not have the capacity to fund or could fund only by
5		imposing heavy financial burdens on their customers. The failure to address those
6		regulatory requirements often are the cause of existing deficiencies in the selling entity's
7		service to its customers, or pose an imminent risk of poor service or environmental harm in
8		the near future. An acquisition by PAWC under Section 1329 addresses and resolves these
9		challenges for the selling entity and assures that the capital and operational expertise needed
10		to maintain and enhance utility service is available to the customers of the acquired system.
11		The Regionalization and Consolidation Surcharge mechanism will eliminate
12		obstacles to the realization of Section 1329's full potential to facilitate the kinds of
13		acquisitions the legislature sought to promote by enacting Act 12. In this way, the
14		Regionalization and Consolidation Surcharge mechanism, as its name implies, will promote
15		and implement the Commission's policy of encouraging the acquisition of smaller water and
16		wastewater systems – which are frequently troubled or non-viable – by larger entities that
17		are subject to the PUC's regulatory jurisdiction.
18		Pension and OPEB Tracker
19	Q.	Please describe the Company's proposal to establish tracker mechanisms for pension
20		and OPEB expense.
21	A.	Historically, PAWC has experienced material variances between the levels of pension and
22		OPEB expense forecasted for recovery in its base rates and the levels of those expenses it
23		actually incurred. As I explain below, from year-to-year actual expenses can be lower or

higher than the amounts reflected in the Company's base rates. Therefore, the Company is
 proposing a tracker mechanism and deferral accounts for its pension expense and OPEB
 expense.

What is the difference between a tracker mechanism and a rate adjustment clause

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# established under Section 1307 of the Code?

6 A. Under the mechanism proposed by PAWC, the differences between the pension and OPEB 7 expenses included in the Company's rates and its actual pension and OPEB expenses will be tracked and recorded in deferral accounts. The net balance in each account would represent 8 9 a deferral – either as a regulatory liability or regulatory asset – that would be credited to, or 10 recovered from, customers in a subsequent base rate case by means of an appropriate 11 amortization. In contrast, a rate adjustment mechanism established under Section 1307 of 12 the Code typically involves billing customers a charge calculated to recover a projected 13 annual cost. Annually (or more frequently), the amount billed to customers is reconciled to 14 the utility's actual cost and the difference is either recovered from or refunded to customers 15 through the experience or "E" factor of the formula for the rate adjustment clause. In that 16 way, customer rates are periodically adjusted to reflect changes in actual costs and the 17 reconciliation of prior-period over or under-collections.

Under a rate adjustment clause, customer rates are subject to change between base rate cases. Under the tracker mechanism the Company is proposing for pension and OPEB expenses, variations between projected and actual expenses will be recorded and deferred, but customer rates will not reflect the net impact of those variations until new rates are authorized in a future base rate case.

## 23 Q. Are the costs associated with pension and OPEBs difficult to predict?

A. Yes. Projections of the Company's pension and OPEB costs are calculated by Willis
Towers Watson, a national actuarial firm. Although Willis Towers Watson uses sound,
well-established actuarial methods, the pension and OPEB costs that it calculates are subject
to material change from year-to-year, as well as within a year, based on a variety of factors
that I discuss later in my testimony. As a consequence, pension and OPEB costs exhibit
volatility because those costs are a function of variables that are subject to change over time
and, therefore, are difficult to forecast.

# 8 Q. What are the principal factors that cause pension and OPEB costs to fluctuate from 9 year to year?

Pension and OPEB costs calculated in accordance with generally accepted accounting 10 A. principles ("GAAP")<sup>5</sup> can fluctuate from year to year because of changes in economic or 11 12 demographic variables used to determine those costs. Actuaries, including the Company's 13 actuary, must make reasonable assumptions to supply the values for those variables. The 14 economic assumptions deal with interest rates, salary increases, inflation and the 15 performance of the investment markets. Demographic assumptions pertain to the 16 composition of the population that will receive retirement benefits, the behavior of members 17 of that population (e.g. decisions about when to retire) and the life expectancy of the 18 recipients of retirement benefits. 19 Among the primary economic factors that drive fluctuations in retirement costs are: 20 (1) variations between the returns that are projected on the investments made to fund current

and future retirement costs and returns actually achieved on those investments; and (2)

<sup>&</sup>lt;sup>5</sup> The GAAP rules for calculating retirement benefit costs in reporting the income and expense of a business are set forth in Financial Accounting Standard Board Accounting Standards Codification Topic 715 ("ASC 715"), which was formerly Financial Accounting Standard 87 ("FAS 87").

variations between assumed discount rates and actual discount rates during the period for
which costs are being projected. If investment returns and discount rates increase,
retirement cost obligations measured at year end become smaller (compared to the prior year
end). As a result, current year costs decrease as compared to the prior year. If investment
returns and discount rates decrease, retirement cost obligations measured at year end become
larger, and current year costs increase as compared to the prior period.

Although demographic assumptions have exhibited less year-to-year volatility than investment returns and discount rates, there have been demographic factors that produced material variations in retirement costs. For example, in 2014, empirical evidence showed a population-wide increase in life expectancy, and the SEC required actuarial experts to reassess their populations and reconsider previous assumptions. Longer life expectancy means that retirement benefits will be paid for a longer period of time in the future, and therefore the current costs to fund those future benefits increased.

#### 14 Q. How will the proposed pension and OPEB tracker function?

A. The Company will track the pension and OPEB expenses included for recovery in its
Commission-approved base rates and will also track its actual costs incurred for pension and
OPEB expenses. To calculate the pension and OPEB costs claimed in its revenue
requirements for Rate Years 1 and 2 in this case, the Company has employed the costs
determined in the actuarial report prepared for American Water by Willis Towers Watson.
The service cost was reduced by the capitalization rate to reflect the amount of pension and
OPEB costs that are capitalized. To that amount, the non-service costs were added to

determine the total pro forma pension and OPEB expense.<sup>6</sup> PAWC witness Stacey Gress discusses the Company's pension and OPEB expense adjustment in Statement No. 6.

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3 Each month, one-twelfth (1/12) of the amount authorized for recovery in base rates 4 ("base level") will be compared to the Company's actual monthly expense. Actual costs 5 above or below the base level will be credited or debited, as applicable, each month as in 6 pension and OPEB deferral accounts on the Company's books. The Company will continue 7 to defer the net balance recorded in those accounts through the end of its next base rate case. 8 In its next base rate case, the net credit or debit balances in the deferral accounts, which will 9 represent either regulatory assets or regulatory liabilities as applicable, will be amortized to 10 income over an appropriate period as either an increase or decrease, respectively, to pension 11 and OPEB expenses. In this way, any over-recovery of such expenses will be returned to 12 customers, and any shortfalls will be recovered by the Company. In subsequent base rate 13 cases, the amount of pension and OPEB costs included for recovery in base rates will be reestablished using the pension and OPEB costs indicated by the most recent actuarial report. 14

# Q. Are there advantages to customers if pension and OPEB costs are recovered through a tracking mechanism as proposed by the Company?

A. Yes. The tracking mechanism provides protection to both customers and the Company from
 the variations between forecasted and actual pension and OPEB costs that occur for the
 reasons I previously explained. The tracking mechanism assures that risks and rewards are
 symmetrical. Neither customers nor the Company would be required to bear more than the
 Company's actual costs incurred for pension and OPEB expenses. Significantly, over the
 twelve years (through 2019) reflected in the charts and graphs I previously presented,

<sup>&</sup>lt;sup>6</sup> "Service costs" are costs associated with current employees. "Non-Service" costs consist of interest costs, expected return on assets, prior service cost and net loss/gain.

customers would have realized net benefits (actual costs lower than the rate allowance) in 8
years for pension costs and 9 years for OPEB costs. In total, over the twelve years reflected
in my analysis, customers would have realized a net benefit of approximately \$20 million
from a pension tracker and approximately \$26 million from an OPEB tracker.

- 5 Q. Have the benefits of pension and OPEB trackers been recognized by regulatory utility 6 commissions in other jurisdictions that have approved such trackers?
- 7 A. Yes. A December 2016 report by the American Gas Association entitled "Innovative Rates,

8 Non-Volumetric Rates, and Tracking Mechanisms: Current List" documents pension and

9 OPEB tracker mechanisms that have been approved for gas utilities in eighteen states and

- 10 the District of Columbia. Three jurisdictions where utility subsidiaries of AWW provide
- 11 service recognize in rates variations between forecasted and actual pension and OPEB
- 12 expenses. Specifically, California provides for recovering or crediting differences between
- 13 forecasted and actual expenses through reconcilable rate adjustment clauses, while Missouri
- 14 and New York have approved tracker mechanisms.
- 15 16

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## Development Of Water And Wastewater Revenue <u>Requirements And The Application Of Section 1311(c) Of The Code</u>

18 Q. Has the Company relied upon other provisions of Act 11 in developing its proposed
 19 rates this case?

A. Yes, it has. As authorized by Section 1311(c) of the Code, in Rate Year 1, PAWC is

- 21 proposing to allocate approximately \$33 million of its wastewater cost of service to its water
- 22 operations excluding Steelton, which is approximately 4.6% of total proposed water revenue
- 23 excluding Steelton. In Rate Year 2, PAWC is proposing to allocate approximately \$35
- 24 million of its wastewater cost of service to its water operations excluding Steelton, which is
- 25 approximately 4.7% of total proposed water revenue excluding Steelton. Thus, the authority

1 granted by Act 11 would be used to mitigate the increases that wastewater customers in 2 certain service areas would experience if their rates were established on a stand-alone basis. 3 The Company's proposed rates would also make meaningful progress in moving the rates of 4 its separate wastewater rate zones closer to a single consolidated wastewater rate design for 5 all of the Company's wastewater operations. To that end, the Company has established a 6 reasonable, prospective target, namely, to move volumetric charges for all (i.e., water and 7 wastewater) customers to a level equal to the volumetric charges established for water 8 service in Rate Zone 1. No wastewater cost of service was allocated to Water Steelton 9 Operations due to the rate increase limitation provided for in the Settlement of the 10 acquisition proceeding.

11 The following table shows, in summary form for Rate Years 1 and 2, the effect on 12 each wastewater operation of allocating a portion of wastewater revenue requirement to 13 water operations and developing rates in the manner discussed above:

Revenue Requirement Allocated from Wastewater to Water Customer Base		
Wastewater Operations	Rate Year 1	Rate Year 2
Wastewater Operations (Excluding Scranton Wastewater Operations)	\$2.4 million	\$3.5 million
Sadsbury Wastewater Operations	\$0.9 million	\$0.8 million
Exeter Wastewater Operations	\$4.1 million	\$3.7 million
Scranton Wastewater Operations	\$8.5 million	\$10.9 million
McKeesport Wastewater Operations	\$15.5 million	\$14.6 million
Kane Wastewater Operations	\$1.5 million	\$1.7 million
Total	\$32.9 million	\$35.2 million

1	Q.	What is the impact on the Company's proposed revenue requirement for water
2		customers of allocating a portion of wastewater revenue requirement to water
3		operations, as shown above?
4	A.	Based on the Company's cost of service and proposed customer class revenue allocation in
5		this case, the allocation would increase the monthly water bill of a residential water
6		customer by approximately \$3.00 per month in Rate Year 1 and \$3.25 in Rate Year 2.
7	Q.	What does Section 1311(c) of the Code state concerning the allocation of wastewater
8		revenue requirement to water customers?
9	A.	Section 1311(c) of the Code states: "The commission, when setting base rates, after notice
10		and an opportunity to be heard, may allocate a portion of the wastewater revenue
11		requirement to the combined water and wastewater customer base if in the public interest."
12	Q.	What is your understanding of the phrase "in the public interest" in Section 1311(c) of
13		the Code?
14	A.	The phrase is not specifically defined in Section 1311(c). However, the Commission
15		provided guidance on the meaning of "in the public interest" in the Order ("Acquisition
16		Order") <sup>7</sup> approving PAWC's acquisition of the assets of the Sewer Authority of the City of
17		Scranton ("Scranton Authority"). I participated directly in that case as a witness for PAWC.
18		In finding that PAWC's acquisition of the wastewater assets of the Scranton Authority was
19		in the public interest, the Commission explained that its public interest determination was
20		"based on our consideration of the impact of the acquisition on all affected parties."

<sup>&</sup>lt;sup>7</sup> Joint Application of Pennsylvania-American Water Company and the Sewer Authority of the City of Scranton for Approval of (1) the Transfer, by Sale, of Substantially All of the Sewer Authority of the City of Scranton's Sewer System and Sewage Treatment Works Assets, Properties and Rights Related to its Wastewater Collection and Treatment System to Pennsylvania-American Water Company, and (2) the Rights of Pennsylvania-American Water Company to Begin to Offer or Furnish Wastewater Service to the Public in the City of Scranton and the Borough of Dunmore, Lackawanna County, Pennsylvania, Docket No. A-2016-2537209 (Final Order entered Oct. 19, 2016).

1		(Acquisition Order, p. 45). I believe that the Commission's Acquisition Order validated a
2		broad interpretation of "in the public interest." Consistent with that interpretation, the
3		Commission's analysis of the public interest embodied in Section 1311(c) of the Code
4		should include – although it would not be limited to – consideration of the impact on
5		customers, the Company's shareholders, and other participants that may lawfully have party
6		status in the proceeding. Other factors, including the impact on Pennsylvania communities
7		and the promotion of positive public policies, should also be considered. In determining the
8		public interest, consideration should be given to what is in the best interest of the overall
9		"public" – not just what is in the interest of any one particular group.
10	Q.	Please provide an example of a circumstance in which the promotion of a positive
11		public policy is "in the public interest" under Section 1311(c).
12	A.	The public interest is served if Section 1311(c) makes it economically feasible to acquire
13		wastewater systems (particularly those that are relatively small and financially and
14		operationally challenged), mitigates the rate increases on customers of the acquired system,
15		and does not have an unreasonable impact upon water customers. That was the case with
16		PAWC's acquisition of the wastewater assets of the Scranton Authority as well as its
17		acquisitions of the wastewater systems serving McKeesport, Sadsbury, and Exeter that are
18		included in the Company's revenue requirement in this case.
19	Q.	Is the public interest served by distributing a portion of the revenue requirement of the
20		Company's wastewater operations across PAWC's approximately 670,000 water
21		customers excluding Steelton?
22	A.	Yes, it is. Distributing a portion of the revenue requirement of the Company's wastewater
23		operations across all of the Company's approximately 670,000 water customers is consistent
3

with the important policy considerations underlying Section 1311(c), including ameliorating rate impacts on wastewater customers while imposing only a modest increase on the water bills of the much larger base of water customers.

4 The amendment Act 11 made to Section 1311(c) has extended to combined water 5 and wastewater utilities a policy similar to the concept of single tariff pricing, which this 6 Commission has approved and encouraged water utilities to adopt for nearly forty years. 7 Like single tariff pricing, allocating a portion of wastewater revenue requirement to the 8 entire customer base recognizes that: (1) PAWC is an integrated company; (2) a multitude 9 of functions needed to provide water and wastewater service are performed on a 10 consolidated basis by PAWC employees and by the Service Company; (3) providing both 11 water and wastewater service creates opportunities, over time, to capture additional 12 economies of scale and scope; (4) the need for capital additions in different parts of the 13 Company's water and wastewater systems will exhibit peaks and valleys in the short-run, 14 but will revert to the mean over time; (5) "averaging" water and wastewater costs, which 15 occurs to some extent when a portion of the wastewater revenue requirement is allocated to 16 all customers, is very much like the cost averaging that single tariff pricing is explicitly 17 designed to accomplish; and (6) cost averaging, whether effected by single tariff pricing or 18 by the consolidation of water and wastewater revenue requirements, stabilizes rates and 19 mitigates rate impacts for all customers over the long run because customers receiving an 20 implicit subsidy today will likely help provide a subsidy to other customers in the future.

In summary, while revenue requirements may vary by form of service and by location when a "snap shot" is taken in a single base rate case, time is the variable that eventually evens out those differences. And, even in the short-run, distributing some

1		revenue requirement from one form of service or one group of customers to another has the			
2		effect of substantially mitigating the rate impact on customers from whom the revenue			
3		requirement is shifted, while having only a small effect on the much larger customer base			
4		that picks up the difference.			
5		<b>Declining Residential And Commercial Consumption</b>			
6	Q.	Has the Company adjusted revenues at present rates for its HTY, FTY and Rate Years			
7		1 and 2 to reflect a continuing decline in per-customer residential and commercial			
8		consumption?			
9	A.	Yes, it has. This adjustment reflects the decline in residential and commercial per-customer			
10		consumption that was identified and quantified by Mr. Roach in PAWC Statement No. 9.			
11		Mr. Roach has calculated continuing annual declines in residential and commercial per-			
12		customer consumption of 893 gallons, or 2.18%, and 2,171 gallons, or 0.78%, respectively.			
13		Averaged across PAWC's residential customer base, this equates to about 2.45 gallons less			
14		usage per day per residential account and about 5.95 gallons less usage per day per			
15		commercial account. Mr. Roach explains the statistical analysis he performed to quantify			
16		the ten-year trend of declining usage and discusses the reasons why he believes the decline			
17		will continue for the foreseeable future. In broad summary, the primary driver of this			
18		decline in usage is water-efficient plumbing fixtures and water-efficient appliances, which			
19		are mandated by federal law. Other factors contributing to the decline include increased			
20		societal emphasis on conservation and the environment, Company and government			
21		programs encouraging efficient water use, and changes in consumer behavior in response to			
22		price signals provided by rising water and energy rates.			

2

## Q. How was the adjustment to the Company's test year revenue for declining residential consumption calculated?

The details of the calculation are set forth in the Company's response to Question No. FR 3 A. 4 II.2 of the Commission's Standard Filing Requirements. The Company's adjustment 5 reflects the fact that actual historic test year residential usage incorporates, on average, 6 approximately one-half of the decline in usage occurring from the beginning of 2019 to the 7 end of 2019. Additionally, the decline in consumption will continue through 2020 and into 8 each of Rate Years 1 and 2. Consequently, the Company calculated the impact of declining 9 consumption from the mid-point of 2019 (the HTY) to the mid-point of 2020 (the FTY), 10 then from the mid-point of 2020 to the mid-point of 2021 (Rate Year 1), and finally, from 11 the mid-point of 2021 to the mid-point of 2022 (Rate Year 2). Over this period, the declines 12 in residential and commercial usage per-customer, based on the annual decline in 13 consumption calculated by Mr. Roach are 893 gallons and 2,171 gallons per year, 14 respectively. This per-customer amount was multiplied by the estimated number of 15 residential customers at December 31, 2020, December 31, 2021 and December 31, 2022. 16 This change in usage was multiplied by the applicable residential and commercial usage 17 rates to derive the reduction to test year revenues at present rates shown in Exhibit No. 3-A. 18 Q. Was the decline in consumption calculated by Mr. Roach used to adjust usage-based 19 revenues for the Company's wastewater operations? 20 A. Yes, it was. Most of PAWC's wastewater customers are also water customers, and most 21 wastewater customers are billed for wastewater service on the basis of their water usage. 22 The usage that formed the basis for the usage-based revenue produced by PAWC's

23 residential and commercial wastewater customers was adjusted in the same manner I

explained above to reflect the continuing decline in residential and commercial water
 consumption.

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1		pursuant to the Commission's Temporary Rate Orders, as explained by Ms. Everette in
2		PAWC Statement No. 4.
3	Q.	Will the TCJA Negative Surcharges be revised on the effective date of new base rates
4		established in this case?
5	A.	Yes, the water and wastewater TCJA Negative Surcharges will be reduced to zero on the
6		effective date of the rate established in this case. The TCJA Negative Surcharge
7		mechanisms will be retained in the Company's water and wastewater tariffs to adjust
8		customers' rates for the effects of any final reconciliation that may be necessary.
9 10		Investment Of 50% Of The Section 1301.1(b) "Differential"
12	Q.	Have you reviewed Mr. Wilde's direct testimony regarding Section 1301.1(b)(1) of the
13		Code and the Company's plan to invest 50% of the "differential" resulting from the
14		implementation of Act 40?
15	A.	Yes, I have. As Mr. Wilde noted, I will address that issue.
16	Q.	How does the Company plan to invest 50% of the "differential" (approximately \$1.5
17		million per year) that Mr. Wilde calculated?
18	A.	The Company plans to invest in projects that will enhance the reliability of the Company's
19		systems and may include projects to extend the Company's mains to address health and
20		safety issues pursuant to Rule 27.1(F) of its tariff or for infrastructure enhancement projects
21		that will improve the quality and reliability of service.
22 23 24		PERFORMANCE FACTORS: <u>SECTION 523 OF THE CODE AND 52 PA. CODE § 69.711</u>
24 25	Q.	Does the Code authorize the Commission to consider performance factors in arriving
26		at a utility's allowable revenue requirement in a base rate case?

1	A.	Yes. Section 523 of the Code provides that the Commission "shall consider" the			
2		"efficiency, effectiveness and adequacy of service" of a utility when determining just and			
3		reasonable rates. In addition, the Commission has adopted a Policy Statement on Small			
4		Nonviable Water and Wastewater Systems at 69 Pa. Code § 69.711 stating that it will			
5		consider regulatory incentives, including "rate of return premiums," to encourage and			
6		reward the continued acquisition of troubled water and wastewater systems by larger, viable			
7		utilities.			
8	Q.	What does Section 523 provide regarding performance factors to be considered by the			
9		Commission?			
10	A.	Section 523(a) directs the Commission to consider performance factors, while Section			
11		523(b) identifies the kinds of factors that are relevant in assessing a utility's performance.			
12		Section 523(a) and the portions of 523(b) that are relevant to a water and wastewater utility			
13		are set forth below:			
14 15 16 17 18 19 20 21 22 23 24 25 26 27		<ul> <li>(a) Considerations The Commission shall consider, in addition to all other relevant evidence of record, the efficiency, effectiveness and adequacy of service of each utility when determining just and reasonable rates under this title. On the basis of the commission's consideration of such evidence, it shall give effect to this section by making such adjustments to specific components of the utility's claimed cost of service as it may determine to be proper and appropriate. Any adjustment made under this section shall be made on the basis of the specific findings upon evidence of record, which findings shall be set forth explicitly, together with their underlying rationale, in the final order of the commission.</li> <li>(b) Fixed Utilities As part of its duties pursuant to subsection (a), the commission shall set forth criteria by which it will</li> </ul>			
28 29		evaluate future fixed utility performance and in assessing the performance of a fixed utility pursuant to subsection (a) the			
30		commission shall consider specifically the following:			
31 32		(1) Management effectiveness and operating efficiency as measured by an audit pursuant to Section 516 (relating			

1 2 3 4 5 6 7 8 9		<ul> <li>to audits of certain utilities) to the extent that the audit or portions of the audit have been properly introduced with applicable rules of evidence and procedure.</li> <li>* * *</li> <li>* (5) Action or failure to act to encourage cost-effective conservation by customers of water utilities</li> <li>* * *</li> <li>* (7) Any other relevant and material evidence of efficiency, effectiveness and adequacy of service.</li> </ul>
10	Q.	What does the Commission's Policy Statement at 52 Pa. Code § 69.711 provide
11		regarding performance-based incentives?
12	A.	Section 69.711 states in relevant part as follows:
13 14 15 16 17 18 19		(a) Acquisition incentives. In its efforts to foster acquisition of suitable water and wastewater systems by viable utilities when the acquisitions are in the public interest, the Commission seeks to assist these acquisitions by permitting the use of a number of regulatory incentives. Accordingly, the Commission will consider the following acquisition incentives:
20 21 22 23 24 25 26 27 28		(1) <i>Rate of return premiums</i> . Under 66 Pa.C.S. § 523 (relating to performance factor considerations), additional rate of return basis points may be awarded for certain acquisitions and for certain associated improvement costs, based on sufficient supporting data submitted by the acquiring utility within its rate case filing. The rate of return premium as an acquisition incentive may be the most straightforward and its use is encouraged.
29	Q.	Is the Company proposing that performance factors relating to its "efficiency,
30		effectiveness and adequacy" and its significant efforts to address the problem of small,
31		troubled and nonviable water and waste water systems be considered by the
32		Commission in this case?
33	A.	Yes, it is. For the reasons I will discuss later in my direct testimony, the Company strongly
34		believes, and proposes, that the Commission should implement the terms of Section 523 and
35		its Policy Statement in determining the Company's allowed rate of return on equity in this

1		case. Specifically, Ms. Bulkley has recommended a range of reasonable rates of return on
2		equity from 10.0% to 10.8%. Both Ms. Bulkley and I recommend that the Commission
3		adopt a rate of return on equity of 10.8% – the upper end of Ms. Bulkley's range – in
4		recognition of PAWC's superior management performance based on the factors that apply to
5		water utilities in Section 523 of the Code and 52 Pa. Code § 69.711. In addition, and for the
6		same reason, if the Commission were to approve a rate of return on equity that is lower than
7		the upper end of Ms. Bulkley's recommended range, it should add no less than 25 basis
8		points to its market-determined rate of return. <sup>8</sup> I would note that the addition of 25 basis
9		points in recognition of exemplary management performance is consistent with the
10		Commission's decision to add that increment to the market-determined rate of return on
11		equity it approved in the 2007 base rate case of Aqua Pennsylvania at Docket No. R-
12		00072711.
13	Q.	Please summarize the evidence PAWC is presenting in this case demonstrating its
14		exemplary management performance relative to the factors in Section 523 of the Code
15		and the Commission's Policy Statement.
16	A.	The Company's performance is addressed in more detail later in my direct testimony and in
17		the direct testimony of three other PAWC witnesses. Mr. Clarkson (PAWC Statement No.
18		2) discusses a number of relevant Company initiatives, including: (1) optimizing water
19		treatment plant performance and water quality, and the recognition PAWC has received for
20		both; (2) a robust program to reduce non-revenue water; (3) improvements in energy
21		efficiency and resulting reductions in energy costs; (4) improvements in operational

<sup>&</sup>lt;sup>8</sup> Of course, if the Commission's market-determined rate of return on equity is greater than 10.55%, then the performance-based increment could be less than 25 basis points to achieve a final equity return rate of 10.8%.

22	Q.	What aspects of PAWC's performance are you addressing?
21		customers continue to receive safe and reliable water and wastewater service.
20		efforts to replace water and wastewater infrastructure across its entire service area to assure
19		Commission's policy I described above. Mr. Aiton also describes the Company's extensive
18		nonviable water and wastewater systems the Company has acquired in furtherance of the
17		2 to address the service, safety and environmental problems of the small, troubled and
16		the Company has made during the HTY and will make during the FTY and Rate Years 1 and
15		Mr. Aiton (PAWC Statement No. 3) describes in detail the substantial improvements
14		Company discussed above, and the Indian Springs Water Company.
13		been appointed Receiver of two small, troubled water companies, the Winola Water
12		both of which were subjects of Section 529 proceedings. Additionally, the Company has
11		the Company's acquisitions of the Delaware Sewer Company and Winola Water Company,
10		Company's efforts to assist the Commission with troubled water and wastewater systems are
9		making the improvements needed to assure safe and reliable service. Two examples of the
8		small, troubled and nonviable water and wastewater systems by acquiring those systems and
7		Environmental Protection's ("DEP") long-standing policy to eliminate the problems of
6		substantial efforts to implement the Commission's and the Pennsylvania Department of
5		Mr. Grundusky (PAWC Statement No. 8) discusses in detail the Company's
4		employee development.
3		and (7) PAWC's excellent safety record and its commitments to employee safety and
2		of advanced metering infrastructure to increase productivity and control meter reading costs;
1		vehicle fleet expenses; (5) use of technology to improve field operations; (6) the deployment

A. I am addressing five areas: (1) PAWC's dedication to continuous improvement and cost
containment; (2) PAWC's substantial efforts to augment revenues from sources other than
customers' rates; (3) the Company's environmental record; (4) the Company's industryleading programs to assist low-income and payment-troubled customers; and (5) the
Company's community engagement and consumer education initiatives.

#### 6

#### Q. Please discuss the first factor you identified above.

7 The Company is committed to continuous improvement in all aspects of its performance. A. 8 As part of its commitment to continuous improvement, the Company works to contain and, 9 if possible, reduce, its operating and maintenance expenses while assuring that customers 10 continue to receive high-quality, safe and reliable water and wastewater service. As I 11 previously explained, these efforts have proven to be successful, as the Company has been 12 able to mitigate the increase in the operating and maintenance expense of its water 13 operations. This control of expenses has occurred without any deterioration in service and, 14 in fact, with improved service metrics. The control of water operating and maintenance 15 expenses served to reduce the level of increase that would otherwise be needed by the 16 Company in this case. It is also noteworthy that it has been three years since PAWC last 17 filed a request to increase its base rates, notwithstanding the substantial additions to non-18 DSIC plant and equipment it made during that period.

## 19 Q. How has the Company enhanced revenues from sources other than rates in order to 20 benefit customers?

A. The Company has been working to mitigate customer rate impacts by trying to find sources
of non-rate revenue to be recorded "above the line" for ratemaking purposes. The two most
significant examples are: (1) rentals of space on water tanks for antennae for cellular

1		telephones and similar applications; and (2) permitting carefully-controlled and
2		environmentally-sensitive timbering on Company property. Antennae rentals will produce
3		approximately \$800,000 in annual non-rate revenue in each of Rate Years 1 and 2. Timber
4		sales produced \$458,000 in annual non-rate revenue in 2019, which the Company projects
5		will remain at that level through the end of Rate Year 2. Consequently, the Company's
6		revenue deficiency is lower by reason of reflecting those revenues "above the line" in this
7		case.
8	Q.	Does the Company's environmental record exhibit the results of excellent management
9		performance?
10	A.	Yes, it does. The Company has met and continues to meet all federal and state drinking
11		water regulations. Additionally, the Company is the leading participant in the
12		Environmental Protection Agency's ("EPA") Partnership for Safe Water Treatment Program
13		("Partnership"), which means that it treats water to a standard that surpasses the
14		requirements imposed by EPA and DEP. Mr. Clarkson discusses in more detail the
15		recognition and awards PAWC has received from the Partnership.
16	Q.	Please address PAWC's leadership in helping its customers who may have short-term
17		or long-term difficulties in paying their water or wastewater bills.
18	A.	PAWC initiated the very first water utility customer assistance program, which began in
19		1991. The program is multi-pronged, providing an 85% reduction in the customer service
20		charge for those who qualify, grants of up to \$500.00 per customer per program year for
21		water/and or wastewater customers and conservation education through Dollar Energy Fund.
22		In this case, the Company proposes an additional discount for low-income customers of 10%

off the volumetric portion of their water bill, as discussed in the testimony of Company
 witness Everette in PAWC Statement No. 4.

#### 3 Q. Would you characterize the level of benefits PAWC provides as unique?

A. PAWC's H2O (Help to Others) program is at the top of Pennsylvania water utility customer
assistance programs for the benefits it provides. PAWC contributes more of its
shareholders' money – \$400,000 annually – than any other water utility to help customers in
need. PAWC's program is, in my view, unique in that respect, and the Company's
leadership in this regard should be acknowledged.

9 Q. Has the Company enhanced its customer assistance program in any other way?

10 A. Yes. Under the wastewater program, eligible low-income customers qualify for a 20%

11 reduction in their entire wastewater bill. Ms. Everette discusses the Company's proposal to

12 increase this discount to 30% in Statement No. 4. The Company also contributes \$50,000 to

13 the H2O program to assist wastewater customers. As the Company acquired more

14 wastewater systems, especially those that are troubled and require significant capital, it

15 identified the need for this program to help its low-income wastewater customers.

## Q. Does PAWC also have programs to promote water conservation for low-income customers?

A. Yes, it does. PAWC provides water conservation kits to help eligible low-income customers
 reduce their water usage. PAWC also makes water conservation kits available at cost to
 other customers to help them conserve water.

## Q. Has PAWC taken a leadership role in community engagement and consumer education?

1 А Yes. PAWC's public education program, especially its initiative to educate the youth of the 2 Commonwealth, is unsurpassed in depth and breadth. Not only do we conduct water camps for elementary school children in the Commonwealth during the summer and teach classes 3 4 on watershed protection, water treatment, the water cycle and water conservation in the 5 classroom during the school year, we also conduct plant tours, and judge "envirothon" 6 competitions and participate in Earth Day activities. Our annual "Protect Our Watershed 7 Art Contest" for 4th, 5th and 6th graders throughout the Commonwealth attracts more than 8 500 applications. Our "Stream of Learning" scholarships support outstanding students in 9 our service area pursuing careers in the water and wastewater industries. Education of our 10 youth produces both short and long term benefits for water quality and reliability. All of 11 these efforts are part of PAWC's commitment to assure the wise and efficient use of water 12 and to promote water conservation.

## Q. What should the Commission conclude from the all of the evidence PAWC has presented on its performance factors?

A. The well-documented exemplary performance of the Company's management discussed
above and in the testimony of Messrs. Clarkson, Grundusky and Aiton fully justifies
approving a rate of return at the upper end of Ms. Bulkley's recommended range – namely,
10.8% – and, in any event, an increment of at least 25 basis points to a lesser marketdetermined rate of return on equity approved by the Commission, up to 10.8%.

20 21

#### VALUE OF WATER AND AFFORDABILITY

Q. Do the Company's customers receive good value for the water service the Company
 provides?

A. Absolutely. Most Americans are unaware of the cost of the vast infrastructure required to treat
 and deliver clean, safe and reliable water to their homes. Americans pay less for tap water
 than do residents of most other developed nations. Water is also typically the utility that makes
 up the lowest percentage of household budgets – less than gas, oil, telephone, cable, and
 electricity.

6 When customers appreciate the true value of water, it not only helps water utilities to 7 continue to provide customers with safe, clean and reliable water service, but it also has the added benefit of encouraging more conservation and ensuring a sustainable supply for future 8 9 generations. American Water has joined with other water resource companies and 10 organizations in an industry-wide initiative to enhance customer awareness of what is 11 involved in providing high quality, reliable water service and the relative value of the service 12 as part of the Value of Water Coalition. The Coalition's aim is to educate the public on the importance of clean, safe, and reliable water to and from every home and community and to 13 14 ensure quality water service for future generations.

15 Q. How does PAWC maintain the affordability of its water and wastewater services?

16 Our water and wastewater services are critical, and we know how important it is for those A. 17 services to remain affordable. PAWC water service is quite affordable when one considers 18 that all of a customer's needs for drinking, cooking, cleaning and washing are provided for 19 less than two cents per gallon at proposed rates. An important way that we maintain 20 affordability is by continuously seeking to improve our business processes and make 21 investments that improve operational efficiencies. With the monumental investment 22 challenges we face, keeping our costs as low as practicable is paramount.

23 Q. What else is PAWC doing to maintain the affordability of its services for its customers?

1 A. In addition to delivering our services in the most efficient, cost effective ways to benefit all of 2 our customers, PAWC also offers targeted customer assistance programs to help our most vulnerable customers. PAWC's residential customers have the option of paying bills under 3 4 the Company's budget billing plan, whereby the total service for the succeeding twelve (12)-5 month period is estimated in advance, and bills are rendered monthly on the basis of one-6 twelfth (1/12) of the twelve (12)-month estimate. In addition, the Company offers its 7 customers who qualify payment arrangements through installment agreements if they are 8 financially unable to pay a past due water service bill.

9 PAWC also assists customers who are experiencing financial hardship through the 10 Company's H2O Help to Others Program<sup>™</sup>. Through our H2O Help to Others Program<sup>™</sup>, 11 we offer financial assistance to help customers who qualify pay their water bill. The program 12 offers three main services: 1) Grants of up to \$500 per year; 2) An 85 percent discount on the 13 monthly water service charge; and 3) Water-saving devices and education. and outside the 14 home, so customers can take an active part in reducing their water bill through wise water use. 15 Additionally, through our H2O Help to Others Program<sup>TM</sup>, we offer financial assistance to 16 help customers who qualify pay their wastewater bill. The program offers grants of up to 17 \$500 per year and a 20 percent discount on the total wastewater charges. As of February 18 2020, approximately 21,000 customers received the discount on their monthly water service 19 charge. Another 2,250 qualified customers received a 20 percent discount on total wastewater 20 charges.

# Q. What more is PAWC doing to maintain the affordability of its services for its customers in response to the COVID-19 pandemic and the PUC's March 13, 2020 emergency order in Docket No. M-2020-3019244?

1	A.	PAWC has implemented temporary measures to provide additional protection to our		
2		customers, including:		
3		• March 12:	Stopped service terminations for non-payment	
4		• March 12:	Stopped sending notices of terminations	
5 6		• March 13:	Began reconnecting all customers who had previously been disconnected for non-payment	
7		• March 13:	Began waiving reconnection fees	
8		• March 16:	Stopped applying late fees and interest penalties to past-due accounts	
9 10 11 12		• March 18:	Began sending courtesy letters, and making courtesy phone calls, to customers with past-due balances to inform them of the amount of their past due balances, but making no mention of disconnection or late fees and interest penalties	
13		At this t	time, we cannot reasonably predict what effect the COVID-19 emergency will	
14		have on our workforce, customers, operations, costs, or revenues (e.g., the incremental costs		
15		associated with COVID-19 emergency or the potential for lost revenues) or how long the		
16		emergency will	emergency will last.	
17		<b>CUSTOM</b>	ER COMMITMENT AND COMMUNITY INVOLVEMENT	
18 19	Q.	Please describ	e the Company's commitment to its customers.	
20	A.	Customers are	a top priority for the Company. Whether it's ensuring their health and safety	
21		through the work we do and how we do it, striving to provide service in the most cost-effective		
22		manner possible over the long term, or undertaking key initiatives to better serve them,		
23		customers are and will continue to be our key focus. This is evidenced throughout the		
24		testimony provided in this case, but I do want to highlight two customer-specific items. As		
25		explained in m	nore detail by Mr. Clarkson in PAWC Statement No. 2, the Company has	
26		implemented se	everal technological solutions to better serve our customers. These include	
27		improvements	to our customer service infrastructure, applications for employee use, and a	
28		new customer	portal, all of which make it easier for customers to do business with us. The	

customer portal, for example, has been enhanced to allow for easier, self-service bill payment,
 access to consumption information, and conservation advice. In addition, as explained by
 Company witness Ashley Everette, the Company is seeking to eliminate credit card fees on a
 per customer basis. Providing customers with another payment option without a fee will ease
 the payment process for customers, incentivize paperless billing, and increase customer
 satisfaction.

7

#### Q. Does the Company play an active role in the communities that it serves?

8 A. Yes. The Company is a responsible corporate citizen, and is known for its community
9 involvement and volunteerism. Our management team encourages our employees and their
10 families to be active volunteers in the communities we serve.

11 PAWC believes that community investment starts with our employees. PAWC values 12 community service and we encourage our employees to be equally invested in the 13 communities we serve through various charitable endeavors and volunteer activities. PAWC 14 gives back to the community by supporting innovative, environmental grant programs that 15 improve, protect or restore drinking water supplies and surrounding watersheds. We believe 16 in investing in innovative programs that align with our core business of water and wastewater 17 service, and are committed to working with community partners to develop sustainable 18 solutions to local environmental issues. As an organization, PAWC focuses community 19 investments in four key areas: (1) water and the environment; (2) water and healthy living; (3) 20 environmental education; and (4) community sustainability. The following is an overview of 21 the activities the Company and its employees support:

23

22

Customers who qualify for the H2O Help to Others Program<sup>™</sup> may also qualify to receive a water-saving kit that includes a low-flow shower head, faucet aerators,

toilet tank diverter and nontoxic leak-detecting dye tablets. Also included is an
educational booklet that explains how to install the devices and provides helpful tips
on how to save water inside and outside the home, so customers can take an active
part in reducing their water bill through wise water use. During the 2018-2019
program year over 3,000 calls were made to customers regarding the waterconservation kits. Over 900 conservation kits were sent to customers.

- 7 To expand knowledge of our H2O Help to Others Program<sup>™</sup> offerings, PAWC actively participates in events to reach community based agencies who promote 8 9 access, awareness and outreach to consumers, including PUC annual Be Utility Wise 10 consumer education event. In 2018 and 2019, PAWC shared our H2O Help to 11 Others Program<sup>TM</sup> availability to over 1200 social service agency representatives. 12 Additionally, PAWC staff participated in senior fairs and other community 13 educational programs throughout the state to directly educate consumers on the 14 program.
- Each year, our employees participate in our AmerICANs in Action Month of Service
   helping neighbors, participating in different community volunteer projects and
   providing hours of volunteer service to local community-based organizations in need
   of assistance. In 2019, 141 employees participated in volunteer service as part of this
   program;
- Through the American Water Charitable Foundation (the "Foundation"), PAWC and
   American Water support employees in their own charitable endeavors, provide
   support for targeted disaster relief efforts and provide funding for higher level
   initiatives related to clean water, conservation, education and sustainability. The

1 Foundation has donated more than \$2.5 million through the Employee Volunteer 2 and Matching Gift, Disaster Relief and Building Better Communities programs and continues to make a difference every day. In 2018, a \$150,000 Building Better 3 4 Communities grant helped turn a long-closed swimming pool and public park in 5 Coatesville, Pa. into a new nature-based play space and splash park to help revitalize 6 a struggling community and promote natural play and environmental stewardship. 7 Since its inception, the Employee Volunteer and Matching Gift Program has 8 matched approximately \$900,000 to public charities that are important to American 9 Water employees across the nation, and clocked more than 27,000 hours of volunteer 10 time. In Pennsylvania specifically, the Foundation matched \$71,329 in donations to 11 96 different Pennsylvania non-profit organizations in 2019 alone through this 12 program.

- Over the past ten years, American Water employees have provided more than \$5
   million to United Way and loyally contributed their time to this cause; and
- PAWC employees have contributed more than \$ \$189,754 over the past five years
   to nonprofit organizations in Pennsylvania.
- 17 Q. In what other activities has PAWC partnered?

A. Through community giving, in-kind donations, partnerships and volunteering, PAWC
 demonstrates our commitment to programs that address community-specific needs. We work
 with a number of community-based partners throughout our service areas to positively impact
 the overall quality of life where our employees, customers and neighbors live and work. Over
 the past three years, we have donated approximately \$800,000 to organizations in our
 communities through grants, scholarships, general charitable contributions, and programming

1	support. It takes more than a one-time grant or volunteer effort to make a lasting difference –
2	so we seek out and support organizations that understand how to best meet the needs of the
3	community.
4	A few examples of how we take an active part in the communities we serve include:
5	• Environmental Grant Program (\$40,000 annually): Providing grants of \$1,000 to
6	\$10,000 for community-based projects that improve, restore and protect our source
7	water and surrounding watersheds.
8	• Stream of Learning Scholarship Program (\$10,000 annually): Providing \$1,000
9	scholarships to high school seniors living the company's service area who are
10	planning to pursue careers in the water and wastewater industry and are charting
11	courses of study in specific fields.
12	• Speakers' Bureau: Offering our water industry experts to speak at conferences,
13	industry events, organizations and schools, with presentations on all types of
14	water-related topics that can be tailored for audiences of all ages.
15	• Firefighting Support Grant Program (\$25,000-\$50,000 annually): Providing grants
16	of up to \$1,000 each to assist volunteer emergency service organizations in our
17	service areas with the purchase of protective gear, lifesaving equipment, tools,
18	training and related activities/materials to support volunteer firefighter and
19	emergency responder operations.
20	• Community Events: Contributing to community events, activities and
21	organizations that benefit the growth, sustainability and protection of our service
22	areas, either through small monetary donations, a visit from our mobile hydration
23	stations, and/or hosting a table with information for customers. From handing out

1		water at 5K races and cleaning up community playgrounds to offering water
2		treatment plant tours and hosting water-themed summer camps, our employees are
3		constantly engaged in making our communities better places to live, work and
4		play. In 2019 alone, PAWC and its employees participated in and/or hosted 140
5		company-sponsored/supported community events.
6		2017 RATE CASE SETTLEMENT COMMITMENTS
7	Q.	Has the Company complied with the terms and conditions of the Joint Petition for
8		Settlement in its 2017 base rate case?
9	A.	Yes, it has. The Joint Petition for Settlement, together with its attachments and
10		accompanying exhibits, is a lengthy document setting forth a number of terms and
11		conditions. I will explain briefly - or identify other PAWC witnesses who will explain -
12		PAWC's compliance with its major commitments in the Joint Petition for Settlement, which
13		I will reference by the applicable paragraph of the Joint Petition.
14		Paragraph No. 11. The Company has submitted with its filing the separate revenue
15		requirement studies and cost of service studies identifying storm water costs for its CSSs, as
16		I previously explained and as explained by Ms. Heppenstall, who is sponsoring the
17		Company's cost of service studies for its water and wastewater operations.
18		Paragraph No. 14. I am sponsoring the schedules that show the comparison of the
19		Company's actual expenses and rate base additions for the twelve months ended December
20		31, 2018 to its projections for that same year used in its last base rate case. Please refer to
21		Schedule RPN-3 attached to my testimony.

1	Paragraph No. 20. The Company has appropriately allocated common costs
2	between its water and wastewater operations, as explained by Company witness Ms. Gress
3	in PAWC Statement No. 6.
4	Paragraph Nos. 25 and 26. The Company has fully implemented the enhancements
5	to its low-income programs to which it committed in the Joint Petition.
6	Paragraph No. 27 and Appendix F. The Company has addressed the service-
7	related issues raised in its last base rate case consistent with commitments in the Joint
8	Petition, as explained by Mr. Aiton in PAWC Statement No. 3, respectively.
9	Paragraph No. 28. The Company is submitting with its filing the Section 500 sheet
10	of its Annual Report, in live Excel format, for each water operational district for the three
11	preceding reporting years ending prior to the date of the Company's filing. These files are
12	being provided as Schedule RPN-4 Form 500.xlsx.
13	Paragraph Nos. 29. 30 and 31. The Company has complied with its commitments
14	regarding street sweeping in the former service area of the Scranton Authority. The
15	Company prepared written agreements between itself and the City of Scranton and the
16	Borough of Dunmore (the "Municipalities") respectively to memorialize its existing
17	cooperative arrangement with the Municipalities, which were explained in testimony in the
18	Company's 2017 base rate case. The Borough of Dunmore and the Company executed a
19	written agreement, which was filed with, and approved by, the Commission under Section
20	507 of the Code. The Company prepared a similar written agreement and submitted it to the
21	City of Scranton. The Company is awaiting a response from the City. The Municipalities
22	have not sought to impose any charges for street sweeping and, accordingly, the Company is
23	not making any claim for such charges in this case.

1		Paragraph No. 33 and Appendix G. Please refer to Company witness Mr. Aiton's
2		testimony in PAWC Statement No. 3 regarding the Company's progress regarding the main
3		extensions to which it committed in the Joint Petition.
4		Paragraph No. 34(f). The Company held a collaborative with the Pennsylavnia-
5		American Water Large Users Group (PAWLUG) on April 20, 2020.
6	<u>Cor</u>	nmitments Related to the Company's Acquisition of the McKeesport Wastewater Assets
7	Q.	Are you addressing any of the Company's commitments it made in the Joint Petition
8		for Settlement at Docket No. A-2017-2606103 ("Joint Petition")?
9	A.	Yes. In satisfaction of the Company's commitment set forth in Paragraph 19 of the Joint
10		Petition, Schedule RPN-5 presents an identification of the plant-in-service costs of the Port
11		Vue system claimed in this case. This identification includes the plant-in-service costs at the
12		time that the Port Vue system was purchased, the cost of any Port Vue plant retirements, and
13		the cost of any Port Vue plant investment.
14		CONCLUSION
15	Q.	Does this conclude your direct testimony at this time?
16	A.	Yes, it does. However, I reserve the right to supplement my testimony as additional issues
17		and facts arise during the course of the proceeding. Thank you.

#### BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

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PENNSYLVANIA PUBLIC UTILITY
COMMISSION
<b>v.</b>
PENNSYLVANIA-AMERICAN
WATER COMPANY

DOCKET NOS. R-2020-3019369 (WATER) R-2020-3019371 (WASTEWATER)

#### **VERIFICATION**

I, Rod P. Nevirauskas, hereby state that the facts set forth in the pre-marked Statement No. 1 and accompanying exhibits, if any, are true and correct to the best of my knowledge, information and belief. I understand that this verification is made subject to the provisions and penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsifications to authorities).

Date: April 29, 2020

Rod P. Nevirauskas

#### Pennsylvania-American Water Company Rate Increase Request

Filing Date:		April 29, 2020					
Historic Test Yea	<u>r:</u>	12 Months Ended Dec	cember 31, 2019				
Future Test Year	:	12 Months Ended Dec	cember 31, 2020				
<u>Rate Year 1</u>		12 Months Ended Dec	cember 31, 2021				
<u>Rate Year 2</u>		12 Months Ended Dec	cember 31, 2022				
Increase Reques Rate Year 1 Rate Year 2	<u>ted</u>	\$138.6 Million \$92.4 Million \$46.2 Million					
<u>Percentage Incre</u> Rate Year 1 Rate Year 2	<u>ase:</u>	18.7% in overall rever 12.9% 5.8%	nues				
Effective Date Ra Effective Date Ra	<u>ite Year 1:</u> ite Year 2:	January 28, 2021 (based on full suspension) January 01, 2022					
<u>Rate of Return:</u> Rate Year 1 Rate Year 2		7.94% on rate base; 1 7.88% on rate base; 1	0.80% ROE 0.80% ROE				
Rate Year 1: <u>Type of Capital</u> Debt Preferred Stock Common Stock Total	Proportion of Total 44.79% 0.06% <u>55.15</u> % <u>100.00%</u>	Cost Rate         Weighted Co           4.40%         1.97%           8.80%         0.01%           10.80%         5.96%           7.94%					
<b>Rate Year 2:</b> <u>Type of Capital</u> Debt Preferred Stock	Proportion of Total 44.84% 0.01%	<u>Cost Rate</u> 4.29% 9.70%	<u>Weighted Cost</u> 1.92% 0.00%				

10.80%

<u>5.96%</u>

<u>7.88%</u>

Common Stock

Total

<u>55.15</u>%

100.00%

Elements of Increase	Required Revenue				
	Rate Year 1	Rate Year 2			
Capital Projects (Rate Base)	\$33.4 Million	\$27.3 Million			
Return on Equity	22.9 Million	2.0 Million			
McKeesport Acquisition	17.6 Million	0.1 Million			
Other Acquisitions	11.3 Million	1.0 Million			
Declining Consumption	16.3 Million	9.3 Million			
O&M	17.4 Million	6.5 Million			
ТСЈА	(26.7) Million	0.0			
Total	\$92.4 Million	\$46.2 Million			

PENNSYLV	/ANIA-AMERICAN WATER		
Docket No Docket No	E FILING J. R-2020-3019369 J. R-2020-3019371		Schedule KPN-2
		Total Company Rate Year 1 <u>PROPOSED</u>	Total Company Rate Year 2 <u>PROPOSED</u>
Ļi	Revenues at Present Rates	\$715,449,380	\$802,537,775
2.	Amount of Increase (Decrease)	92,457,316	46,189,053
ω. 4.	% Increase Revenue	12.9% 807,906,696	5.8% 848,726,828
ų. G	0 & M Expense Denreciation	244,753,232 163,160,126	251,594,448 168 399 976
7.	General taxes	14,501,019	15,231,683
×.	Income Taxes	70,293,468	76,027,050
.6	Sub-Total	492,707,845	511,253,107
10.	Utility Operating Income	315,198,851	337,473,721
11.	Interest on Long-Term Debt	76,689,604	80,867,875
12.	Other Interest	1,672,970	1,660,056
13. 14	Preferred Dividends Other Deductions	204,204 0	41,583 0
15.	Sub-Total	78,566,778	82,569,514
16.	Income to Common Stock (Fallout)	\$236,632,073	\$254,904,207
17.	Original Cost of Rate Base	\$3,975,337,875	\$4,286,996,302
	Rate of Return and Return on Common Equity Absent	Rate Relief	
	Utility Operating Income Income to Common Stock (Fallout)	\$250,615,185 172,076,182	\$240,633,576 158,103,426
	Original Cost of Rate Base Common Equity	3,973,947,300 2,191,631,936	4,284,952,970 2,363,151,563
	Rate of Return	6.31%	5.62%

6.70%

7.85%

Return on Common Equity

Pennsylvania American Water Company Comparison of Actual vs. Claimed Operating Expenses For the 12 Months Ending December 31, 2018 R-2017-2595853 Exhibit 3-A Revised

	WASTEWATER				WASTEWATER FXCLIDING				
DESCRIPTION	SCRANTON WW	SCRANTON WW <u>PROPOSED</u>	WATER PROPOSED	TOTAL <u>PROPOSED</u>	SCRANTON WW ACTUAL	SCRANTON WW <u>ACTUAL</u>	WATER ACTUAL	TOTAL <u>ACTUAL</u>	TOTAL VARIANCE
Purchased Water	\$0	\$0	\$2,831,954	\$2,831,954	\$0	\$0	\$2,878,906	\$2,878,906	\$46,952
Fuel And Power	1,473,522	640,901	12,903,967	15,018,390	\$1,216,755	\$470,495	\$13,490,857	15,178,106	159,716
Chemicals	423,110	1,013,293	8,676,131	10,112,534	\$594,666	\$1,540,382	\$9,342,939	11,477,987	1,365,453
Waste Disposal	892,480	1,039,145	1,992,600	3,924,225	\$1,065,029	\$961,481	\$1,948,395	3,974,906	50,681
Labor	1,808,600	4,554,218	53,262,660	59,625,478	\$2,190,326	\$3,529,207	\$47,164,794	52,884,327	(6,741,151)
Pensions	0	0	4,389,351	4,389,352	\$157,023	\$252,584	\$3,141,529	3,551,136	(838,216)
Group Insurance & Post Retirement Benefits	396,872	907,177	9,707,425	11,011,474	\$466,933	\$789,006	\$2,640,457	3,896,396	(7,115,078)
Other Employee Benefits	117,119	557,669	3,119,539	3,794,327	\$145,501	\$438,189	\$3,153,509	3,737,199	(57,129)
Support Services	0	0	44,059,293	44,059,293	\$0	\$0	\$42,909,525	42,909,525	(1,149,768)
Rents	3,372	72,300	489,242	564,914	<b>\$3,951</b>	\$106,164	\$542,013	652,128	87,214
Customer Accounting (Including Uncollectible Expense)	468,477	479,917	16,931,718	17,880,112	\$398,998	\$347,988	\$17,406,950	18,153,936	273,824
Regulatory Expense	0	25,000	677,237	702,237	\$0	\$0	\$851,998	851,998	149,761
Insurance Other Than Group	0	0	12,635,978	12,635,978	\$49,979	\$80,554	\$11,952,606	12,083,139	(552,839)
General And Miscellaneous Expense	1,287,236	1,890,328	23,493,661	26,671,225	\$1,604,708	\$922,201	\$22,976,882	25,503,791	(1,167,434)
Maintenance	332,195	200	8,873,649	9,206,044	\$226,670	\$139,675	\$8,795,943	9,162,288	(43,756)
TOTAL	\$7,202,983	\$11,180,148	\$204,044,406	\$222,427,537	\$8,120,539	\$9,577,927	\$189,197,301	\$206,895,767	(\$15,531,770)

Schedule RPN - 3 Page 1 of 2 Pennsylvania American Water Company Comparison of Actual vs. Claimed Rate Base Additions For the 24 Months Ending December 31, 2018 R-2017-2595853 Exhibit 3-C

PROPOSED				
DESCRIPTION	EXCLUDING SCRANTON WW <u>PROPOSED</u>	SCRANTON WW <u>PROPOSED</u>	WATER <u>PROPOSED</u>	TOTAL <u>PROPOSED</u>
2017 Additions	\$23,582,169	\$15,594,360	\$236,605,402	\$275,781,931
2018 Additions	10,509,915	11,178,550	433,562,195	455,250,660
TOTAL	\$34,092,084	\$26,772,910	\$670,167,597	\$731,032,591

#### ACTUAL

DESCRIPTION	WASTEWATER EXCLUDING SCRANTON WW <u>ACTUAL</u>	SCRANTON WW <u>ACTUAL</u>	WATER <u>ACTUAL</u>	TOTAL <u>ACTUAL</u>
2017 Additions	\$24,506,061	\$15,889,398	\$254,509,615	\$294,905,074
2018 Additions	13,359,917	12,916,290	406,356,172	432,632,378
TOTAL	\$37,865,978	\$28,805,688	\$660,865,787	\$727,537,452

#### VARIANCE

DESCRIPTION	WASTEWATER EXCLUDING SCRANTON WW <u>VARIANCE</u>	SCRANTON WW <u>ACTUAL</u>	WATER <u>ACTUAL</u>	TOTAL <u>ACTUAL</u>
2017 Additions	\$923,892	\$295,038	\$17,904,213	\$19,123,143
2018 Additions	2,850,002	1,737,740	(27,206,023)	(22,618,282)
TOTAL	\$3,773,894	\$2,032,778	(\$9,301,810)	(\$3,495,139)

#### Pennsylvania American Water Company Port Vue Borough Component of the System Plant in Service Costs

	2019	2020	Average 2021	2022
Utility Plant In Service	\$ 26,915,292	\$ 28,320,786	\$ 28,320,786	\$ 28,320,786
Accumulated Depreciation	16,233,705	16,564,629	16,737,653	17,253,380
Net Utility Plant In Service	10,681,587	11,756,157	11,583,133	11,067,406
Pre Tax Rate Of Return			9.67%	9.68%
Pre Tax Return			1,120,089	1,071,325
Annual Depreciation Expense			349,129	342,703
Total Revenue Requirement			\$ 1,469,218	\$ 1,414,028

#### McKeesport Wastewater

	CAPITA	L STRUCTURE AT 12	/31/2021			
		CAPITAL	COST	WEIGHTED	Revenue	Pre Tax
AMOUNT	AMOUNT	STRUCTURE	RATE	COST	Multiplier	Rate of Return
Long Term Debt	255,170,585	39.44%	4.47%	1.76%		1.76%
Long Term Debt - WW Specific Financing	65,599,037	10.14%	2.55%	0.26%		0.26%
Total Debt	320,769,622	49.58%		2.02%		2.02%
Preferred Stock	317,293	0.05%	8.80%	0.00%	1.40631	0.00%
Common Equity	325,921,359	50.37%	10.80%	5.44%	1.40631	7.65%
Total	647,008,274	100.00%		7.46%		9.67%

	CAPITA	L STRUCTURE AT 12	/31/2022			
		CAPITAL	COST	WEIGHTED	Revenue	Pre Tax
AMOUNT	AMOUNT	STRUCTURE	RATE	COST	Multiplier	Rate of Return
Long Term Debt	272,178,861	39.90%	4.35%	1.74%		1.74%
Long Term Debt - WW Specific Financing	63,832,693	9.36%	2.60%	0.24%		0.24%
Total Debt	336,011,554	49.26%	—	1.98%		1.98%
Preferred Stock	61,831	0.01%	9.70%	0.00%	1.40631	0.00%
Common Equity	346,066,580	50.73%	10.80%	5.48%	1.40631	7.70%
Total	682,139,965	100.00%	_	7.46%		9.68%

# Statement No. 2 Clarkson

**PAWC STATEMENT NO. 2** 

#### DIRECT TESTIMONY OF WILLIAM ANDREW CLARKSON

#### DESCRIBING PENNSYLVANIA-AMERICAN WATER COMPANY'S OPERATIONS, OPERATING EFFICIENCIES, EMPLOYEE LEVELS AND COMPENSATION, AND CUSTOMER EXPERIENCE

#### DOCKET NOS. R-2020-3019369 (WATER) R-2020-3019371 (WASTEWATER)

DATE: April 29, 2020

#### PENNSYLVANIA-AMERICAN WATER COMPANY

#### **DIRECT TESTIMONY OF WILLIAM ANDREW CLARKSON**

1	Q.	Please state your name and business address for the record.
2	A.	William Andrew Clarkson, 852 Wesley Drive, Mechanicsburg, PA 17055.
3	Q.	By whom are you employed and in what capacity?
4	A.	I am employed by Pennsylvania-American Water Company ("PAWC" or "Company") as
5		the Vice President – Operations.
6	Q.	What are your responsibilities as PAWC's Vice President - Operations?
7	A.	I am responsible for all of the Company's water and wastewater operations across the
8		Commonwealth, managing a team of approximately 1,046 professionals in 37 districts,
9		serving 2.3 million Pennsylvanians.
10	Q.	Please describe your professional education and experience.
11	A.	I received a Bachelor of Science degree in Geology in 1985 from Principia
12		College, and an Associate degree in Applied Science (Water/Wastewater Technology)
13		from Crowder College in 1987. I received a Master of Business Administration from
14		Virginia Commonwealth University in 1997.
15		I began my career with American Water Works Company ("AWW" or "American
16		Water") as a Supervisor at Maryland-American Water Company in 1987. In 1991, I was
17		promoted to Operations Manager for Virginia-American Water Company. In 1997, I
18		accepted the position as Project Manager to operate the water system in Buffalo, New
19		York, followed by a position in St. Louis as a Regional Manager for American Water's
20		market-based business. In 2000, I moved to New Jersey-American Water Company as the

2

Manager of the Northern Division before transferring into the role of Business Development Director for the Northeast Region of American Water in 2003.

3 I was promoted to Director of Network Operations in 2003 for New Jersey 4 American Water. In March 2006, I became the statewide Director of Customer Field 5 Service for New Jersey American's operations, and then became the Senior Director for 6 the southern area of New Jersey American Water's Field Operations in 2007. In 2008, I 7 was promoted to Director, Customer and Operational Support for American Water's 8 Eastern Division. In 2009, I became American Water Business Transformation program 9 ("BT") lead for customer and field service processes, and later became the BT Business 10 Intelligence Lead responsible for reporting, data conversion and data governance. In 2014, 11 I became the Corporate Director of Asset Performance, and in 2016, I was promoted Vice 12 President of Missouri American Water. I moved into my current position in May of 2019.

#### 13 Q. Have you previously testified before the Pennsylvania Public Utility Commission?

14 A. No.

#### 15 Q. What is the purpose of your direct testimony in this proceeding?

A. First, I will describe the Company's water and wastewater operations and facilities
throughout Pennsylvania. Next, I will describe some of the programs that demonstrate
PAWC's commitment to water quality and safety. Third, I will explain some of the
Company's programs to improve water efficiency. Fourth, I will describe the Company's
efforts to control the growth of PAWC's Operating and Maintenance ("O&M") expense.
Additionally, I will discuss several technological solutions to better serve our customers. I
will support the Company's employee levels and explain PAWC's employee compensation

philosophy. Finally, I will describe the Company's commitment to employee
 development.

3

#### **Operations & Facilities Overview**

4 Q. Please describe PAWC's operations.

A. PAWC owns, operates, and maintains potable water production, treatment, storage,
transmission and distribution systems, and wastewater collection, pumping, and/or
treatment systems, for furnishing water and wastewater services to approximately 740,000
residential, commercial, industrial, and governmental customers in communities located in
36 of the 67 counties across Pennsylvania.

10 The Company has established two geographically defined operating areas that 11 collectively serve an estimated population of more than 2.3 million people. The western 12 Pennsylvania operating area serves an estimated population of one million people located 13 in fifteen counties. Some of the larger communities served include Butler, New Castle, 14 Ellwood, Indiana, Punxsutawney, Warren, Kane, portions of the City of Pittsburgh and its 15 southern suburbs, McMurray, Uniontown, Brownsville and Connellsville. Large 16 customers include U.S. Steel, the Western Allegheny County Municipal Authority, AK 17 Steel, Allegheny County Housing Authority, Koppel Steel, United Refining, Clarion 18 University and Eastman Chemical Company.

The eastern Pennsylvania operating area serves an estimated population of 1.3
million people in 21 counties. Some of the larger communities served include WilkesBarre, Scranton, Camp Hill, Mechanicsburg, Hershey, Palmyra, Philipsburg, Milton,
Norristown, Coatesville, Berwick, Milton, Yardley, and the suburbs of Reading. Several

of the large customers served in eastern Pennsylvania are Fairchild Semiconductor, U.S.
 Penitentiary at Allenwood, Hershey Foods Company, Hershey Medical Center, Lion
 Brewery, Quaker Oats Company, Furman Foods, Norristown State Hospital, Montgomery
 County correctional facility, Mittal Steel, ConAgra Grocery Products Company and Glaxo
 SmithKline.

### 6 7

**Q**.

### wastewater services to customers.

Please describe the facilities and property that PAWC uses to provide water and

8 PAWC's utility plant accounts include land and land rights, structures and improvements, A. 9 wells, pumping equipment and associated facilities, purification plant and equipment, 10 sludge disposal facilities, transmission and distribution mains, collection pipes, distribution 11 storage facilities, service lines, meters, hydrants and other facilities, including materials 12 and supplies. All this plant and property is used to provide safe, adequate, efficient, and 13 reliable water and wastewater services to PAWC's customers. A more detailed description 14 of the source of supply, treatment, storage and distribution facilities within each district is provided as Volume 2 of the Company's responses to the Commission's filing 15 requirements, which is titled Scope of Operations. 16

17

#### Water Quality

#### 18 Q. Please discuss PAWC's commitment to water quality.

A. PAWC has provided water service to customers for over 133 years. We are acutely aware
that water is the only utility product intended for customers to ingest, and that our
customers rely on PAWC to provide them with safe, reliable and high-quality water
service. Beyond health and safety, we know that PAWC's customers are also interested in
the aesthetic qualities of the water we treat and deliver to them. We proactively look for
- ways to optimize treatment capabilities to continue to improve the overall quality of
   drinking water delivered to our customers and do so in a way that strives to create
   operational efficiencies that also benefit our customers.
- 4

#### Water Treatment

#### 5 Q. Please discuss some of PAWC's efforts to improve water quality.

6 A. The Company's participation in the Partnership for Safe Water ("Partnership") program is 7 one demonstration of PAWC's commitment to the health and safety of our customers 8 through the delivery of clean, safe, high quality drinking water. The Partnership is an 9 alliance of six drinking water organizations, including the United States Environmental Protection Agency ("USEPA"),<sup>1</sup> with a mission to improve the quality of water delivered 10 11 to customers by optimizing water system operations. Each year, the Partnership recognizes 12 water utilities for achieving operational excellence by voluntarily optimizing their 13 treatment facility operations and adopting more stringent performance goals than those 14 required by federal and state drinking water standards.

#### 15 Q. Has PAWC been recognized for its optimization and water quality achievements?

A. Yes. PAWC is a participant in the Partnership's water treatment plant optimization
 program and has repeatedly been recognized for its optimization and water quality
 achievements. There are approximately 53,000 water treatment plants in the U.S., with
 about 400 of those participating in the Partnership program. As of 2016, only 33 plants
 received the program's highest honor, the Phase IV Presidents Award.<sup>2</sup> In 2016, PAWC

<sup>&</sup>lt;sup>1</sup> Other Partnership organizations include the American Water Works Association ("AWWA"), Association of State Drinking Water Administrators ("ASDWA"), Association of Metropolitan Water Agencies ("AMWA"), National Association of Water Companies ("NAWC") and the Water Research Foundation ("WRF").

<sup>&</sup>lt;sup>2</sup> Phase IV goals are the highest possible level of performance that can be achieved in the four-phase program. The President's Award recognizes achieving Phase IV's very stringent individual filter performance goals for turbidity.

1 received six Phase IV Presidents Award recognitions and now has nine of the 33 surface 2 water treatment plants that have received the Phase IV Presidents Award. In 2016, PAWC 3 also received Phase III Directors Awards for its Rock Run Water Treatment Plant; Stony 4 Garden Water Treatment Plant (Blue Mountain System) was recognized for maintaining 5 the Phase III Directors Award status for five years; and nine additional plants were 6 recognized for maintaining the Phase III Directors Award status for 15 years. In 2018, 7 Shady Lane Water Treatment Plant, serving Montgomery and Chester Counties, was 8 recognized for maintaining the Phase III Directors Award status for five years and Clarion 9 Regional Water Treatment Plant was recognized for maintaining the Phase III Directors 10 Award status for ten years.

### 11 Q. Please discuss some of the Company's other efforts to improve water treatment 12 effectiveness.

13 The Company continually evaluates new treatment chemicals for improved treatment A. 14 effectiveness, safety and cost efficiencies. As identified in the last rate case, the Company 15 is continuing to convert treatment plants from use of gaseous chlorine for disinfection to 16 on-site generated or bulk purchase of liquid sodium hypochlorite. This change eliminates 17 gas chlorine thereby reducing the risk of toxic exposures for our employees and the 18 surrounding communities. The Company will continue to convert treatment plants to 19 liquid chlorine until all gas locations are eliminated. In addition to reviewing and 20 investigating new chemicals, the Company is piloting a system to use artificial intelligence 21 to validate the treatment decisions on chemical dosages. The Company installed, at Hays 22 Mine plant, Fontus Blue software that analyzes the chemical doses plant operators use with 23 a variety of source water quality conditions and the resulting effluent. Over time, the

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system will suggest treatment dosages based on the current source water conditions so that we optimize treatment and optimize the dosage of chemicals.

The Company also employs a proactive approach to protect customers from lead

expo

4 exposure in the drinking water the Company supplies consistent with federal and state 5 regulatory standards established by the USEPA and the Pennsylvania Department of Environmental Protection ("PADEP"), including the Lead and Copper Rule ("LCR"). As 6 7 part of those efforts, in 2020, the Company will review its corrosion control treatment 8 measures and sampling protocol in each system to reflect the latest available science and 9 best practices. Those corrosion control practices will be optimized by, among other things, 10 examining the results of our last three (3) rounds (most recently in September 2019) of 11 LCR compliance sampling to help identify trends in systems which might require adjusted 12 corrosion control practices. In PAWC Statement No. 3, Company witness Bruce W. Aiton 13 discusses the Company's industry-leading initiative to replace customer-owned lead 14 service lines to address conditions that may increase the risk of exposure to lead at the 15 customer's tap.

16 The Company is initiating a plan to examine the use of different coagulant options 17 at our surface water plants in attempt to provide improved treatment at reduced costs. If 18 better, more efficient options are available, the Company will consult with the PADEP and 19 seek approval.

20

#### Source Water Protection

Q. Please describe how the Company is demonstrating its commitment to water quality
through source water protection.

A. The Company has expanded its source water protection program to include dedicated
 personnel who lead efforts to identify and mitigate potential threats to raw sources of
 supply. The program involves an integrated approach to planning, risk assessment, water
 quality monitoring, and outreach and education. The Company deployed innovative
 technologies that support informed decision-making for changes in raw water quality and
 corresponding treatment, whether naturally occurring or related to a potential
 contamination incident.

### 8 Q. Please describe the Company's source water protection planning efforts.

9 A. The Company is committed to developing and implementing source water protection plans 10 for each system with a surface water and/or groundwater source. Each plan consists of the 11 following six elements: 1) local steering committee and public participation; 2) source 12 water protection area delineation; 3) contaminant source inventory; 4) management 13 methods and commitment; 5) contingency planning; and 6) protection of identified new 14 source sites. This work is done in conjunction with the PADEP Source Water Protection 15 Technical Assistance Program ("SWPTAP"), and all PAWC systems have a source water 16 protection plan in place or under development in SWPTAP.

17 Source water protection is also an important component of the Company's risk and 18 resilience assessments ("RRAs") to comply with provisions of America's Water 19 Infrastructure Act of 2018. Each water system serving a population of greater than 3,300 20 is required to perform RRAs for all potentially critical components of the system, including 21 source water, by June 2021. The Company is currently conducting the required RRAs and 22 developing plans, strategies and resources to improve the resilience of PAWC's water 23 systems.

### Q. Please explain the Company's outreach and education efforts related to source water and environmental stewardship.

3 The Company conducts outreach and education to engage the community in protecting Α. 4 sources of drinking water. Activities include watershed service projects, school programs, 5 plant tours, and other community events. PAWC also engages the community through annual 6 commitments, such as the Environmental Grant Program and Protect Our Watersheds 7 contest. In 2019, the Company partnered on the film "Expedition Chesapeake, A Journey of 8 Discovery" to build awareness around the need to protect and preserve watersheds and 9 estuaries across the country. In addition, PAWC staff represent the Company and industry 10 on various professional committees to share information and practices related to source water 11 protection.

### 12 13

Q.

### Please describe any other innovative approaches the Company is using to protect sources of drinking water.

14 The Company partnered with the Natural Resources Conservation Service ("NRCS") on one A. 15 of sixteen source water protection pilot projects initiated in 2019 under the National Water Quality Initiative. PAWC worked with the State Conservation Office to identify the 16 17 Swatara Creek Watershed as a candidate for the program. Swatara Creek is a source of 18 supply for the PAWC G.C. Smith Hershey Water Treatment Plant. The project, funded by 19 the NRCS, is aimed at improving the watershed by reducing nutrient and sediment loading 20 from agricultural runoff. This effort has leveraged and directed funding toward water quality 21 improvements for the entire watershed that will ultimately benefit the whole community 22 including PAWC customers.

1 **Source Water Monitoring** 2 0. Please describe other ways the Company is demonstrating its commitment to water 3 quality. 4 A. The Company enhanced its source water protection program by taking an integrated 5 approach to monitoring its source water quality and evaluating risks to that source using innovative technologies, both of which support the Company's ability to make more 6 7 informed decisions regarding treatment and in responding to potential source water 8 contamination events. The integrated approach includes source water quality monitoring 9 panels and a map-based information gathering tool called WaterSuite. 10 11 Please describe PAWC's source water quality monitoring panels. **Q**. 12 A. The Company installed an online, multi-panel source water quality monitoring device at 13 each of its surface water treatment plants as an effective tool for optimizing treatment decisions and aiding in the detection of potential source water contamination. The sensors 14 15 in each panel monitor parameters in the source water that include turbidity, pH, oxygen reduction potential ("ORP"), temperature, conductivity, dissolved oxygen, dissolved 16 17 organic carbon ("DOC"), oil and total organic carbon ("TOC"). This equipment helps 18 establish baseline water quality data for each parameter and alert water plant operators to 19 certain changes in water characteristics. The Company uses this information to better 20 understand the characteristics of its source water and better optimize chemical usage. In 21 addition, a change in the baseline characteristics may indicate an issue that warrants 22 additional investigation.

1 The Company also participates in watershed monitoring networks such as the Ohio 2 River Valley Water Sanitation Commission ("ORSANCO") Organics Detection System 3 and Delaware River Valley Early Warning System ("EWS"). These networks provide 4 additional information about water quality in the watersheds that contribute water to 5 sources of supply.

6

#### **Q**. Please describe WaterSuite.

7 WaterSuite is a Geographic Information System ("GIS") map-based tool that collects A. information about potential sources of contamination from various sources<sup>3</sup> and pulls it 8 9 into a database for a defined area of concern. The database is updated on a regular basis to 10 include the latest available information and has search and reporting capabilities, which 11 provides a significant advantage over standard static contaminant assessments. This gives 12 the Company a dynamic tool it can continue to use over time rather than a paper-based 13 equivalent that captures only the circumstances present at a point in time. The database 14 provides a larger set of data that is automatically updated on a periodic basis without 15 requiring manual work by PAWC. As a result, PAWC can access more information more 16 efficiently to address water quality concerns than in the past.

17 WaterSuite is fully implemented for surface water systems and under development 18 for PAWC groundwater systems in 2020-2021. The Company uses the monitoring panels 19 and WaterSuite together to better inform its treatment decisions and its response to a 20 potential contamination event.

21 **Q**.

Please describe how the Company prepares for source contamination events.

<sup>&</sup>lt;sup>3</sup> Data sources may include publicly available regulatory databases, aerial imagery analyses, and local knowledge.

A. The Company has developed contingency plans to outline the planned response to
contamination of source water supplies. These plans include system-specific options to
consider in a contamination event along with a phased protocol response. This approach
is consistent with National Incident Management System ("NIMS") and USEPA guidance.
The contingency plans augment emergency response plans that cover a wide variety of
potential emergency situations.

PAWC employees received training on the contingency plans through online
learning and emergency response drills. Drills are coordinated by operations and include
on site mock drills, tabletop exercises and after-action reporting. In 2019, the Company
hosted a series of tabletop exercises across Pennsylvania involving a hypothetical
transportation incident affecting source(s) of supply. PAWC staff from each operating area
participated in the exercises along with external partners from regulatory and emergency
management agencies.

14

#### **Safety**

#### 15 Q. Please describe PAWC's overall commitment to safety.

A. PAWC employees are our greatest assets. As such, ensuring the health and safety of our
employees as well as protecting our product is a high priority for our Company and is
critical to our success. Our colleagues' and customers' safety is very important and we
focus on safety every day. PAWC's commitment is to ensure that every employee chooses
safety, so they go home each day in the same or better condition than they came to work.
Employee health and safety is the responsibility of every PAWC employee, and to that end,
every employee strives for safety. A safe workplace increases employee morale, increases

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our commitment to one another, and in the long run, makes for a more engaged and productive workforce.

#### 3 Q. Is safety an important part of PAWC's operational performance?

4 A. Yes. At PAWC, safety is a core value and a strategy. We ask our employees to place
5 safety first in everything they do. We have a strong commitment to our employees and
6 their families to keep them safe.

#### 7 Q. How do you know the commitment is working?

A. We are building a strong safety culture at PAWC, which is illustrated by our year-overyear safety performance. The Company's OSHA Occupational Safety and Health
Administration ("OSHA") recordable incident rate ("ORIR") improved from 4.34 in 2015
to 2.36 in 2018. In 2019, PAWC had its best safety record in its operational history. The
Company experienced 11 OSHA recordable injuries, as compared to 29 in 2018. This 62
percent reduction resulted in record scores in two key safety performance metrics: an ORIR
of 0.95 and a Days Away Restricted or Transferred ("DART") rate of 0.35. O&M

#### 15 Q. What other safety programs does PAWC use?

A. In addition to establishing ORIR targets, in 2015 the Company launched a Near Miss
 Reporting Program. Near Miss reporting involves employees identifying a situation that
 almost, or could have, resulted in an injury or accident. For example, if a piece of
 equipment becomes worn outside of a regular maintenance cycle, an employee reports this
 as a "near miss" so PAWC can replace the worn part and avoid a potential injury from an
 equipment malfunction. American Water's health and safety group collects these near
 misses from operating utilities across the American Water footprint each week and selects

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several to highlight in a safety video that is distributed across the business for use in safety tailgate talks.

#### 3 Q. How did PAWC perform in the Near Miss Reporting Program?

4 PAWC has achieved significant progress since the program's inception in 2015, with A. 5 increasing numbers of "near miss" reports. In 2019, we reported 508 near misses from 6 across the state. Most near miss reports are corrected by the individual identifying the issue 7 in the first place and resolving the issue when observed or working with the appropriate 8 people to obtain resources where necessary. Another success is that 100% of all near 9 misses reported in 2019 were corrected within 30 days of the report. In 2020, PAWC's 10 goal is to achieve 1,200 near miss reports, or roughly one for every employee in the 11 Company. We believe that this increased emphasis on safety awareness will eventually 12 enable PAWC to go a full year without a recordable injury.

13

#### Q. How has this benefited PAWC's customers?

A. A strong safety culture is a cornerstone for any high performing organization. A strong
safety culture also improves employee morale, as our employees know that we care for
them and their families. In turn, PAWC's safety culture illustrates that our employees are
thoughtful in their work, which directly benefits our customers, as safety is one part of our
high -performing culture. Lastly, when employees are healthy at work, they are available
for work that benefits the customers.

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#### **Operating and Maintenance Expense**

- 21 Q. What is PAWC's forecasted O&M expense for Rate Year 1 ending December 31,
- 22 2021 and Rate Year 2 ending December 31, 2022?

A. PAWC's total O&M expense for Rate Year 1 is approximately \$224 and for Rate Year 2
 is approximately \$252 million.

# 3 Q. How does the Company's O&M expense claim for water operations in this case 4 compare to PAWC's last rate case at Docket No. R-2017-2595853?

A. As explained by Mr. Rod Nevirauskas (PAWC Statement No. 1), the Company's claims
for its water operations' operating and maintenance expenses, excluding depreciation, at
December 31, 2022 have only increased by a compound annual growth rate of 1.76% since
the conclusion of the fully projected future test year in the Company's last base rate
proceeding (December 31, 2018).

# 10 Q. Why has the Company experienced higher O&M expense levels since its last base 11 rate case?

- 12 A. As PAWC has grown over time, many of the systems we acquired require significant
- 13 work to address outstanding operational issues. Consistent with the recommendations in
- 14 a recent PUC Management Efficiency Investigation at Docket No. D-2018-2646503,
- 15 PAWC is performing proactive condition assessments of its facilities and enhanced
- 16 maintenance activities. These efforts will marginally increase operating expenses to
- 17 improve operational integrity and mitigate operational risk. Consequently, we believe
- 18 that it would be in the long-term interest of our customers to increase maintenance
- 19 activities, particularly in our western Pennsylvania production facilities.
- 20

### **Improving Water Efficiency**

21 Q. What is water efficiency?

1 A. In simple terms, water efficiency means using improved practices and technologies to 2 deliver water service more efficiently. PAWC's efforts to improve water efficiency cover 3 a wide range, and include supply-side practices, such as improved pump efficiency, more 4 accurate meter reading and leak detection, main replacement and repair programs, as well 5 as demand-side strategies, such as customer efficiency and public education programs to 6 support water and energy efficiency. From an operations perspective, improving water 7 efficiency requires achieving a cost-effective mix of prudent investments and improved 8 operations and maintenance management capabilities targeting safety, customer 9 satisfaction, sustainability, and system efficiency. Improving water efficiency results is a 10 win-win-situation. Customers, utilities, businesses, and the environment can all 11 benefit from more efficient, higher quality service, reduced costs and sustainable use of 12 natural resources.

#### 13 Q. Please discuss PAWC's efforts to improve water efficiency.

A. The Company's ongoing investment in technology enables a better end-to-end view of its
 water and wastewater business. Improved work management systems, water usage
 monitoring and leak detection, water quality monitoring, and consumer-communications
 technology are just some of the benefits that result from the deployment of intelligent
 infrastructure, advanced communications, sensor networks and other technologies.

For instance, improved metering results in more accurate usage information. Ultimately, this results in more accurate billing, minimizing the need for a customer to contact our customer service center with billing questions. Leak detection programs can reduce the amount of water and energy required to deliver the same amount of water to consumers' taps. As I discuss later in my testimony, PAWC has a comprehensive program

1 to manage water losses and proactively promotes wise water use to customers, which can 2 reduce customer demand. Annually, our teams to participate in a variety of community 3 events, environmental grant programs, and firefighter grant programs. These events allow 4 our employees an opportunity to meet and discuss with our customers water conservation, 5 leak detection in our customers' homes, and other ways that customers can improve their 6 water efficiency. PAWC implemented a successful Wise Water Use program that educates 7 and encourages residential customers on how they can lower their water bills by putting 8 simple practices in place around the home and fixing water leaks in a timely manner.

9 Striving for increased water efficiency is evident in our infrastructure investments,
10 which include main and service replacements to provide a better, more reliable system.

Prudent investment in technology enables us to leverage the size and scale of American Water to reduce manual tasks and increase automation. Our water efficiency efforts are demonstrated by investments in new metering and innovative data collection technologies, and by improved business processes that help us work smarter and more efficiently and, by extension, contribute to our cost control efforts.

### Q. Can you provide some more specific examples of how technology has played a role in more efficient operations?

A. Accurate electronic maps ensure that the institutional knowledge currently held by some of our employees is captured for use by current and future employees. To that end, we have loaded our facilities into GIS so that maps of PAWC's water and wastewater systems are accessible online to PAWC personnel. GIS includes the location and a short description of the facilities, giving us an electronic spatial view of our entire system. Having accurate coordinates of underground assets, particularly valves, helps us to locate and isolate

1 sections of pipe during main breaks and is critical in when marking water lines for 2 construction activities under the state's 8-1-1 Pennsylvania One Call program. GIS also 3 helps us to locate customers that might be impacted by related service issues and allow us 4 to more effectively communicate the impact directly with our customers. More recently, 5 we have been training construction inspectors to use GPS equipment to capture the 6 coordinates of our equipment as its being installed. This helps reduce the time to upload 7 new pipeline to the GIS system and streamlines the as-built process for better asset and 8 financial management.

9 The Company also uses MapCall which is a web-based work management system 10 that enables Operations' Production and Transmission & Distribution (T&D) teams to 11 complete the lifecycle of work orders and equipment. This application provides a more 12 intuitive interface among PAWC's enterprise software, GIS and Company employees in 13 the field to further enhance employee effectiveness. The MapCall system provides the 14 flexibility to create work orders, configure workflows and report progress while in the field. 15 For example, a supervisor can create a work order to flush a dozen hydrants in a particular 16 area, and the field worker can report progress as flushing is performed using MapCall. 17 Both the supervisor and others in the field can visually see the progress made toward 18 completing the identified work in real time through the MapCall interface. The same can 19 be done to schedule and monitor other routine work, as well as emergency work, such as 20 main break repairs. As MapCall matures, field workers will be able to access pressure and 21 flow sensor data while in the field to see the impact of their activities, allowing them to 22 address potential issues that may arise in a more timely manner and minimize the impact 23 on service to our customers.

#### Q. How is the concept of improving water efficiency relevant to this case?

2 A. Improving water efficiency not only reduces expenses, but also is a more environmentally 3 friendly way of conducting business. When water is used efficiently, it reduces capital and 4 operating costs related to the provision of water and wastewater services, while also 5 helping to protect and preserve our natural resources. Improving water efficiency saves 6 customers money in the long run, protects the environment, supports integrated resource 7 planning, and enhances the economy. Our ability to reduce O&M expenses from the level 8 approved in our 2011 and 2013 rate cases proves the effectiveness of these efforts, and the 9 consequent cost benefit to our customers.

10

#### Q. What is the Company's goal?

A. Our goal is to provide quality water and wastewater services as efficiently as possible, and
 by doing so, to increase the value of our services. Below I provide more detail on how the
 Company's investments and efficiency improvements aim to advance these goals.

14

### **Reducing Water Loss**

#### 15 Q. What is non-revenue water ("NRW")?

A. Non-revenue water is the difference between system delivery and water sales. Typically,
 NRW is measured as a volume or a percentage of system delivery based on a 12-month
 rolling average. NRW is not just leakage, but also includes water for beneficial uses such
 as firefighting and annual flushing, as well as theft, and meter inaccuracies. To avoid any
 ambiguity, American Water, based in part on guidance from the American Water Works
 Association, measures its reduction in water loss in terms of NRW rather than Unaccounted

For Water ("UFW").<sup>4</sup> In contrast to UFW, which can be defined in a variety of ways across
 the water industry, NRW is consistently calculated by subtracting the number of gallons of
 water sold from the number of gallons of water treated.

4

#### Q. Please describe the Company's program to reduce NRW.

A. As noted, reducing water loss is a very complex issue with many contributing factors. To
reduce actual water losses as effectively as possible, we stress the need to gather standard
data from our operating centers so that we can efficiently and effectively communicate
what is working, what is not working, and how we are progressing on mitigating NRW
around the Commonwealth.

10 The Company rigorously applies water loss reduction practices as part of its normal 11 course of business. These include regular monthly NRW meetings in both our east and 12 west divisions that provide target NRW reductions and goals by independent NRW report 13 cards of activities, routine maintenance and pursuing and repairing leaks that are identified. 14 In addition, the Company has several NRW control measures embedded in its on-going 15 business practice, which consist principally of:

Monitoring night flows within the different district metering areas across its systems
 (unexpected usage during off-peak periods can indicate leakage);

### 18 19

 Metering water usage within various parts of a water district as another indicator of possible leakage;

<sup>&</sup>lt;sup>4</sup> The AWWA began to discourage the use of the term Unaccounted for Water (UFW) in 2012 because its definition is inconsistent from organization to organization. There are several opportunities for inconsistency. For example, some organizations may deduct the number of gallons lost during a known main break, while others exclude gallons lost as a result of main breaks altogether.

1		• Using NRW-trained crew to find and report leaks daily, which are then promptly
2		repaired;
3		• Using NRW crews periodically in a "SWAT"-type approach to sweep larger areas of a
4		particular system for leaks;
5		• Using the Company's MapCall system to capture all work done by our crews, including
6		main break repairs so that patterns can be analyzed geographically;
7		• Using a data base for more accurate monthly reporting and monitoring of all NRW use;
8		and
9		• Training meter readers and other field personnel to identify and report possible theft-
10		of-service situations (such as evidence of occupancy or other activity in premises with
11		no registered consumption) and raising public awareness and understanding of the
12		operational and financial consequences of NRW.
13		• Asking local municipalities to develop theft-of-service ordinances and to enlist citizens
14		and law enforcement to help address this problem.
15		In addition to these operations activities, PAWC has an aggressive capital
16		expenditure program to reduce the number of small diameter mains, which also helps to
17		reduce water loss from the system. The Company's capital expenditures for main
18		replacement and rehabilitation are described in more detail by Mr. Bruce Aiton (PAWC
19		Statement No. 3).
20	Q.	Please describe the leak detection technology used by the Company to control NRW.
21	A.	Since 2016, PAWC has installed approximately 6,200 leak detection sensors in the
22		distribution system. These active acoustic listening devices are cellular -based and can
23		transmit their findings to us daily for analysis. This transmittal eliminates the need to

deploy resources to patrol the areas to collect the data, which allows for more timely analysis of the collected data. This technology also allows us to better identify those areas that need the most attention, resulting in more efficient deployment of repair crews.

In 2019, some of the units installed in 2016 required cellular card replacement as the 3G network was phased out and no longer supported. As a result, the equipment did not perform as well in 2019, which explains the increase in NRW in 2019, as shown in the table below.

8	Year	NRW %
	2015	33%
9	2016	33%
10	2017	32%
10	2018	34%
11	2019	36%

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These leak detection sensors have been or will be replaced or refurbished when they stop communicating and we expect a return to a declining trend in 2020 and beyond. Regarding 2018, NRW, PAWC experienced an increase in main breaks as compared to prior years, as the months of January and February 2018 were very cold.

We are also deploying new leak detection equipment in the Scranton area where
the data will be read through PAWC's advanced metering infrastructure ("AMI") network.
This dual use of the AMI data collection system is an efficient use of an already deployed
asset. We are hopeful that this will provide more up to date leak data that can be quickly
acted on to reduce NRW in that system.

1 **Improving Energy Efficiency** 2 0. Please describe the importance of electricity to the water and wastewater business. 3 It takes a significant amount of energy to extract, treat, and deliver clean water to our A. customers and to collect, treat, and dispose of wastewater.<sup>5</sup> A large portion of a typical 4 5 water utility's total energy consumption is used to pump water. As pumps age, they wear 6 and become less efficient. As a result, more power is required to pump the same volume 7 of water. 8 Please describe the Company's efforts to improve energy efficiency and control Q. 9 costs. 10 PAWC is using various strategies to improve energy efficiency and reduce energy costs A. 11 that include five principal components: (1) competitive energy procurement; (2) upgrading 12 energy efficiency of treatment and pumping facilities; (3) lighting upgrades; (4) energy-13 use monitoring and demand response; and (5) obtaining rebates made available under 14 electric utility programs implementing Act 129 of 2008 ("Act 129"). 15 Please describe some of PAWC's energy cost mitigation strategies. Q. 16 *Competitive Energy Procurement.* For several years, PAWC has actively procured A. 17 electricity supplies across its operations. The Company has used competitive bidding, 18 including reverse auction platforms, to procure electricity supplies in the West Penn Power, 19 Duquesne Light, Met Ed, PECO, Penelec, Penn Power and PPL service territories. The 20 supply contracts that resulted from the bidding process are based on "shaped" fixed pricing 21 for a short-term period, typically two years. Aggregate annual electricity supply covered

<sup>&</sup>lt;sup>5</sup> The electric and water sectors are closely aligned: the treatment and delivery of water and wastewater services requires a significant amount of energy, while energy extraction and production require a significant amount of water.

1 by the contracts is approximately 206 million kWh, or about 94% of the Company's annual 2 electricity consumption. By aggressively bidding electricity supply, the Company has 3 taken full advantage of the deregulated electricity supply market. In 2015 and early 2016 4 the Company recognized the historically low prices available in the energy market and 5 negotiated extensions of the supply agreements through the end of 2019 to lock in the low 6 energy prices. Similarly, in 2017 the Company again took advantage of low energy prices 7 to secure favorable supply agreements through the end of 2021; and last year, we partially 8 completed extension of these supply agreements through to the end of 2023. We expect to 9 complete the purchasing for all our service territories through end of 2023 in the next 10 several months, again by taking advantage of historically low energy prices.

11 Energy Efficiency Upgrades. In 2011, the Company embarked on a 12 comprehensive program to reduce electricity consumption at its water pumping facilities, 13 which account for over 75 percent of its overall energy consumption. The objectives of 14 the program are to reduce energy costs and greenhouse gas emissions that are associated 15 with inefficient power consumption. The Company has performed "water-to-wire" 16 efficiency testing (i.e., the efficiency of a pump and motor together) of its largest pumping 17 facilities to identify opportunities to improve the efficiency of motors and pumps. From 18 2011 through 2017, the Company has refurbished and/or replaced pumps or motors at 26 19 of its pumping stations. These stations include all the top-20 highest energy-consuming 20 facilities in the Company's operations.

		Electricity reduction		
Facility	Year(s)	kWh	%	Annual savings
Milton WTP	2011	275,000	7	\$24,750
Shire Oaks PS	2011	2,399,889	19	\$172,792
Aldrich WTP	2011	2,438,607	14	\$160,948
Becks Run PS	2012	3,435,882	16	\$309,150

Hays Mine WTP	2012	1,976,964	20	\$177,927
Kane WTP	2012	155,832	22	\$10,900
Hershey WTP	2014	510,048	10	\$38,254
Silver Spring WTP	2014	257,547	9	\$19,831
Lake Scranton WTP	2014	118,625	3	\$8,660
Yellow Breeches PS	2015	550,000	14	\$42,350
West Shore WTP	2015	375,180	14	\$29,639
Ellwood City WTP	2015	111,416	5	\$7,131
Indiana WTP	2015	106,809	6	\$6,836
Butler WTP	2015	92,083	19	\$6,077
DeKalb PS	2016	118,911	10	\$10,345
Clarion WWTP	2017	200,000	32	\$21,700
Total		12,922,793		\$1,047,290

The Company is monitoring these large stations to ensure that the pumping efficiencies remain at acceptable levels and will plan capital projects as needed to maintain their efficiencies.

6 Lighting Upgrades. Since 2009, the Company has upgraded the lighting and switches at 26 treatment plants, 16 pumping stations and 12 office buildings/operations 7 8 centers. These projects consisted of replacing existing metal halide and T12 fluorescent 9 fixtures with new, high-efficiency T8 fluorescent and/or LED fixtures; installing highefficiency lamps; installing new high-efficiency outdoor LED lighting; and/or installing 10 11 new switches with occupancy-sensor controls. The projects have payback periods on the 12 order of two years and provide energy savings and improved lighting for workspaces well into the future. 13

14 Energy Use Monitoring and Demand Response. PAWC uses an American Water 15 enterprise-wide application to monitor energy accounts across the state. This monitoring 16 tool provides "before and after" benchmarking capabilities to help the Company assess the 17 success of various efficiency initiatives. The Company has also installed real-time 18 electricity meters and dashboards at 19 of its largest pumping facilities. The dashboard

provides our operators real-time visibility of their electricity consumption and wire-to water efficiency and provides our engineers with discrete energy efficiency data on these
 large units to monitor and plan for future efficiency upgrades.

4 American Water was also an early adopter of smart-grid technology to help 5 integrate the way we operate our treatment plants and pumps with electric grid system 6 conditions. PAWC has installed equipment at three of its largest water pumping stations 7 and one of its largest wastewater treatment plants that allows those facilities to vary electric 8 usage (up or down) based on signals from the local grid operator. PAWC receives revenues 9 from participation in demand response programs at these locations ranging from \$70,000 10 to \$100,000 annually that are used to offset electricity expense, but more importantly, we 11 are taking proactive steps to help ensure the integrity of the electricity grid during peak 12 demand emergencies.

13 Act 129 Rebates. PAWC has been working with its electric utilities since the 2010 14 inception of the programs for energy efficiency and conservation ("EEC") those utilities 15 instituted to comply with Act 129. When electric utilities were developing their EEC 16 programs, the Company participated in stakeholder meetings with their service providers 17 to provide input from the water and wastewater industries. As the EEC programs were 18 introduced by the electric utilities, PAWC reviewed its capital projects for eligibility under 19 the rebate programs and applied for, and received, several rebates. So far, the Company 20 has received 39 rebates for a total of \$971,500. Most recently, we qualified for a \$50,000 21 rebate through Duquesne Light Company's Public Agency Partnership Program for a 22 project to convert from on-site generation of hypochlorite to bulk purchase at our Hays 23 Mine water treatment plant.

#### Q. What are the benefits of PAWC's efforts to improve energy efficiency?

A. The benefits of PAWC's efforts to improve energy efficiency are three-fold: they provide
 more efficient, higher quality service; they reduce operating costs, through reduced energy
 consumption; and, at the same time, they reduce carbon and other emissions. Through the
 comprehensive energy efficiency programs outlined above, the Company has been able to
 keep its fuel and power expense line flat to declining. In fact, the Company expects its
 2020 fuel and power expense to remain at its 2010 level, despite the numerous acquisitions
 and organic customer growth the Company has experienced over that 10-year period.

9

#### **Improving Operational Efficiency**

### 10 Q. Please describe some of the Company's other efforts to improve operational efficiency that the Company has undertaken.

12 A. The Company continually strives to find more efficient and cost-effective ways to operate 13 and maintain its business. As part of that effort, we strive to manage our cost structure as 14 efficiently as possible. We use various operational and efficiency reviews to further focus 15 on improving customer service and efficiency of production and field operations. Through 16 the size and breadth of American Water, the Company has continued to increase its 17 purchasing power and obtain significant discounts on the necessary equipment needed to 18 manage and maintain our system-including pipes, fittings, and water treatment 19 chemicals-that we otherwise would be unable to obtain were we a smaller and more local 20 enterprise. Cost reductions also have resulted from process improvements and technology 21 deployment. They have achieved efficiencies in a variety of areas, including waste 22 disposal, purchased water and fleet. In addition, PAWC is using technology to support 23 efficiencies in the field and improve communications with its customers.

**Q**.

#### Please describe what the Company has done to control waste disposal expenses.

2 A. The Company has a long history of exploring and implementing cost-effective beneficial 3 uses for its treatment residuals, rather than relying on costly landfill disposal. The 4 Company has been able to implement beneficial use practices at 32 of the Company's 35 5 surface water treatment plants. On a dry weight basis, approximately 95% of the 6 Company's water treatment residuals are beneficially used across the state, at a cost far 7 lower than conventional disposal at a landfill. Recently, the Company has implemented 8 capital improvement projects at the Ellwood City and Norristown water treatment plants 9 and the Clarion wastewater treatment plant to improve the residuals dewatering 10 process. This process lowers the overall weight of product to be transported and disposed; 11 and thus, the associated costs as well. Since its completion in Norristown in 2016, the new 12 centrifuge dewatering process has reduced annual waste disposal costs by 30 percent, or 13 approximately \$56,000 per year. We expect the new volute press process at the Clarion 14 wastewater treatment plant and the new centrifuge process in Ellwood City, both completed 15 in 2019, to produce similar savings in the future.

16 Q. Please describe what the Company has done to control purchased water expenses.

A. The Company has implemented changes at two districts to control purchased water
expenses. These two districts, Connellsville-Uniontown and Glen Alsace have historically
had the highest purchased water expenses of all the Company's districts. In ConnellsvilleUniontown, the Company negotiated a long-term purchased water agreement with a new
supplier that provides long-term cost savings and certainty on future rate increases. This
agreement went into effect in February 2017 and is currently saving \$31,000 per month
over the prior agreement. More recently, we are maximizing all extra capacity from our

1		Brownsville treatment plant by pumping it to Uniontown to reduce the purchased water
2		load. We also increased our leak detection activities in Uniontown to minimize water that
3		we purchased. Finally, we addressed a pressure problem in Uniontown that was the source
4		of water main breaks. The Company is continually investigating potential capital upgrades
5		to be able to shift even more load to the lower-cost provider in the longer term.
6	Q.	Are there any new regulations since your last rate case that affected the Company's
7		operations?
8	A.	Yes. On August 18, 2018, the Environmental Quality Board adopted amendments to
9		Chapter 109 of Title 25 of Pennsylvania Code related to safe drinking water to
10		incorporate general update provisions. The Chapter 109 general updates include:
11		Amended turbidity monitoring requirements – All wastewater treatment plants
12		("WWTPs") must continuously monitor CFE/IFE turbidity and record results at least
13		every 15-minutes during operation. Turbidity monitoring and recording equipment must
14		be repaired within (5) working days.
15		Amended monitoring requirements for reserve entry points and entry points
16		supplied by one or more reserve sources – PAWC is required to monitor reserve entry
17		points or permanent entry points receiving water from a reserve source at the initial
18		frequency for IOC/VOC/SOC/RADS during use. Sources must be identified as
19		"Reserve" in the Operations Permit and may not be used without prior written PADEP
20		approval. PADEP must also be notified when a reserve entry point or source is taken off-
21		line.
22		New Comprehensive Monitoring Plan Requirements – PAWC must now
23		develop and submit a plan to assure that all sources, entry points, and interconnects are

1 included in compliance monitoring. The plan must include at least all of the following: 2 list of all sources, purchased interconnections, treatment plants, and entry points; 3 availability of each source, treatment plant, entry point must be designated as either 4 permanent or reserve; availability of each purchased interconnection must be designated 5 as either permanent or emergency; schematic of all sources and associated treatment 6 plants and entry points, purchased interconnections and relative locations of entry points; 7 description of normal operating conditions for each entry point; description of how all 8 permanent sources and entry points are included in compliance monitoring; annual plan 9 review and update.

New alarm and shutdown capability requirements – All WWTPs must be
equipped with alarm capability. Unattended filter plants must also be equipped with
auto-shutdown capability. Requirements must conform to the system O&M plan, with
established levels set to meet regulatory compliance for the following parameters:
IFE/CFE turbidity, entry point disinfectant residual, water levels to maintain adequate CT
inactivation, and operator event notification. Alarm and shutdown capabilities must be to
be tested at least quarterly (may be simulated).

17New System Service and Auxiliary Power Requirements – Submit a18certification form to DEP verifying completion of the Uninterrupted System Service Plan19("USSP") to ensure a safe and continuous potable water supply. Auxiliary power and20alternate provisions must be provided through one or more of the following methods:21connection to at least two independent power feeds from separate substations; overhead22power feeds may not cross or be located where a there is potential for a disruption; onsite23generators; or a combination of alternate provisions, such as finished water storage

capacity, interconnections, and portable generators. Specified submittal dates are
 population based starting with systems serving (3,300 or fewer), (3,301 – 10,000), and

3 (greater than 10,000).

These new regulations result in a need for more operation and maintenance resources, particularly human resources, to properly manage the new programs.

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#### Q. How has the Company improved its fleet management?

7 With a fleet of over 1,000 vehicles and other rolling equipment, it's imperative that the A. 8 Company has a program to manage its fleet. In early 2016, PAWC created two positions 9 dedicated to ensuring our fleet is working optimally. These employees work hand in hand 10 with our senior operations managers as well as the end users to optimize both initial cost 11 and lifetime costs for every vehicle in the PAWC fleet. Last year, they conducted fleet 12 summits that included frontline employees and supervisors to collect ideas on how to build 13 a better vehicle specifications program. This resulted in changing some of the types of 14 vehicles we purchased to better meet the needs of the end user. Additionally, fleet 15 managers serve as the liaison with the American Water Works Service Company ("Service Company" or "AWWSC") fleet team who ensures overall competitive pricing and 16 17 leveraging of national buying and negotiating power for both new vehicles and repair 18 services. Our fleet personnel are held accountable to reduce expenses when possible 19 without negatively affecting our ability to serve our customers and safety.

As part of the capital planning process, we identify vehicles that are nearing the end of their depreciable life for replacement, generally targeting smaller replacement vehicles with better fuel consumption and lower initial and lifecycle costs. In 2019, PAWC replaced 130 vehicles and plans to replace another 130 vehicles in 2020.

In addition, our consulting fleet management company, Element Inc., provides us
 with data each month that allows us to look for trends around vehicle repair costs and fuel
 consumption.

We also have a policy of strategically sharing vehicles across districts in order to balance the needs of the business, especially when a vehicle is near the end of its depreciable life and in need of repair before its permanent replacement is available.

### 7 Q. Does PAWC gain efficiencies from its affiliation with American Water?

8 As a subsidiary of American Water, PAWC has the resources of the Service Company A. 9 available for its operations, which provides access to highly trained professionals who 10 possess expertise in various specialized areas and who work exclusively for American 11 Water's operating subsidiaries. Not only does the Company benefit from obtaining these 12 services and expertise at cost, through the size and breadth of American Water, the 13 Company has continued to increase its purchasing power and obtain significant discounts 14 on the necessary equipment needed to manage and maintain our system—including pipes, 15 fittings, and water treatment chemicals-that we otherwise would be unable to obtain were 16 we a separately owned water system.

17 Q. How is the Company using technology to improve efficiencies in the field?

A. In addition to the MapCall described earlier, the Company continues to innovate with technology by developing applications that make it easier for the workers to obtain and provide information from the field. These include Customer1View ("C1V"), Work1View ("W1V"), Meter Ops and Sample1View ("S1V"), each of which provides more comprehensive and easily accessible information to employees. C1V has been implemented by the Company to serve our customers more efficiently with a "one-stop

1 shop" for customer information, including premise and service order history, meter details, 2 billing and payment information. Field Service Representatives ("FSRs") interacting with 3 customers can access this information from their smart phones, tablets and laptops, and 4 view the same information as employees located at the customer service center ("CSC") 5 while interacting with customers during a service visit. This allows our FSRs to review 6 customer information that can help them address the customer's issue and provide 7 customers information while speaking with them, rather than having to contact the CSC 8 for information or requiring customers to follow up with the CSC for information. FSRs 9 can also update customer information and record notes on customer interactions on the 10 spot, providing other employees that serve our customers timely access to the most up -to 11 -date information.

12 In addition, FSRs now retrieve work and send results back to enterprise resource 13 planning ("ERP") system through the new W1V user interface that is easier and quicker to 14 change to meet the changing needs of the end user. W1V is a tool built by the field, for the 15 field. It provides a single view for managing work in the field, customer information and 16 meter information. W1V includes a real-time operations map to see work orders with 17 optimized routing, as well as other types of work and alerts happening in nearby areas. In 18 addition, using W1V, FSRs can manage their own work based on the day's demands by 19 adding or deferring undated work, and putting orders on hold for emergency work needed 20 at another location. Supervisors can also reroute work as appropriate. W1V is being 21 integrated with C1V for easy access to customer information during field visits.

22 Meter Ops is another application that supports our continued efficiency and 23 provides a superior level of insights into meter data. The app is designed to gauge the health

1 of our meters, provide information on how accurately they are functioning and mitigate 2 zero or estimated reads, which lead to lost revenue. Meter Ops monitors over 20 key 3 attributes for each meter, including manufacturer, size, installation date, location (both on 4 a map and whether it is located inside or outside), customer information, and historical 5 data, such as past alarms, work orders, customer contacts and visits, and reading and billing 6 information. This provides local operations supervisors and managers a real-time view of 7 meter performance and the ability to more easily monitor and manage length of service 8 meter replacements and identify and address potentially problem meters more timely. In 9 addition, all this information is available to, and can updated by, our employees while they 10 are in the field so they also have a full, real-time, view of information they can use to better 11 serve our customers.

12 Finally, the Company is developing the S1V application to track water quality 13 samples taken in the field and document the chain of custody until results are produced. 14 S1V is also a sampling planning tool that provides reminders to sample collectors regarding 15 the date, location and type of sample to be taken to ensure that samples are not missed. It 16 is GIS capable, so employees can more easily route themselves to the sampling locations. 17 Once fully developed, the app will produce reports for submission to regulating authorities 18 and provide analytical capability to internal staff to better understand our sampling 19 program.

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Taken together, these types of improvements will continue to drive a better customer experience and level of satisfaction as efficiently as possible.

22 Q. How will employees working out in the field access this information?

A. In addition to the laptops we previously used, the new applications are compatible with
 smart phones and tablets. Our employees will be able to access all their applications on
 their phone, laptop or tablet and see the location of facilities near them.

4 Q. What are some other benefits of field workers having smart phones and tablets?

5 A. Smart phones and tablets allow employees to work with technologies that are more mobile,
6 intuitive, user -friendly and familiar.

7 Providing smartphone and tablet access to various applications also supports more 8 efficient operations, improves communication and further bolsters our safety program. In 9 addition to accessing system maps as discussed above, employees will be able to 10 communicate more efficiently through a messaging platform that is currently used across 11 the business by employees with computer and smartphone access. Smartphones and 12 tablets also provide the added benefit of a camera. Employees can now take pictures of 13 equipment and fittings that can be stored in our GIS system. Employees also use 14 smartphones and tables for the 8-1-1 PA One Call program to verify that we have properly 15 marked the location of the Company's underground facilities.

In addition, our safety program will be further enhanced by employees being able to report near misses when identified in the field through the Lone Worker application. The Lone Worker application permits employees to set alerts or make emergency calls to management and American Water Service Company's Integrated Operations Center ("IOC") while working alone and/or in potentially hazardous conditions. Lone Worker can be triggered by a passive or active alert. The passive alert is triggered after a defined period of inactivity. The active alert can be triggered by the employee immediately if they are in

a potentially dangerous or hazardous situation or set to go off after a pre-identified period of time if it is not turned off by the employee within that timeframe.

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Workers are also required to complete on-line job site set up forms before they initiate work. The online form steps a worker through a wide variety of safety categories, such as ensuring a mark out ticket was obtained (if required), having the right personal protective equipment, and using a traffic management plan. Material data sheets are also available through the new work order management systems. Embedding this functionality in the online work order provides more assurance that employees are following the right safety procedures.

### 10 Q. Is there any new mobile technology that will provide enhanced capabilities to 11 operational activities?

12 A. Yes. American Water is in the process of converting to the FirstNet mobile network 13 system which is built on the AT&T network. This system will put PAWC employees on 14 priority status on the network so they can preempt other non-emergency calls if the 15 mobile network has limited capacity due to demand or inoperability. The system is being built to increase the reliability and resiliency of the Company's mobile network and to 16 17 reduce costs. The FirstNet system has push -to -talk functionality and is interoperable 18 with other first responders and utilities. It will have a lone worker feature included in the 19 system and can be equipped for fleet management and asset tracking. Once deployed, the 20 annual savings is expected to be approximately \$170,000.

# Q. How is the Company using technology to improve its communications with customers?

 A. Customer value is an integral component of our technology and innovation considerations.
 In addition to the technology-based improvements in water quality monitoring and treatment, water usage monitoring, leak detection and energy efficiency, among others, the Company has also made improvements to its customer communication technology.

5 In 2019, American Water 24-hour Customer Portal was launched and PAWC 6 customers can more easily access their accounts through a newly developed, mobile-7 friendly account management site. The Customer Portal allows customers to more easily 8 make payments, view their water usage history and receive real-time alert notifications. 9 As we continued to see more enrollments in our online account management site, we 10 realized the need to update our interface and allow customers to more easily view their 11 information. We launched this platform in direct response to feedback from our customers, 12 who told us they want to more efficiently manage their accounts online.

13 The Customer Portal gives customers the opportunity to take care of some of the 14 most common reasons they need to access their accounts, from checking balances and 15 paying bills to reviewing past water usage and scheduling appointments for some service 16 items. Through the portal, customers can also select to go paperless by enrolling in the 17 company's free paperless billing and automatic payment, also called Auto Pay, programs. 18 These efforts help customers and the company save postage and paper costs and be better 19 stewards of the environment. Customers receive conservation tips on how to save water, 20 time and money throughout the seasons.

Customers now have better functionality and more options to view their account on computers or smart phones. Approximately 42% of our customers have a web-based account with approximately 17% signed up for paperless billing. Over 18% use the auto-

pay function, which is a convenient and efficient way for us to collect bills and for
 customers to save time.

We continue to use the Code Red system, a customer-facing cloud-based platform, which allows the Company to directly communicate with customers and issue timely notifications in the event of a water quality issue (boil water advisories, hydrant flushing, do not use orders, etc.). We have also expanded the use of Code Red to provide advanced notice of construction projects that will be in a customer's area so customers can proactively plan for the potential impact to their water service or reach out to the Company with any questions.

10 The Company's social media presence and use continues to grow. Not only do we use social media to broadcast announcements about the Company, but we also provide 11 12 broad updates during an emergency. For instance, during a large main break in the 13 Pittsburgh area in 2019, PAWC staff used Facebook and Twitter to communicate quickly 14 to customers in a large area regarding the locations of bottled water for customer pick -up. 15 This improved communication technology, coupled with water quality monitoring, 16 improves our capability to detect water quality concerns and more effectively communicate 17 these concerns with customers.

18

#### **Advanced Metering Infrastructure**

#### 19 Q. Where is the Company implementing advanced metering infrastructure ("AMI")?

A. The Company completed the installation of AMI for the entire Scranton district. More
 recently, we installed a new version of AMI in the Mt. Pocono district where the meter
 readings are collected through the local cellular network rather than data collection units.
 This infrastructure free system reduces the upfront cost of the system and eliminates the

1		ongoing maintenance of a fixed based data collection system. We are also installing AMI		
2		systems in the newly acquired systems of Exeter and Steelton.		
3	Q.	What are some of the benefits of AMI technology?		
4	A.	AMI provides a variety of benefits stemming from PAWC's ability to collect consumption		
5		and interval data from the meter and transmit it to a computer network at any given time.		
6		These benefits include improving safety, operations and customer service.		
7	Q.	How does AMI improve safety and operations?		
8	A.	With AMI, it is no longer necessary for employees to walk or drive by meter routes in order		
9		to gather consumption data. As our AMI deployment continues, AMI has the potential to:		
10		• Increase efficiencies by reducing time spent reading meters;		
11		• Reduce workplace safety hazard exposures associated with meter reading activities		
12		for our employees;		
13		• Reduce environmental impacts associated with having to make monthly trips to		
14		obtain meter readings; and		
15		• Align our workforce to move positions from meter reading to other positions to better		
16		serve our customers.		
17		In addition, PAWC can use AMI data to uncover irregularities that may signal a		
18		leak, meter tampering or water theft. With the implementation of a meter data management		
19		system, the Company will be able to more efficiently collect, organize and analyze large		
20		quantities of meter data to support its water loss reduction efforts and improved customer		
21		billing.		
22	Q.	How will AMI improve the overall customer experience?		

1 A. The use of AMI increases billing accuracy and reduces the likelihood of estimated bills by 2 automatically providing timely accurate reads through the network. In addition, re-reads 3 will be reduced due to the human factor being removed from obtaining the actual read. 4 AMI also has the potential to provide customers with a view of their personal consumption 5 more frequently than monthly, allowing them to monitor their usage for conservation 6 purposes or to identify and address unusually high usage. AMI also includes functionality 7 that eases the turn -on and turn -off process for customers. For select locations, the AMI 8 meter can have its own valve that can be remotely opened or closed in order to turn-on and 9 turn-off service in a timely manner without having to send someone out to do it manually. 10 AMI is especially well suited at detecting leaks on a customer's service. The Company 11 monitors for continuous usage on the account and notifies the customer when the meter 12 does not stop over a set period (typically 3 days). This saves the customer money, saves 13 water, and potentially eliminates leak adjustments that are often requested by customers 14 with hidden leaks.

### Q. Are there other benefits associated with the remote turn-on and turn-off functionality?

A. Yes. Not only does this capability ease customer service requests, it also eliminates
potential safety hazards associated with opening meter tiles or having to enter customer's
homes. This technology also eliminates challenges associated with shared service lines.
Currently, customers on shared service lines cannot request cessation of their service and
the Company cannot terminate service for any reason without also turning off service to
other customers. PAWC has approximately 20,000 shared service lines in its Scranton
district. Not being able to turn off service to individual customers on such service lines (1)
prevents customers from having their service turned off for any reason; (2) prohibits the
Company from lawfully terminating service to delinquent customers, potentially leading
to large uncollectible amounts; and (3) can result in water waste due to leaks on customer
-owned facilities if not timely addressed by the customer. Consequently, a variety of issues
can arise for a large subset of the Company's customers in the Scranton district, each of
which can be mitigated using the individual valves available on AMI meters.

7

#### **Employee Levels and Compensation**

#### 8

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#### Please discuss how PAWC staffs its business operations.

A. As a public utility, PAWC is required to provide safe, reliable and adequate water and
wastewater service. PAWC's employees are responsible for assuring the production of
high-quality drinking water, operating and maintaining the Company's production and
treatment facilities and its distribution and collection systems, monitoring water quality,
providing engineering services, and generally supporting the efficient management of all
of the Company's operations.

15 The Company continually strives to find more efficient and cost-effective ways to 16 operate and maintain its business. As part of that effort, we strive to manage our cost 17 structure as efficiently as possible, including employee costs. We recognize our duty to 18 staff our business in a manner consistent with the provision of safe, reliable and affordable 19 utility service. This requires a constant evaluation of the right mix of internal and contract 20 labor, straight time versus overtime, training programs, and replacing labor with 21 technology. In this vein, we continue to evaluate costs and expenses going forward, always 22 looking for the best solution for the unique and changing challenges we face. A large 23 portion of our cost structure is for labor, and as a position becomes vacant in our

organization, we look to the value of that position. We review the overall need for that position and consider, among other things, whether it should be transferred to another area, modified, or even eliminated. Cost control and improved business performance are the goals of these efforts. We continue to evaluate the new roles that will be created as new regulatory requirements are promulgated, and the appropriate positions that PAWC will need to optimize new technology and most effectively serve our customers.

7

#### Q. What is PAWC's forecasted staffing level in this case?

8 We have identified 1,173 full time equivalent ("FTE") employees as the appropriate A. 9 staffing level for the Company's water and wastewater operations for future test year 10 2020, and 1,177 and 1,180 in Rate Years 1 and 2, respectively. The number of employees 11 is based upon each department's and each functional area's need to furnish safe, adequate, 12 efficient and reliable service to the Company's customers. Service needs and related 13 resource requirements are consistent with meeting regulatory requirements, tariff requirements, industry standards, service requests, customer needs, and providing support 14 15 to the business operations. The direct testimony of Stacey D. Gress (PAWC Statement No. 16 6 and Exhibits 3-A and 3-B) explains how the Company's labor and labor-related costs 17 were determined.

18 Q. Please describe PAWC's approach to employee compensation.

A. PAWC aims to offer compensation that is on par with that offered by the companies that
 PAWC competes with for employees. Therefore, PAWC targets its total direct
 compensation (base and variable compensation) for each role at the Company near the
 market median (50th percentile) for that role.

# Q. Please identify the various employee classifications at PAWC and briefly describe how each group is compensated.

A. There are three classifications of employees: collective bargaining unit ("CBU") hourly
employees, non-collective bargaining unit ("non-CBU") hourly employees and exempt
employees. In PAWC Statement No. 5, Ms. Gress describes the compensation for each
classification of employees.

# 7 Q. How is variable compensation provided to exempt and non-CBU employees?

A. Variable compensation is provided to exempt employees through the Company's Annual
Performance Plan ("APP") and Long-Term Performance Plan ("LTPP"). In 2016, the APP
was expanded to include non-CBU hourly employees. In 2019, the APP was further
expanded to include CBU hourly employees, as part of the national benefits negotiations
that took place in 2018.

#### 13 Q. Please generally describe the purpose of the APP and the LTPP.

A. The plans are designed to provide compensation for operational and financial performance,
and to focus plan participants on delivering safe and reliable water and wastewater services.
Copies of the plans, which are marked as confidential and proprietary, are provided as
Filing Requirement III.22 (Volume 6b) of the Company's responses to the Commission's
filing requirements.

#### 19 Q. Does the Company's compensation plan benefit customers?

A. Yes. As I mentioned, the plan is designed to provide compensation for performance and
 to focus plan participants on delivering safe, reliable and affordable water and wastewater
 services. The compensation plan includes components of financial, operational, and
 individual measures. The operational components measure performance that can most

directly influence customer satisfaction, health and safety, environmental performance, and
 operational efficiency. Customers derive a direct benefit from our focus on these key
 measures in the plan. Further, well-grounded financial measures keep the organization
 focused on improved performance at all levels of the organization, particularly in
 increasing efficiency, decreasing waste, and boosting overall productivity.

All of these aspects of overall performance benefit customers by rewarding superior
performance in every function. This superior performance supporting our improved O&M
efficiency is the result of having a workforce that is incented to find smarter, more efficient
ways to deliver water and wastewater services.

10 Finally, a financially healthy utility focused on efficiency and customer satisfaction 11 can attract the capital investments necessary to provide safe and reliable service and to 12 maintain the technological expertise necessary to operate the company and comply with 13 increasing water quality standards. A financially healthy utility is very much in the interest 14 of PAWC's customers, as it helps ensure PAWC the ability to provide safe and reliable 15 service at the lowest reasonable cost. Our performance compensation plan is not an 16 addition to reasonable compensation; our performance compensation plan makes our 17 compensation reasonable.

18

# Q. Are there other benefits of variable pay?

A. Yes, there are many. Importantly, variable pay provides PAWC not only a means of
focusing its employees on the organization's goals, but also a means of measuring
attainment of those goals. Aligning employees with the Company's goals supports a
healthy and positive corporate culture that in turn creates a highly motivated and productive
workforce. As the Commission's Bureau of Audits recognized in its *Focused Management*

1 and Operations Audit of Pennsylvania-American Water Company dated	February 2016
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2 (Docket No. D-2014-2430603):

3 A corporate culture should reinforce the strategic goals of the 4 company by aligning what the company does with how those 5 functions are executed. Healthy cultures should impart a sense of 6 purpose to employees, leading to an increase in productivity and a 7 greater understanding of corporate goals. ... It is important to note 8 that improving corporate culture will require open communication, 9 corporate commitment on strategy/direction, investments in 10 employees, time, etc.<sup>6</sup>

- 11 Variable pay that is aligned with the Company's strategic goals, such as APP and
- 12 LTPP, imparts that sense of purpose to employees that serves as the base for providing
- 13 high quality service to customers.
- 14

# **Employee Development**

# 15 Q. Describe the Company's commitment to employee development.

16 A. PAWC values the growth and development of its employees. In support of this, a

17 training goal of 20 hours or more has been set for all employees. LEARN, American

- 18 Water's learning management systems provides a one-stop shop for registering for
- 19 instructor-led courses and participating in e-learning. In addition to the Company's
- 20 focus on providing employees with relevant training geared towards their primary job
- 21 responsibilities, there are opportunities for technical, professional, management and
- 22 leadership development for career advancement opportunities. There are over 200+
- 23 eLearning course around business, leadership, and professional development in LEARN.

<sup>&</sup>lt;sup>6</sup> Audit, pp. 20-21.

13	Q.	Does this conclude your testimony?
12		year from date of completion.
11		health and safety at work and at home. The Certified Safe Worker Status is valid for one
10		15 available action items demonstrating your commitment and active participation in
9		Certified Safe Worker (CSW) designation, you must complete at least 6 of the
8		Additionally, the Company has a Certified Safe Worker program. To receive
7		Working Surfaces) and Stop Work Authority.
6		Communication: An Employees Right to Know, Slips, Trips and Falls (Walking &
5		Pathogen Awareness, Defensive Driving Fire Safety and Prevention, Hazard
4		All employees have been assigned the following safety courses for 2020: Bloodborne
3		assigned in LEARN as part of the 2020 Health and Safety Education Program.
2		provide useful and effective training to all employees, important safety training has been
1		As previously stated, the safety of our employees is a top priority. In order to

14 A. Yes, it does.

#### BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY	:
COMMISSION	:
<b>v.</b>	
PENNSYLVANIA-AMERICAN	:
WATER COMPANY	

DOCKET NOS. R-2020-3019369 (WATER) R-2020-3019371 (WASTEWATER)

#### VERIFICATION

I, William Andrew Clarkson, hereby state that the facts set forth in the premarked Statement No. 2 and accompanying exhibits, if any, are true and correct to the best of my knowledge, information and belief. I understand that this verification is made subject to the provisions and penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsifications to authorities).

Date: April 29, 2020

Callson

William Andrew Clarkson

# Statement No. 3 Aiton

**PAWC STATEMENT NO. 3** 

#### **DIRECT TESTIMONY**

OF

#### **BRUCE W. AITON**

# WITH REGARD TO

# PENNSYLVANIA-AMERICAN WATER COMPANY'S FUTURE TEST YEAR AND RATE YEAR ONE AND RATE YEAR TWO PLANT ADDITIONS; MAIN EXTENSION COMMITMENTS FROM THE COMPANY'S 2017 RATE CASE; MAJOR ACQUISITIONS SINCE THE COMPANY'S 2017 RATE CASE; RISKS ASSOCIATED WITH WATER QUALITY / QUANTITY AND ENVIRONMENTAL REGULATIONS; LEAD SERVICE LINE REPLACEMENT

# DOCKET NOS. R-2020-3019369 (WATER) R-2020- 3019371 (WASTEWATER)

**DATE:** April 29, 2020

# PENNSYLVANIA-AMERICAN WATER COMPANY

# **DIRECT TESTIMONY OF BRUCE W. AITON**

1	Q.	What is your name and business address?
2	A.	My name is Bruce Aiton and my business address is 852 Wesley Drive, Mechanicsburg,
3		PA 17055.
4	Q.	By whom are you employed and in what capacity?
5	A.	I am employed by Pennsylvania-American Water Company ("PAWC" or the
6		"Company") as Vice President of Engineering.
7	Q.	Please describe your educational background and business experience.
8	A.	I have a Bachelor of Science degree in Civil Engineering from California State
9		University, Sacramento and have been in the engineering and construction field for
10		approximately forty years. I am a licensed Civil Engineer in the State of California.
11	Q.	Do you belong to any professional or industry associations?
12	A.	Yes, I am a member of America Water Works Association ("AWWA") and Water
13		Environmental Federation ("WEF").
14	Q.	What are your duties and responsibilities in your current position?
15	A.	As Vice President of Engineering for PAWC, I am responsible for the administration of
16		engineering services, including but not limited to the planning, design and construction of
17		water and wastewater capital investment projects for PAWC's systems and facilities.

Q.

#### What is the purpose of your testimony?

2 A. The purpose of my testimony is four-fold. First, I will explain the Company's capital 3 investment planning process. Second, I will describe and support the additions to the 4 Company's water and wastewater utility plant and equipment that will be placed in 5 service during the future test year (2020) and Rate Year 1 (2021) and Rate Year 2 (2022). 6 Third, I will demonstrate that PAWC has satisfied the main extensions commitments it 7 made in the settlement of its 2017 base rate case. Fourth, I will describe the risks associated with: (1) maintaining safe and adequate water quantity and water quality and 8 9 complying with applicable drinking water and environmental regulations associated with 10 owning and operating facilities for supplying water to the public; (2) complying with 11 environmental regulations applicable to owning and operating facilities for furnishing 12 wastewater service to the public; and (3) the challenges climate change could create for 13 water and wastewater utilities. Ms. Buckley, in PAWC Statement No. 14, discusses why 14 investors' perceptions of such risks should be considered in establishing a reasonable rate 15 of return on equity for the Company in this case.

16

#### The Company's Capital Investment Planning Process

17 Q. Please explain the Company's capital investment planning and governance process.

A. The Company uses a standardized Capital Program Management ("CPM") process to
manage its capital investments. PAWC conducts planning studies that assess necessary
improvement projects and prioritize those projects within the study area. Further, each
facility is evaluated using the Company's High Risk Asset Management ("HRAM")
process to identify facilities or individual assets that may pose a high risk to system(s)

	through either high consequence and/or a high probability of failure. All capital
	investment programs and projects are then prioritized within an overall strategic planning
	process, utilizing drivers associated with the HRAM process. In the HRAM process,
	facilities and critical assets are evaluated against risk and consequence of failure to
	formulate a five-year Strategic Capital Expenditure Plan ("SCEP"). Following more
	detailed design engineering, implementation plans are developed for those projects that
	are contained in the SCEP. The Company's annual capital construction plan is based
	upon projects and programs contained in the SCEP. On an annual basis, main
	replacement projects are prioritized on a state-wide basis. Numerous factors are
	considered when determining funding allocations for infrastructure investment, such as
	current and future service needs, assessments of the physical condition of existing plant,
	economic and risk factors, performance characteristics, regulatory compliance, and the
	potential to coordinate with municipalities and other utilities in joint improvement
	projects. The CPM governance process provides for formal approvals and consistent
	controls that optimize the effectiveness of asset investment and ensures that capital
	investment meets the Company's strategic goals.
Q.	How does the Company's construction planning process impact its claim for plant
	additions?
A.	The Company's claim for plant additions consists of the projects planned for completion
	during the 2020 future test year and the projects that are currently scheduled for
	completion in Rate Year 1 (2021) and Rate Year 2 (2022). The overwhelming majority
	of the Company's claimed projects will be constructed and completed as planned.
	<b>Q.</b> A.

1		However, as the years progress, some projects may be substituted for others initially
2		included in the budget due to unanticipated events requiring an immediate capital
3		addition, such as plant or equipment that has experienced failure and needs to be
4		replaced. In general, the overall cost of plant construction will be consistent with the
5		values filed. If a major investment project were to encounter a delay and could not be
6		completed during the test year, the Company would eliminate that project from its claim
7		for plant additions and may or may not necessarily make a substitution. If the delay did
8		not extend materially beyond the future test year and the project otherwise satisfied the
9		applicable criteria, the Company would consider including the project as a claim for
10		construction work in progress. Often, where one project may lag for a variety of reasons,
11		another may be completed early, thereby offsetting another project's delay such that the
12		overall program remains consistent.
13		<b>Description of Claimed Plant Additions</b>
14	Q.	Please describe the Company's claimed plant additions, as shown in Exhibit 3-C.
15	A.	The Company has undertaken gross plant additions (including acquisitions, projects
16		funded by customer advances and contributions) to be completed by December 31, 2020
17		that are estimated to total \$384,715,093 and has undertaken, or will undertake, gross
18		plant additions (including projects funded by customer advances and contributions) to be
19		completed by December 31, 2021, and December 31, 2022 that are estimated to total
20		\$780,095,214. When projected retirements of \$139,194,481 are considered for the three

21 (3) years, the combined net increase in plant additions for 2020-2022 is estimated to be

22 \$1,025,615,816.

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# In general terms, what types of projects are included in the Company's claim of approximately \$1,025,615,816?

3 A. The projects that comprise the Company's claim for plant additions in the future test year 4 and Rate Years 1 and 2 are set forth by applicable property account and PAWC Project 5 Number in the portion of PAWC Exhibit 3-C that I am sponsoring, along with the 6 estimated completion date and associated retirement for each project. As shown in 7 Exhibit 3-C, the Company's claimed plant additions vary between what may be 8 characterized as small, routine projects, such as the installation of individual distribution 9 mains, to substantially larger projects, such as the upgrade and rehabilitation of the 10 Yardley Water Treatment Plant ("WTP") to satisfy new regulations to ensure the removal 11 of cryptosporidium; safety and reliability projects including the installation of emergency 12 power generation equipment and pipeline reinforcements; water storage tank projects; 13 and system acquisition improvements including water and/or wastewater projects for 14 McKeesport, Scranton, Steelton, Exeter, Sadsbury, Turbotville, Winola, Delaware Sewer 15 and Kane, which I discuss, along with other larger projects, below. 16 Q. Are there any particular projects that, because of their size or importance, you 17 would like to discuss further? 18 Yes. While there are literally hundreds of individual plant additions detailed in A. 19 Exhibit 3-C, the larger individual components of the Company's claim for plant additions

- 20 are described below. Water system projects are presented first by year of anticipated
- 21 completion, followed by wastewater system projects also by year of planned completion.
- 22 **2020 Water Projects**:

#### 1. **Paris-Florence Gradient Improvement (I24-210024)**

The Paris-Florence Gradient Improvement project will address pressure and flow
constrictions within Hanover Township, Washington County, in the
Washington/McDonald District. Available flow is currently limited by several
constraints and high points in the distribution system. The project consists of replacing
the existing Paris-Florence Booster Pump Station, replacing the existing generator,
installing a Pressure Reducing Valve ("PRV") station, and installing approximately 5,800
feet of new 12-inch main. The total estimated project cost is \$2,329,489.

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# 2. Silver Spring WTP Second Washwater Tank (I24-610018)

10 This project will provide redundancy and allow an existing tank to be taken out of service 11 for rehabilitation. The Silver Spring WTP has a capacity of 8.0 million of gallons per day 12 ("MGD") and provides water to approximately 30% of the Mechanicsburg District. The 13 plant has a single 0.45 million gallon ("MG") washwater tank that is used for 14 backwashing the filters. However, since there is only one washwater tank, it cannot be 15 taken out of service for maintenance or repairs. In addition, the current condition of the 16 tank is poor and it requires rehabilitation. Installing a second tank will provide 17 redundancy and allow for the existing tank to be taken out of service for rehabilitation. 18 The total estimated project cost is \$877,553. 19 3. South Franklin Tank (I24-210006) and Franklin-Malone Gradient 20 Improvements (I24-210018)

- 21 The South Franklin Tank went into service in 2018 and serves the South Franklin
- 22 Township in the Washington County portion of the Washington/McDonald District.

1	Approximately 1,000 customers in South Franklin Township require additional water
2	storage for fire protection and to decrease system risk. The project will include
3	combining the Franklin, Malone Ridge, and Lincoln Heights gradients into one gradient
4	with a hydraulic grade line ("HGL") of 1,540 feet, along with constructing a 0.75 MG
5	elevated storage tank, installing approximately 2,600 linear feet ("LF") of 12-inch main,
6	3,500 LF of other main, and constructing a PRV station. The addition of the tank and
7	piping will address storage, fire flow, and reliability risks in the area. The total estimated
8	cost for the project is \$1,374,100.
9	4. Stony Garden WTP Improvements (I24-560015)
10	The Stony Garden WTP is in the Nazareth District in Northampton County. The project
11	includes the installation of ultraviolet ("UV") light disinfection to achieve compliance
12	with the new Long Term 2 Enhanced Surface Water Treatment Rule ("LT2"),
13	promulgated by the Pennsylvania Department of Environmental Protection ("PADEP").
14	While working on the plant, the Company will also replace the existing chlorine gas
15	system with bulk sodium hypochlorite unloading, storage and feed systems to reduce the
16	risk related to gaseous chlorine. Additional work will include a chemical feed upgrade for
17	the addition of a sodium permanganate feed system for pretreatment. Other
18	miscellaneous work will include an arc flash study and repurposing existing rooms
19	historically associated with the current chlorine gas system. The total estimated cost of
20	the project is \$3,836,569.
21	5. East Pike Road Extension (I24-410008)
22	The project, located in the Indiana system in Indiana County, includes approximately

The project, located in the Indiana system in Indiana County, includes approximately

1	7,000 LF of 16" ductile iron ("DI") main to be extended from the existing 16"
2	transmission main to the eastern end of East Pike Road. The project will increase
3	reliability to the entire Indiana system by providing an additional feed to the McHenry
4	Hill ground storage tanks and will further enhance the East Pike Road area by providing a
5	secondary feed to this dead end that serves an elementary school, S&T Arena, White
6	Township Sports Complex and the Indiana County Municipal Services Authority
7	("ICMSA") interconnect. This project will also allow the 1945 12" Cast Iron ("CI")
8	transmission main to be retired. The 12" CI transmission main parallels the 16" Asbestos
9	Cement ("AC") transmission main. Both are located in remote locations that require a
10	significant amount of time to repair. The total estimated cost of the project is \$1,465,000.
11	6. Carlisle Pike and Central Blvd (I24-610019)
12	The project is in the Mechanicsburg system in Cumberland County. The project will
13	replace approximately 14,000 LF of older cast iron main along Carlisle Pike between
14	Pennsylvania 581 and US 11 to N 32 <sup>nd</sup> Street in Camp Hill, PA, and other old obsolete
15	main. The project will also enable the connection of numerous dead-end mains in side
16	streets. The total estimated cost of the project is \$3,105,000.

# 7. New Castle WTP Liquid Lime (I24-310022)

18 The project is for the New Castle WTP in New Castle, PA and includes the construction 19 of a new liquid lime feed facility at the plant. The plant has an aged lime slaker system 20 that has deteriorated over time due to the corrosive nature of the lime. The slaker system 21 has become a safety, reliability and maintenance risk. Parts for the slakers are not readily 22 available and the system has become clogged and had multiple other issues with

mechanical failure, requiring extensive effort to maintain the system. The new liquid lime
feed facility at the WTP will alleviate these issues. A temporary liquid lime feed system
has been installed at the treatment plant to maintain continuity of operations until the
permanent feed system is designed, permitted and constructed. The total estimated cost
for the project is \$1,876,844.

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# 8. Pine Ridge Well #5 Iron and Manganese Treatment (I24-680025)

PAWC has detected elevated manganese and iron levels in raw water in Well 5 in the Pine
Ridge water system in the Lehman Pike District. The purpose of this project is to provide
a new iron and manganese removal system to improve water quality. The total estimated
cost of the project is \$1,940,000.

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#### 9. Lake Scranton WTP Clarifier Rehabilitation (I24-910060)

12 The Lake Scranton WTP upflow clarifiers are approximately 30 years old and need 13 rehabilitation. The clarifier rehabilitation project will include the replacement of failed 14 panels and screening, air header nozzles, lost media, and all associated bracing and 15 hardware for the eight (8) up-flow buoyant media clarifiers at the Lake Scranton WTP. 16 The total estimated cost of the project is \$1,477,870.

- 17 **2021 Water Projects**
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#### 10. Norristown WTP Improvements (I24-510017)

The Norristown WTP is in Montgomery County. The project will include the installation
 of UV light disinfection to achieve compliance with the LT2. The project will also
 replace existing chlorine and ammonia gas systems with bulk sodium hypochlorite and

liquid ammonium sulfate ("LAS") unloading, storage and feed systems, providing needed
safety enhancements that all serve staff and the public. Other miscellaneous work
includes an update to the arc flash hazard identification and mitigation system,
repurposing existing rooms associated with the chlorine gas system, improvements to the
powdered activated carbon ("PAC") feed system, and converting a spare chemical feed
tank for the use of sodium permanganate. The total estimated cost of the project is
\$7,964,053.

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#### 11. Two Lick Creek WTP (I24-410007)

9 The Two Lick Creek WTP is in Indiana County and serves the Borough of Indiana. The 10 project is to ensure reliability in the treatment works and electrical system at the plant. 11 The electric upgrades will replace aged switch gear and change from 2400V switch gear 12 to 480V switch gear to reduce risk and maintenance costs. Additionally, the Company 13 will construct a second filter backwash tank to expand filter backwash capacity and 14 enable one tank to be taken out of service for maintenance and painting. The added 15 redundancy and upgraded electrical system will also enhance plant reliability. The total 16 estimated cost of the project is \$1,820,000.

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#### 12. Kane WTP Filter Replacement (I24-460006)

18 The Kane WTP serves the Borough of Kane in McKean County. The plant utilizes three 19 (3) pressure filters to remove iron and manganese. The media in the filters needs to be 20 replaced. The project will include the rehabilitation of the three (3) existing pressure 21 filters, consisting of painting the interior and exterior of the filters, replacing the 22 underdrain piping, and replacing the media. The Company will also make piping, valve

and instrumentation improvements. Other improvements to the Kane WTP will include
the addition of automated valving and instrumentation for Spring No. 5 and caustic feed
improvements, including new piping, day tank and feed pumps. Conversion of gas
chlorine to sodium hypochlorite is also included in the scope of the project. The total
estimated cost of the project is \$1,300,342.

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#### 13. Mecklem Booster Pump Replacement (I24-310013)

The Mecklem Booster Pump Station is in the New Castle system. The pump station
needs to be replaced due to a combination of the age and condition of the existing pump
station and the increased customer count in Jackson Township. The existing pump
station has a rated capacity of 4.1 MGD. The new pump station will have a capacity of
4.83 MGD. The total estimated cost of the project is \$1,143,086.

#### 12 14. Coatesville West End Storage Improvements (I24-650007)

13 The Coatesville system serves over 12,000 customers in Coatesville and the surrounding 14 communities in portions of Lancaster and Chester Counties. Portions of the Coatesville 15 system have had challenges with water age and fire service capability. The project will 16 address multiple issues across the western portion of the system through the construction 17 of a new 2.0 MG ground level storage tank, a new 0.75 MG elevated tank, a new 18 Parkesburg booster station, and a new booster station near Atglen. The project will also 19 include the modification of other storage and pumping facilities in the western part of the system. The project is estimated to cost \$7,284,145. 20

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#### Silver Spring WTP and West Shore WTP Improvements (I24-610016)

1 The Silver Spring WTP and West Shore WTP are both located in, and serve, the 2 Mechanicsburg area in Cumberland County. The project will achieve compliance with 3 LT2 through installation of UV light disinfection to augment the treatment process 4 currently used at these WTPs. Replacement of the WTPs' existing chlorine gas systems 5 with bulk sodium hypochlorite unloading, storage and feed systems will also improve 6 safety for both staff and the public. Other miscellaneous work will include arc flash risk 7 mitigation and repurposing existing rooms associated with the chlorine gas systems at 8 each WTP. Other miscellaneous improvements specifically for the Silver Spring WTP 9 will include the installation of a de-chlorination station of filter to waste and traveling 10 screen washwater, minor modifications to the wastewater clarifier and lagoons, and the 11 construction of an additional chemical unloading containment area and a containment 12 area in the chemical application room. The total estimated cost of the project, including 13 work at both WTPs, is estimated to be \$17,800,920. 14 16. Hershey WTP Improvements (I24-620006)

The Hershey WTP serves the Hershey system covering portions of Dauphin and Lebanon Counties. The system serves nearly 20,000 customers. The project will achieve compliance with LT2 through the installation of UV light disinfection to augment the WTP's current treatment process. The project will also include the replacement of existing chlorine gas systems with bulk sodium hypochlorite unloading, storage and feed systems to improve safety staff and the public. Other miscellaneous work will include an update to the arc flash study, repurposing existing rooms associated with the chlorine gas

systems and adding a de-chlorination station for the traveling screens rinse water. The total estimated project cost is \$7,517,950.

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#### 17. Berwick River Crossing (I24-730003)

4 Nescopeck is part of the Berwick Water system, which spans a portion of Luzerne and 5 Columbia Counties. The water for Nescopeck is fed through a 12-inch CI pipe, which 6 runs under the Susquehanna River from Berwick. The 12-inch CI pipe dates back to 7 approximately 1960. The system main has experienced failure resulting in extended 8 service interruptions and boil advisories for the Company's more than 600 customers in 9 Nescopeck. The project will include the installation of approximately 2,200 LF of new 10 12-inch water transmission main beneath the Susquehanna River from Berwick to 11 Nescopeck to provide a reliable back-up to the existing 12-inch CIP. Once the new main 12 is in-service, the Company will be able to take the 12-inch main out of service for 13 rehabilitation improvements (lining, etc.). The total estimated project cost is \$4,500,000.

#### 14 **18.** Hays Mine WTP Superpulsator MCC and Transformers (I24-110057)

15 The Hays Mine WTP is in the Pittsburgh system. The project is to replace existing 16 electrical equipment that is aged and poses a risk to reliability. Specifically, the project 17 consists of the replacement of two (2) transformers and one (1) motor control center

- 18 ("MCC"). The project has a total estimated cost of \$1,205,000.
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#### **19.** Paint Township Waterline Loop System (I24-430002)

The Paint Township Waterline Loop system was installed in 2011 and consists of
approximately 5 miles of mostly 12" DI main. The system was acquired by PAWC in
2015. PAWC has had to maintain a vigorous flushing program since acquisition to

1 maintain sufficient water quality within the Paint Township system. Testing has 2 indicated that nitrification and water age are contributing factors to the water quality 3 issues. The project will include the installation of approximately 7,150 LF of 12" DI 4 main to be installed from the end of the Paint Township water system, along SR 66, to 5 the intersection of SR 322. The project will loop the dead-end system back into the main 6 Clarion gradient. The project will also include cleaning the inside of the existing mains 7 and installation of automated blow-offs at the remaining dead-end areas of the system. A 8 control valve station will also be installed to direct more flow through the Paint Township 9 system to help reduce water age. The total estimated project cost is \$2,260,000.

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#### 20. Kane Transmission Mains (I24-460008)

This project will include replaced two aged transmission mains. The Kane system has two (2) primary transmission mains from the WTP - one that feeds the system near Main Street and another near the storage tank to the north part of town. Both of these transmission mains are aged cast iron and were installed in 1908. The project will replace these two (2) 10-inch transmission mains and upgrade them to 12-inch. The total estimated project cost is \$1,525,000.

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#### 21. Kittanning WTP Improvements (I24-440004)

18 The project is needed to maintain compliance with new regulations. The project will 19 include the installation of UV light disinfection to comply with the LT2. The project will 20 also enhance safety for both staff and the public by replacing the existing chlorine gas 21 system with bulk sodium hypochlorite unloading, storage and feed systems. Other 22 miscellaneous work will include adding outlet baffles to the existing clear well to

improve the baffling factor, completing a clearwell tracer study, and updating the existing
 arc flash mitigation to maintain code compliance. The project has a total estimated cost
 of \$4,993,081.

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# 22. Phillipsburg Well #2 Trout Run (I24-720002)

5 The Phillipsburg system source water is from a combination of wells and surface water. 6 PAWC discontinued the use of Trout Run Well #2 after it was found to have high iron 7 and manganese levels. The well had historically been a significant source of water in the 8 system and without the use of the well, there is a reliability risk to the Phillipsburg 9 system. The project will resolve the issues with Trout Well #2 through either 10 replacement or treatment. The total estimated cost for this project is \$1,649,699.

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#### 23. Bethel Park Operations Center Upgrades (I24-110059)

The scope of this project is to renovate the existing Bethel Park Operations Center to be used as the new meter shop and to create a new training facility for use by PAWC employees in Western Pennsylvania. The existing Mt. Oliver Meter Shop will be closed and moved into the renovated Bethel Park Operations Center. The total estimated cost for this project is \$5,997,728.

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# 24. Union Park Operations Center Replacement (I24-230008)

18 The Company must construct a new operations center in the district as the area around
19 the existing Union Park Operations Center has become a safety risk for Company

- 20 employees. There have been multiple gun fire events adjacent to the operations center
- 21 that have put Company employees in danger and required SWAT response. The project

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includes purchasing property and constructing a new operations center in the district.

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#### 25. Yardley WTP Improvement (I24-520003)

The total estimated cost of the project is \$2,996,400.

The project includes installing UV light disinfection to comply with the LT2. In addition, the project will enhance safety for both Company staff and the public through replacement of existing chlorine and ammonia gas systems with bulk sodium hypochlorite and LAS unloading, storage and feed systems. Other miscellaneous work will include an update to the arc flash mitigation and repurposing existing rooms associated with the chlorine/ammonia gas systems. The total estimated cost of the project is \$22,682,534.

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#### 26. Lehman Pike Region Tank Replacement (I24-680026)

Results from recent tank inspections in the Lehman Pike Region, located in Northeast Pennsylvania, indicate that four (4) standpipe tanks in the system need replacement. The project will include the demolition and replacement of four (4) tanks and the demolition of a fifth tank that has become redundant in the Lehman Pike District. The proposed tanks range in size from 0.2 MG to 0.4 MG and will be constructed of welded steel. The total estimated cost of the project is \$2,796,400.

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#### 27. McMurray Flow Monitoring (I24-210011)

19 The McMurray and greater Pittsburgh area have non-revenue water levels that require 20 locating and mitigation. The project includes flow monitoring to isolate areas of 21 variation between inflow to the area and known water utilization. Through the flow

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monitoring, along with efforts to locate and remedy leaks, water loss can be reduced. The total estimated cost of the project is \$1,357,486.

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### 28. Punxsutawney South Main Elevated Tank (I24-420007)

4 The South Main gradient within the Punxsutawney system does not have any storage and 5 has a storage deficit of approximately 0.4 MG. The South Main gradient accounts for 6 approximately 15% of the total Punxsutawney system water sales and includes mostly 7 commercial and industrial customers. The demand within the gradient is projected to 8 increase due to planned expansions by current industrial customers, potential commercial 9 development near the Walmart plaza and a potential extension on Snyder Hill Road. The 10 construction of a 0.5 MG elevated tank in the South Main gradient is recommended. The 11 total estimated project cost is \$3,412,500.

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#### 29. Aldrich WTP Additional Wastewater Clarifier (I24-110046)

13 Currently, the Aldrich WTP has one (1) wastewater clarifier, which does not have 14 sufficient capacity to meet the plant's needs under all operating conditions. Specifically, when a storm event occurs, the storm runoff creates a high solids loading in the river 15 16 supply and causes high backwash conditions in the purification units. This high solids 17 loading may overload the existing wastewater clarifier. Additionally, when the clarifier is removed from service for maintenance purposes, processed wastewater is discharged 18 19 directly to the lagoons which discharge to the Monongahela River. To address these 20 conditions, a second wastewater clarifier will be constructed to provide adequate capacity 21 for current operations and to accommodate the increased wastewater flow that will be

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generated from the filter-to-waste improvements. The total estimated cost of the project is \$4,691,613.

- 3 30. Jackson Township Gradient Improvements (I24-310020) 4 The project is to design and construct a 650,000-gallon elevated tank, pump station, and 5 1,200 LF of 12-inch and 16-inch main and add a 1,500 GPM booster pump station to 6 create a new pressure gradient in Jackson Township, Butler County. This area of the 7 system has experienced high growth which has also resulted in pressure issues in the 8 area. The project will address the pressure issues and ensure adequate supply to the area 9 of growth. The estimated cost of the project is \$6,150,000. 10 31. Mills St Regulator and Bypass Pipe (I24-910049) 11 A large portion of the City of Scranton is supplied from the Scranton Area water 12 treatment plant by an existing 42" DI main (circa 1990's) that runs parallel to East 13 Mountain and connects to the Mill Street pumping station. The Mill Street pumping 14 station takes Lake Scranton Uncut water (HGL 1276) and distributes it directly to four (4) 15 different pressure gradients which subsequently supply lower gradients. This pumping 16 station serves approximately 40,000 residential, commercial, and institutional customers 17 in Scranton, Dunmore, and other surrounding communities, including three (3) hospitals 18 and other critical customers. Past leaks at this pump station have caused large 19 interruptions in service to customers, showing the need for more reliability and 20 redundancy to the main and pumping station. Currently, there are no redundant facilities 21 to the 42" main and Mill Street pumping station and no other reliable means to serve

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these four (4) gradients if there is a future problem to the main or pump station. This

1	project will provide redundant facilities for these four (4) critical gradients by providing a
2	secondary feed to these areas. The project will include installing 11,100 linear feet of
3	new 36" water main, 8,000 feet of new 24" water main, a new 16.8 MGD pressure
4	regulator station, and a new 2.5 MGD pumping station to provide redundant facilities to
5	the existing 42" Mill Street pipeline and Mill Street pumping station, which are critical
6	assets in the Scranton area water system. The total estimated cost of the project is
7	\$20,118,103 with \$18,170,103 going into service in 2021 and the balance of \$974,000
8	going into service in 2022.
9	32. West Milton Booster Pump Stations (I24-710010)
10	This project will replace the West Milton Booster Pump Station ("BPS") to improve
11	reliable supply for existing customers and help meet projected demand increases. The
12	West Milton BPS supplies customers in the Milton distribution system, including major
13	customers such as Bucknell University. The existing BPS has reached the end of its
14	useful life. One (1) pump is operational with no backup pump or backup power supply.
15	Additionally, the existing pump station building is in the 100-year floodplain. A new
16	pump station is proposed on a parcel located outside of the floodplain. A new discharge
17	pipeline will connect the replacement BPS to the existing distribution system. The total
18	estimated project cost is \$1,573,466.
19	<b>33.</b> Milton HS Pumps and Clearwell Modifications (I24-710016)
20	The existing Milton WTP, operating at its permitted plant capacity of 6.0 MGD, is not
21	capable of meeting 1-log inactivation during winter conditions. At pH 8.3 and
22	temperature 0.5 °C, the plant is only capable of achieving a 0.29 log removal inactivation

in the existing clearwell and pre-chlorination has led to elevated settled turbidity. The
project is to design and construct a new clearwell that will achieve the required contact
time thereby achieving the inactivation of potentially harmful bacteria. The new clearwell
will also enable to original clearwell to be taken out of service for cleaning and structural
evaluation. The estimated cost of the project is \$3,850,007.

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#### 34. Develop new source of supply in Exeter Township (I24-590001)

7 Exeter Township, Berks County, has a supply vulnerability as referenced in project I24-8 590002. The Company plans to augment Wells 9 and 9A to increase supply. The 9 augmentation will rehabilitate the existing screens and replace the pumps with higher 10 capacity pumps. Additionally, the project will develop a new well. The project will 11 include an analysis of the hydrogeology of the area, drilling test wells, and developing a 12 new well in order to have a new reliable source of water for the area connected to the 13 Glen Alsace distribution system. The targeted safe yield of the new well should be 0.55 14 MGD or higher. The total estimated cost of the project is \$1,700,000.

- 15 **2022 Water Projects**
- 16 **35.** Butler WTP LT2 and Electrical Improvements (I24-330011)

The project will consist of improvements necessary to maintain compliance with new
regulations related to cryptosporidium risk. The Butler WTP is planning on utilizing
filter performance credits in order to meet the required 1-log additional inactivation per
LT2. In order to achieve this level of treatment, improvements are required at the WTP.
The necessary improvements include the addition of filter-to-waste and post-caustic
chemical feed. Additionally, the Company will be updating and moving the primary

MCC's at the plant from a lower level in the plant to ground level and adding emergency
 power generation to improve safety and reliability.

- 3 The total estimated cost of the project is \$8,600,000.
- 4

## 36. Watres/Mill Creek Main Replacement (I24-910046)

5 The Watres Water Treatment Plant supplies several municipalities in Luzerne County in 6 the Wilkes-Barre District. One (1) of the finished water mains that conveys water from 7 the plant to the service area is a 16" CI pipe installed in approximately 1895. The main 8 follows the alignment of Mill Creek from the intersection of Jumper Road and 9 Westminster Road for approximately 7,900 feet until it is behind the Mill Creek development and near where it crosses Rt. 81. This 7,900 foot section of pipe, which is 10 11 located adjacent to Mill Creek, is extremely difficult to access. From a maintenance 12 standpoint, it is not feasible to affect repairs in this area. The goal of this project is to 13 replace the section of 16" CI pipe adjacent to Mill Creek with a 20" DI cement lined pipe 14 located where the new DI pipe can be reasonably maintained. The future 20" main is proposed to be aligned in the 50' right-of-way of Jumper Road until it reaches the Mill 15 16 Creek development. The line will then be in the right-of-way on Mill Creek Road, and 17 then Briar Creek Road, until reaching its "tie-in" location to the existing 16" water main (near Rt. 81). The approximate distance of new 20" main is 9,500 feet. The total 18 19 estimated cost for the project is \$2,800,000.

20

#### 37. Warren Operations Center Building (I24-450005) and (I24-450002)

Currently, there is not a dedicated operations center in the Warren District. Distribution

staff are required to share space at the WTP, which has very limited parking and abuts an

22

21

active railroad track. The lack of space also requires the Company to store tools and
parts in a rented storage space necessitating extra time and travel to get parts and
materials. The project consists of (i) purchasing land to construct an operations center
(I24-450002); and (ii) designing and constructing the new building (I24-450005). The
new building will provide necessary office and parking space for employees and storage
space for tools and parts. The total estimated cost of the project is \$3,892,829.

7

#### **38.** Rock Run WTP Improvements (I24-650016)

8 The project includes installing UV light disinfection to comply with the LT2. Other 9 miscellaneous work will include an update to the arc flash mitigation and updating the 10 supervisory control and data acquisition ("SCADA") systems throughout the plant. The 11 total estimated cost of the project is \$7,300,000.

#### 12 **39.** Construct Elevated Storage- Terry Lane (I24-640010)

Portions of the Royersford System in Montgomery County have issues with pressure and fire storage capacity. The project is to obtain suitable land and construct a 0.75 MG Elevated Storage Tank with an overflow elevation of 470 feet USGS, matching the existing system gradient, upgrade controls at the existing Terry Lane and Merlin Hills Booster pump stations, and replace the existing hydraulic variable speed Pump No 1 at Merlin Hills booster with a variable frequency drive ("VFD") unit of the same 0.46 MGD capacity. The estimated cost of the project is \$3,041,180.

20

#### 40. Well 9/9A Total Dissolved Solids ("TDS") Treatment (I24-590002)

Wells 9 and 9A are in Exeter Township, which is a part of the Glen Alsace service area in
the Chester County portion of the Coatesville District. These wells are located on the

1	same parcel and have experienced an increasing trend in their TDS levels since 2008.
2	The precise cause of the increasing TDS trend is unknown. At the present time, the wells
3	are utilized alternately and blended with purchased water from the Reading Water
4	Authority to comply with applicable standards. Due to limitations in the availability of
5	supply of water for blending, they are currently operated at a decreased capacity. Growth
6	in this system, as well as rising costs for purchased water, requires that Wells 9 and 9A
7	be brought back to full capacity. The project consists of adding a new treatment to
8	remove TDS to reclaim the wells' full capacity. The total estimated cost of the project is
9	\$3,900,000.
10	41. New Castle WTP Improvements LT2 (I24-310018)
11	The project includes installing UV light disinfection to comply with the LT2. Other
12	miscellaneous work will include an update to the arc flash mitigation. The total
13	estimated cost of the project is \$7,000,000.
14	42. Hayes Mine Filter Renovations (I24-110034)
15	Portions of the Hayes Mine WTP date back to the late 1800's. Pipe below the filter
16	gallery and portions of the filters need to be upgraded to maintain reliable treatment. The
17	project will involve evaluating and upgrading the underdrains, filter covers and pipe
18	gallery; and addressing structural degradation of pipe and pipe support in the pipe gallery
19	below the filters. The total estimated cost of the project is \$5,450,000.
20	43. Royersford Groundwater Study/Development (I24-640012)
21	The Royersford system in Montgomery County and the Royersford District is supplied by
22	a combination of surface water and ground water. Existing wells have additional

capacity available. Re-developing and equipping one (1) or more of these wells will add
 low-cost reliable supply. The Company plans to redevelop one (1) well, adding between
 0.5 and 0.75MGD of additional supply. The total estimated cost of the project is
 \$1,400,000.

5

#### 44. Palmer Tank Replacement (I24-560016)

6 The Company constructing an additional elevated storage tank to address storage deficits 7 in the southern portion of the Nazareth District service area. The new tank will provide 8 improved pressures and storage volumes for fire flow capability, enhance system 9 reliability, and allow for the existing Palmer Elevated Tank to be taken out of service for 10 maintenance. The tank capacity will be 0.5 MG with an overflow elevation of 528 feet 11 (approximate tank height of 130 feet). The total estimated cost of the project is 12 \$2,400,000.

13

#### 45. Wells in Frackville (I24-740001)

14 The project will upgrade the Frackville Center Street WTP with a PFAS treatment 15 system, replace a high service pumping station, and convert from chlorine gas to sodium 16 hypochlorite disinfection. Two (2) of the four (4) wells supplying the Center Street WTP 17 have been taken out of service due to PFAS concerns. In addition, the existing high service pumping station is in the 100-year floodplain and needs to be relocated. A new 18 19 high service pumping station will also be installed in the proposed building expansion 20 that will house the PFAS treatment system. Conversion to sodium hypochlorite disinfection will be completed as part of the WTP upgrade project. A pilot study is 21

underway to select the appropriate PFAS treatment technology. The total estimated cost of the project is \$3,000,000.

3 46. Saw Creek Wells 2 and 3 Iron and Manganese Treatment (I24-680029) 4 Wells in the Saw Creek system have experienced high iron and manganese levels. While 5 iron and manganese are secondary contaminants, they are a cause of water quality 6 challenges for the Company's customers. New regulations are being considered to 7 mandate treatment for manganese. The project will involve installation of pressure filters 8 to remove iron and manganese from the system. The total estimated cost of the project is 9 \$3,470,250. 10 2020 Wastewater Projects (excluding Sadsbury, Kane CSS, McKeesport CSS, 11 Scranton CSS and Exeter) 12 1. Paint-Elk Lift Station Upgrades (I24-380003) 13 The Paint-Elk wastewater ("WW") system includes five (5) lift stations. Four (4) of the 14 five (5) lift stations will be improved as part of this project. The Maple Drive lift station 15 is in poor condition and needs replacement. The SR 208 North Lift Station is in poor 16 condition and very difficult to access. Therefore, the station is in need of replacement 17 and relocation. The SR 66 North and Riverhill lift stations require various improvements to address safety, electrical, control and structural issues. The total estimated cost of 18 19 these combined projects is \$2,183,441.

20

2.

#### Mays Lift Station Replacement (I24-470007)

Mays Lift Station is in the Clarion WW system. The station is nearing its capacity and
 the existing building has several deficiencies, including inadequate space/clearances,

1	security, and SCADA functionality. The project will replace the existing Mays Lift
2	Station, including some sections of downstream interceptor sewer. The total estimated
3	project cost is \$1,457,623.
4	3. Coatesville Wastewater Treatment Plant ("WWTP") Improvements – Odor
5	Control (I24-670010)
6	The project will resolve odor and noise concerns related to existing aerobic digesters at
7	the plant. The project will add covers and odor scrubbers to the digesters. The total
8	estimated cost of the project is \$1,000,000.
9	2021 Wastewater Projects
10	4. Claysville WWTP Electrical Improvements (I24-260001)
11	The Claysville WWTP provides wastewater treatment for a portion of Washington
12	County. The project consists of new permanent duct work and installing a new
13	generator. The existing ductbank has failed. Temporary wiring has been installed to
14	various devices. However, the temporary wiring is a tripping hazards and does not meet
15	NEC requirements. A new duct bank needs to be installed between the operations
16	building and the sludge pump vault to achieve a permanent solution to the ductbank
17	issues. In addition, the existing generator is inside the building and only large enough to
18	run two-thirds of the plant. The new generator will be sized to run 100% of the plant.
19	The total estimated cost of the project is \$1,100,000.
20	5. Clarion WWTP UV and Alkalinity Feed (I24-470008)
21	The Clarion WWTP currently utilizes chlorine gas within ton cylinders for disinfection.
22	The first aspect of the project will include the installation of UV disinfection and the

1 demolition of the existing chlorine system. The Company is focused on eliminating 2 chlorine gas facilities. Operations also manually feeds approximately 200 pounds of 3 powdered lime a day to help with alkalinity and pH within the treatment process. The 4 operators handle bags of lime and dump the lime into the treatment tanks. The second 5 aspect of the project will include the installation of a bulk alkalinity chemical feed system 6 that will utilize a bulk tank, day tank, and chemical feed pumps to automatically feed 7 chemical into the treatment process. The third aspect of the project will include the 8 construction of a post aeration facility in the form of cascade aeration. The WWTP has 9 an effluent dissolved oxygen ("DO") limit that has been difficult to achieve in the 10 summer months but has been met since the DO within the process is kept higher than 11 desired. In addition, because proposed improvements to the aeration system that will 12 allow better control of the DO within the treatment tanks could impact the effluent DO, a 13 cascade aerator will be installed to ensure the effluent DO limits are always met. The 14 total estimated cost of the project is \$1,920,000.

15

# 6. Coatesville WWTP – Digester Improvements (I24-670009)

16 The existing aerobic digesters are nearing rated capacity. The project includes the 17 design, permitting and construction of a third aerobic digester at the Coatesville WWTP. 18 The proposed digester will have enhanced aeration capabilities, screening, covers, and 19 odor control. The estimated cost of the project is \$7,700,000.

20

#### 7. Turbotville WWTP Replacement (I24-890001)

The Turbotville wastewater system has an existing WWTP that is in poor condition and
has reached the end of its useful life. In order maintain regulatory compliance, the
1	Company will install a new extended aeration activated sludge WWTP. The total
2	estimated cost of the project is \$4,500,000.
3	2020 Scranton CSS Projects:
4	1. SSA BNR Upgrade (I24-920019)
5	In order to maintain compliance with the Scranton WW Long Term Control Plan
6	("LTCP"), the WWTP must be upgraded to enable 44 MGD to be treated to meet
7	Chesapeake Bay Initiative levels of biological nutrient removal. The total estimated cost
8	of the project is \$8,706,943.
9	2. Outfall #25 Willow Street (I24-920009)
10	The Scranton combined sanitary system ("CSS") is required to maintain compliance with
11	the LTCP. One of the main components of the LTCP is the construction of upstream
12	storage and flow management structures to alleviate the uncontrolled outflow of the
13	combined wastewater. The total estimated cost of the project is \$5,067,519.
14	3. Outfall #22 Washburn Street (I24-920007)
15	The Scranton CSS is required to maintain compliance with the LTCP. One of the main
16	components of the LTCP is the construction of upstream storage and flow management
17	structures to alleviate the uncontrolled outflow of the combined wastewater. The control
18	structures will vary in size and complexity. The total estimated cost of the project is
19	\$9,455,025.
20	2021 Scranton Wastewater Projects:
21	4. Scranton WWTP Headworks Screening and Degritting (I24-920023)
22	The Scranton WWTP's Headworks Facility is antiquated, does not meet the hydraulic

1	capacity requirements of the plant (60 MGD), does not contain flow metering equipment,
2	does not effectively remove debris and grit, and has many safety deficiencies, including
3	inadequate structural, mechanical/HVAC and electrical facilities. The project will
4	include multiple process and safety improvements to the facility, plus the installation of
5	new flow metering equipment and new more efficient and safe screening and grit
6	removal equipment. Additionally, the adjacent plant odor control equipment will be
7	replaced as it has reached the end of its useful life. The total estimated cost of the project
8	is \$6,693,621.
9	2022 Scranton Wastewater Projects
10	5. Outfall #082 & #086 Broadway Street, Outfall #047 Broadway Street, Outfall
11	#068 S Sixth Avenue and Outfall #053 Cedar Avenue (I24-no project numbers
12	assigned)
13	The Scranton CSS is required to maintain compliance with the LTCP. One of the main
14	components of the LTCP is the construction of upstream storage and flow management
15	structures to alleviate the uncontrolled outflow of the combined wastewater. The control
16	structures will vary in size and complexity. The total estimated cost of this project is
17	\$3,000,000.
18	6. Scranton WWTP Disinfection Improvements (I24-no project number
19	assigned)
20	The Scranton WWTP currently utilizes gaseous chlorine for disinfection. For safety
21	reasons and for more effective treatment during high wet weather flow, the plant will be
22	removing its gas chlorine disinfection system and converting to a UV and sodium

hypochloride disinfection system. The total estimated cost of the project is \$4,602,500.

2

#### 7. Scranton WWTP Solids Handling Improvements (124-920028)

3 The Scranton WWTP currently utilizes belt presses to lower the water content in the sludge 4 before disposal. The technology can only achieve between 14-20% solids resulting in 5 higher handling and disposal costs. The project will include replacing the existing aged 6 belt presses with alternate technology. The anticipated equipment is a centrifuge system 7 and possible addition of a drier. With a drier, it will be possible to achieve greater than 8 95% solids and to provide inert fertilizer material for beneficial use. The total estimated 9 cost of the project is \$6,050,000.

10

#### **2020 McKeesport Wastewater Projects**

11 1. McKeesport SIA (I24-120002)

12 The project will consist of conducting a comprehensive evaluation of the McKeesport 13 wastewater system, including spatially locating Company-owned wastewater assets, 14 conducting flow monitoring and evaluation, and performing a condition assessment of the 15 system. The total estimated cost of the project is \$7,565,685.

16

#### 2. McKeesport Dravosburg Mine Discharge Elimination (I24-120003)

17 There are approximately 60 structures in Dravosburg Borough that are not connected to 18 the PAWC sewer system and have unknown sewer discharges, likely to an abandoned 19 mine. The proposed project will connect these structures to the PAWC Dravosburg

- 20 wastewater system. This project is required by the Consent Order and Agreement
- 21 executed between PAWC and the PADEP on December 13, 2017 covering the

McKeesport-area wastewater system. The total estimated cost of the project is \$2,808,008.

- 2 \$2,808,0
- 3

2022 McKeesport Wastewater Projects:

4

5

## 3. McKeesport White Street Interceptor Upgrades (I24-no project number assigned)

The White Street Interceptor is undersized, resulting in backups and uncontrolled
discharges (sanitary sewer overflow – "SSO"). The project will consist of analyzing the
interceptor's hydraulics to determine the proper pipe sizing and implement an upgrade to
the pipe collection system. The total estimated cost of the project is \$1,050,000.

10 **2020: Kane Wastewater Projects** 

#### 11 **1.** Kane WWTP Upgrades (I24-no project number assigned)

The WWTP serving the to-be-acquired Kane system will require upgrades. The total scope is not well defined. There were several items noted related to safety and reliably maintaining compliance during the system evaluations that took place as part of the procurement. The detailed scope will be developed after closing is complete and Company personnel have full access to the facilities. The work to design and permit the project will begin in 2020 and the project is anticipated to be complete and in service in 2022. The total estimated cost of the project is \$1,438,800.

19

Q. Please explain in general terms the other types of improvements that the Company
will make in its water and wastewater systems during the future test year ending
December 31, 2020.

1	A.	The Company will install approximately 6,527 new water meters and replace or upgrade
2		approximately 38,448 existing meters at various points throughout its water distribution
3		system at an estimated cost of approximately \$11.4 million, exclusive of meters
4		associated with projects previously described. Meters are routinely replaced as they
5		approach twenty (20) years of age in the case of 5/8 inch meters. Larger meters are tested
6		every eight (8) years and replaced as needed or as they approach 20 years of age,
7		whichever is sooner. Meters are also replaced due to failures or malfunctions or to
8		incorporate new meter technology.
9		The Company is also planning to replace approximately 14,512 old water service
10		lines. This quantity includes approximately 600 customer-owned lead service lines the
11		Company anticipates replacing as part of its main replacement program and Phase 1 of its
12		lead service line replacement program. Additionally, approximately 4,534 new customer
13		water service lines will be installed at an estimated cost of approximately \$23.9 million,
14		exclusive of services associated with projects previously described. Services are replaced
15		for a variety of reasons including leakage discovered through the Company's leak
16		detection program or to maintain the quality of water service. Pressure and water quality
17		problems can result from old service lines made from obsolete materials, such as
18		galvanized iron. When municipal paving projects are being planned, the Company
19		reviews its records and determines if there are any obsolete services that should be
20		replaced along the street. Service replacement costs are minimized by doing the service
21		replacements before repaying occurs.

1	The Company also plans to replace approximately 101.7 miles of various
2	diameter water pipes and 10.4 miles of sewer main at a total cost of approximately
3	\$110.61 million, exclusive of the pipeline projects previously described. This
4	construction is being done for a variety of reasons including improving flow capabilities,
5	preventing water quality degradation, systematically replacing aging distribution system
6	infrastructure, enhancing system reliability and minimizing service disruptions to
7	customers caused by main breaks. The Company anticipates that additional developer
8	projects of over \$9.5 million in total will occur in 2020, which will be funded by
9	developer advances.
10	The Company's distribution system improvement program currently encompasses
11	the replacement or rehabilitation of small diameter mains (6-inch and under) that have
12	reached or are nearing the end of their useful life and exhibit numerous performance
13	related issues, and of larger diameter mains (8-inch and over) that are experiencing
14	performance related issues (e.g., high number of breaks). As part of this program, the
15	Company systematically assesses its mains to target the quantity and location of the
16	mains that it will replace each year.
17	Small diameter mains represent approximately 26.9% of the Company's overall
18	distribution system, and approximately 54% of these small diameter mains are made of
19	older unlined CI pipe. Over the past several years, through targeted replacement, the
20	Company has lowered its percentage of small diameter pipe. In addition to having much
21	higher break frequencies, which lead to customer service disruptions and inconvenience
22	to the public, these smaller diameter mains have low carrying capacity and can contribute

1		to water quality problems. Because these smaller diameter mains lack both the structural
2		integrity and the hydraulic capacity needed to accommodate future service, the Company
3		typically replaces them with 8-inch diameter mains to resolve customer service and
4		reliability issues and to restore hydraulic capacities within the distribution system.
5		For larger diameter mains, as in the case of smaller diameter mains, performance
6		related issues are a key driver for either replacement or rehabilitation. Although the
7		frequency of leaks/breaks on large diameter mains may be less than that of smaller
8		diameter mains, when a break does occur on a large diameter main, customer service and
9		reliability issues, together with associated liability and remediation expenses, are greater.
10		Consequently, PAWC carefully assesses the performance of larger mains to determine
11		the location and timing of replacements.
12	Q.	Please describe in general terms the types of improvements that the Company will
12 13	Q.	Please describe in general terms the types of improvements that the Company will make in its water and wastewater systems during Rate Years 1 and 2.
12 13 14	<b>Q.</b> A.	Please describe in general terms the types of improvements that the Company willmake in its water and wastewater systems during Rate Years 1 and 2.The following routine improvement activities planned for 2021 and 2022 will be
12 13 14 15	<b>Q.</b> A.	Please describe in general terms the types of improvements that the Company willmake in its water and wastewater systems during Rate Years 1 and 2.The following routine improvement activities planned for 2021 and 2022 will beconducted for the same reasons these projects are undertaken in 2020, as described
12 13 14 15 16	<b>Q.</b> A.	Please describe in general terms the types of improvements that the Company willmake in its water and wastewater systems during Rate Years 1 and 2.The following routine improvement activities planned for 2021 and 2022 will beconducted for the same reasons these projects are undertaken in 2020, as describedabove.
12 13 14 15 16 17	<b>Q.</b> A.	Please describe in general terms the types of improvements that the Company willmake in its water and wastewater systems during Rate Years 1 and 2.The following routine improvement activities planned for 2021 and 2022 will beconducted for the same reasons these projects are undertaken in 2020, as describedabove.The Company will install approximately 12,000 new meters and replace or
12 13 14 15 16 17 18	<b>Q.</b> A.	Please describe in general terms the types of improvements that the Company willmake in its water and wastewater systems during Rate Years 1 and 2.The following routine improvement activities planned for 2021 and 2022 will beconducted for the same reasons these projects are undertaken in 2020, as describedabove.The Company will install approximately 12,000 new meters and replace orupgrade approximately 59,000 existing meters at various points throughout its
12 13 14 15 16 17 18 19	<b>Q.</b> A.	Please describe in general terms the types of improvements that the Company willmake in its water and wastewater systems during Rate Years 1 and 2.The following routine improvement activities planned for 2021 and 2022 will beconducted for the same reasons these projects are undertaken in 2020, as describedabove.The Company will install approximately 12,000 new meters and replace orupgrade approximately 59,000 existing meters at various points throughout itsdistribution system at an estimated cost of approximately \$18.6 million, exclusive of
12 13 14 15 16 17 18 19 20	<b>Q.</b>	Please describe in general terms the types of improvements that the Company willmake in its water and wastewater systems during Rate Years 1 and 2.The following routine improvement activities planned for 2021 and 2022 will beconducted for the same reasons these projects are undertaken in 2020, as describedabove.The Company will install approximately 12,000 new meters and replace orupgrade approximately 59,000 existing meters at various points throughout itsdistribution system at an estimated cost of approximately \$18.6 million, exclusive ofmeters associated with projects previously described.
12 13 14 15 16 17 18 19 20 21	Q.	Please describe in general terms the types of improvements that the Company will make in its water and wastewater systems during Rate Years 1 and 2. The following routine improvement activities planned for 2021 and 2022 will be conducted for the same reasons these projects are undertaken in 2020, as described above. The Company will install approximately 12,000 new meters and replace or upgrade approximately 59,000 existing meters at various points throughout its distribution system at an estimated cost of approximately \$18.6 million, exclusive of meters associated with projects previously described. The Company is also planning to replace approximately 9,700 old water service

1		service lines at an estimated cost of approximately \$39 million, exclusive of services
2		associated with projects previously described. The Company plans to replace
3		approximately 165 miles of various diameter water pipes and approximately 33 miles of
4		sewer main at a cost of approximately \$283.7 million, exclusive of the larger pipeline
5		investment projects previously described. The Company anticipates that additional
6		developer projects totaling more than \$16.6 million will occur in 2021-2022, which will
7		be funded by advances.
8		<b>Commitments From PAWC's 2017 Base Rate Case</b>
9 10	Q.	Please summarize the commitments PAWC made in the settlement of its 2017 base
11		rate case, and actions it has taken to meet such commitments.
12	A.	PAWC committed to improving water quality related to the presence of
13		manganese in the Blue Mountain Lakes area of East Stroudsburg. The commitments
14		included: adding a sequestering agent, increased utilization of Well No. 1, monthly
15		testing for iron and manganese with test results submitted quarterly, and coordination
16		with Blue Mountain Lakes Home Owners Association. To date, PAWC has followed
17		through on all commitments and improved water quality.
18		PAWC also committed to improving water quality in the Saw Creek Estates
19		system. Commitments included monthly iron and manganese testing, and development
20		of a mitigation plan specific to Wells 6 and 7. PAWC has maintained monthly testing.
21		Iron and manganese removal treatment was added to Wells 6 and 7, and was completed
22		and in service in December 2019. Additionally, and beyond its 2017 rate case
23		commitments, PAWC is implementing iron and manganese removal treatment for Wells

2

2 and 3, which is expected to be in service before the end of 2022 as identified in the major project list and PAWC Exhibit 3-C.

3 PAWC also committed to investigate water pressure issues on Alford Court, 4 which is also in the Saw Creek Estates system. Alford Court has higher than average 5 water pressure, typically over 130psi. In order to maintain adequate pressures (25-30psi) 6 in other parts of the system, Alford Court is exposed to higher than average pressure. 7 The homes on Alford Court are equipped with pressure reducing valves to reduce 8 pressure inside the individual homes. The specific issue was raised from a home where 9 the pressure reducing valve was not functioning. Once replaced by the homeowner, the 10 issue was resolved.

11 PAWC committed to investigate and mitigate water quality issues in the Yardley 12 and Lower Makefield systems. The Company conducted flushing in its Yardley system, 13 including Lower Makefield Township, from April to mid-June 2017. When the 14 Company flushed the area during the day, the Company received calls later that afternoon 15 and evening about dirty or yellow water from customers located in the areas that had 16 been flushed. In response to the customers' calls, Company personnel went to the 17 affected areas and flushed fire hydrants near the customers' homes, which cleared the water. The Company tested and analyzed water samples, and the test results showed only 18 19 discolored water. Further flushing in 2017 resolved the discolored water issue. The Company also reviewed its treatment processes at the plant and did not find any issues. 20 21 The Company is nearing completion on Yardley WTP upgrades to comply with newer

regulations and to address chemical feed types and capability. Water quality question in
 the Yardley-Lower Makefield system have been resolved.

3 In addition to the water quality commitments referenced above, there were three main 4 extension commitments. They were Lindley Road in Canonsburg, Washington County; 5 High Street in Hopwood, Fayette County and 121 Campbell Road in Bulgar, Washington 6 County. The status of these three projects is as follows: the Lindley Road main extension 7 is complete and the one customer requesting service is connected and receiving service. 8 At High Street in Hopwood, construction is under way and will be completed in 2020. 9 The project was delayed due to zoning approval for the booster pump station required to 10 serve the customers. The pump station has been completed and work is underway to 11 complete the main extension. Negotiations are ongoing to obtain the easements 12 necessary to connect the customers. The final of the three projects, 121 Campbell Road 13 in Bulgar was completed in 2019. To date the customer has not connected to the water 14 main.

## Q. Did the Company complete all specifically designated projects by the stipulated deadline of December 31, 2018?

17 A. Yes, the Company completed all designated projects by the stipulated deadline.

18

# <u>Risks Associated With Furnishing Public Water And Wastewater Service</u> Public Water Supply Service Q. Please provide an overview of the risks associated with furnishing safe and adequate water quantity and water quality and complying with drinking water and

2

### environmental regulations that apply to PAWC's water supply facilities and operations.

A. Water supply utilities are subject to a complex array of regulations at the federal, state
and river basin commission levels with respect to water quantity, water quality and other
environmental aspects of their facilities and operations.

With respect to water sources and the quantity of water that can be withdrawn, 6 7 PAWC's surface water and groundwater sources are subject to a combination of common 8 law riparian rights and groundwater rights coupled with regulatory regimes administered 9 by the PADEP, the Susquehanna River Basin Commission ("SRBC") and Delaware River Basin Commission ("DRBC"). PADEP administers the 1939 Water Rights Act,<sup>1</sup> 10 11 which requires that public water supply agencies wishing to withdraw water from surface 12 sources, or to acquire rights in surface sources, first obtain a permit. Water systems with 13 sources developed prior to 1939 were accorded "orders of confirmation" confirming 14 grandfathered withdrawals, but subsequent changes to those systems and/or increased 15 withdrawals may trigger permitting requirements and possible loss of the "order of 16 confirmation." Both SRBC and DRBC are empowered to review and approve projects having a substantial effect on basin water resources.<sup>2</sup> Pursuant to their project review 17 18 authority, SRBC and DRBC review proposed surface and groundwater withdrawals that 19 may have a "substantial effect" on basin waters (which are defined in both basins to 20 include withdrawals of greater than 100,000 gallons per day from any source or

<sup>1 32</sup> P.S. §§ 631-641.

<sup>2</sup> DRBC Compact § 3.8; SRBC Compact § 3.10(2).

combination of sources). Such project review is focused on determining consistency with
 Commission-adopted comprehensive plans and "the proper conservation, development,
 management or control of the water resources of the basin." In administering their
 permitting programs, PADEP, SRBC and DRBC apply varying policies imposing
 limitations on withdrawals or requirements for conservation releases from reservoirs to
 protect stream flows.

7 Pennsylvania, overall, does not currently suffer serious constraints on its supply of usable water.<sup>3</sup> However, that assessment does not apply uniformly to all parts of the 8 9 state. The legacy of coal mining, the effect of oil and gas drilling, run-off from high-10 intensity agricultural land use, and contamination from inadequate or malfunctioning on-11 lot septic systems create challenges to obtaining adequate supplies of water in various 12 areas of Pennsylvania. Today, as in the past, these factors continue to drive requests by 13 homeowners for PAWC to extend its facilities to serve areas that do not have a public 14 water supply. Under the Commission's regulations on water utilities' responsibility for 15 main extensions, PAWC is required to make a significant investment to extend its 16 facilities to serve bona fide applicants.

Additionally, as explained above, there are multiple levels of authorization and regulation that apply to a public water system that wants to add a new source of supply or increase its withdrawals from existing sources. These factors add to the costs and leadtime for obtaining new, or increasing existing, water sources to meet new demands that may arise in portions of the Company's system. These are additional risk factors that

<sup>3</sup> However, as explained below, climate change is expected to affect the pattern of precipitation in ways that will challenge water suppliers by increasing the severity of both major storm events and intermittent periods of drought.

directly affect PAWC's ability to furnish safe, adequate and reliable service, and increase
 the costs PAWC incurs to provide that service.

3 Drinking water quality is controlled by a combination of federal regulation 4 established under the Safe Drinking Water Act of 1973 and state regulation under the 5 Pennsylvania Safe Drinking Water Act. The federal act established the EPA as the 6 federal regulatory authority on drinking water. Under that authority, EPA has created standards for contaminant levels in drinking water<sup>4</sup> and a series of mandatory treatment 7 8 method standards, coupled with monitoring and reporting requirements, and public 9 notification mandates, in the event of contaminant level or treatment method non-10 compliance.<sup>5</sup> In turn, Pennsylvania has adopted the federal regulatory standards, plus 11 certain even more stringent rules, as codified in 25 Pa. Code Ch. 109, which are 12 administered by PADEP. In recent years, there has been an increase in public concern 13 over potential contaminants that laboratories can now identify at levels that, in the past, 14 could not be detected, and which research suggests might have health effects. The EPA 15 and state drinking water regulators have responded by increasing their own research and, 16 in some cases, imposing or proposing more stringent regulatory standards. In other cases, 17 where regulators have not provided clear guidance on either the risks involved or how 18 water suppliers should respond, there has been an increase in public concern that is 19 driving public demand for significantly higher levels of water treatment that the existing 20 science does not warrant. An example of this dynamic exists with the family of 21 compounds known as per- and polyfluoroalkyl substances ("PFAS"), which include the

<sup>4</sup> See: https://www.epa.gov/sites/production/files/2016-06/documents/npwdr\_complete\_table.pdf.

<sup>5</sup> See 40 C.F.R. Parts 141-143.

chemicals perfluorooctanesulfunic acid ("PFOS") and perfluorooctanoic acid ("PCOA").
These chemicals, which had a number of commercial applications, have generated
interest in the popular press that, in turn, has raised concerns by the public generally.
Various levels of regulation are being considered across the country without a clear
understanding of the impact PFAS may have on public health at the levels found in water
supplies, and without considering the fact that exposure to PFAS may exist at higher
levels from sources unrelated to public water supplies.

8 The Company intends to proceed cautiously based on the best available 9 information and prepare to achieve treatment levels for PFAS compounds that can 10 reasonably be anticipated based on current research and actions contemplated by 11 regulators, which the Company is carefully studying and monitoring. In addition, out of 12 an abundance of caution, the Company will minimize or eliminate its use of water sources where PFAS compounds are found above minimum detectable levels. Concern 13 14 over PFAS compounds is a current example of how evolving research and regulatory responses can drive the need for higher levels of treatment and impose demands for 15 16 increased investment in new and more intensive forms of treatment. Furthermore, the 17 fact that these regulatory demands are, in effect, a "moving target" for water suppliers 18 make them another significant risk factor for PAWC.

As a result of conditions that arose in Flint, Michigan and other jurisdictions across the country, there is increasing scrutiny by all levels of government of the presence of lead in the water customers use and consume. As a result, regulators are focused on adopting more stringent requirements for enforcing the federal "Lead and

1 Copper Rule." The lead problem does not arise from constituents in the water that a 2 supplier introduces to its distribution system, but rather from lead that leaches into the 3 water from customer service lines made of lead and from homeowners' interior piping 4 that is joined by lead solder. Both of these conditions present in older homes.

5 While controlling the corrosivity of the water can, in many cases, avoid excessive 6 lead concentrations, in many older communities (such as those throughout much of 7 PAWC's service territory), customers have lead service lines and interior piping that 8 contains the type of copper and galvanized pipes with solder joints that raise the risk of 9 lead contamination. While Commission-approved limitations of liability in the 10 Company's tariff provide a level of protection against civil liability, recent class-action 11 litigation against the City of Chicago and other similar litigation involving the presence 12 of lead service lines have become an industry-wide concern. As explained below, the 13 Company has instituted a program to proactively reduce the risks associated with the presence of lead in customers' drinking water. 14

15 Significantly, proposed revisions to the Lead and Copper Rule are currently 16 pending before the EPA for approval. The proposed revisions would include a mandate 17 that water systems replace lead service lines and, as part of that mandate, would require 18 water suppliers to "encourage [customers] to share appropriately in fully removing [lead 19 service lines] ...." This proposal reflects the fact that, in many jurisdictions (including 20 Pennsylvania) the water supplier owns the portion of the service line from its main to the 21 curb box, while the customer owns the service line from the curb box to the customer's 22 meter. Because of that division in ownership, EPA acknowledges that its proposal raises

"substantial economic, legal, technical, and environmental justice challenges." EPA's
 proposed changes would also require more stringent corrosion control treatment and
 lower the permitted levels of lead and copper at the customer's tap.

4 The Company, using authority granted in a recent amendment to the Public Utility 5 Code, has a adopted a Commission-approved program that addresses the concerns 6 addressed by the EPA about the presence of customer-owned lead service lines. Under 7 its program, the Company would replace customer-owned lead service lines across its 8 service territory at no cost to the customer and without PAWC taking ownership of the 9 new customer service line. As part of that program, the Company also implemented 10 initiatives to educate its customers about the risks of lead in drinking water and give them 11 the information they need to participate in the Company's customer-owned lead service 12 line replacement program.

13 The Company is at the forefront of the water industry in proactively eliminating 14 the risks that might attend the presence of lead service lines. However, these efforts also 15 require the dedication of management time and resources and the commitment of 16 significant investment capital to achieve the intended results. These factors, in addition 17 to the demands the Company already faces to rehabilitate, replace, and enhance aging 18 infrastructure and meet evolving regulatory demands, add to risk factors that PAWC 19 faces to assure that it meets its statutory obligation to furnish safe, adequate and reliable 20 water service.

1 To address source water protection, the PADEP has proposed more intensive 2 periodic "point of entry" monitoring for all public water systems' sources of supply, 3 including those sources that are used only intermittently as a backup in case of an 4 emergency. If implemented as proposed, the point-of-entry monitoring requirements 5 would significantly increase monitoring requirements, particularly because of the need 6 for more frequent monitoring of a large number of backup sources.

7 EPA has continued to make its regulations concerning disinfection byproducts 8 more stringent. Disinfection byproducts are produced by the interaction of disinfection 9 agents (such as chlorine) with constituents (such as organic compounds) that naturally 10 occur in source water. The Stage 2 Disinfectants and Disinfection Byproducts Rule 11 adopted in 2006, coupled with increasingly stringent disinfection regulations, requires a 12 very careful balancing of treatment processes and source water monitoring to meet the 13 twin goals of killing microbes (such as giardia and e-coli) while avoiding unacceptable 14 concentrations of disinfection byproducts such as chlorite, bromate, trihalomethanes, and 15 halogenic acetic acids. These evolving standards require the Company to evaluate and 16 modify its treatment processes, which, in turn, require the Company to invest in new 17 plant and equipment to enable revised disinfection treatment methods. This is another 18 example of the need for the Company to study, monitor, and comply with new and 19 evolving standards that are accompanied by higher costs and increased demands for new 20 investment.

The COVID-19 pandemic that is currently affecting the health of millions
globally also illustrates one of the key risks associated with furnishing public water

1		supplies. The interconnectedness of supply chains across the country, and indeed
2		globally, together with government intervention to slow the spread of the virus, has
3		challenged the supply of key chemicals needed to treat water and wastewater. Through
4		close monitoring, proactive measures to protect our staff and rapid action when needed,
5		the Company has been able to manage through the pandemic with no service
6		interruptions.
7		Public Wastewater Service
8	Q.	Provide an overview of the risks that environmental regulation poses for PAWC as
9		the owner and operator of public wastewater systems.
10	A.	Like the provision of public water supply service, the operation of wastewater collection
11		and treatment systems entails a range of environmental regulatory risks.
12		Wastewater operations are also regulated at both the federal and state levels
13		pursuant to several statutes and voluminous regulations. At the federal level, wastewater
14		systems are regulated pursuant to the Clean Water Act and numerous regulations adopted
15		by the EPA under that law. At the state level, the Pennsylvania Clean Streams Law,
16		Sewage Facilities Act, Solid Waste Management Act, Storage Tank and Spill Prevention
17		Act and other laws administered by the PADEP, coupled with the regulations adopted
18		under those statutes, set standards and requirements for virtually every aspect of
19		wastewater system operations.
20		One risk associated with operating wastewater systems is that effluent limitations
21		imposed on WWTP discharges are stringent and can become more stringent over time.
22		The Clean Water Act requires wastewater systems to obtain and comply with National
23		Pollutant Discharge Elimination System ("NPDES") permits, which, in Pennsylvania, are

issued by PADEP. NPDES permits establish stringent effluent limits based upon the
 stricter of: (1) technology-based effluent limits; and (2) water quality-based effluent
 limits.

Technology-based limits are set by EPA (or, in the absence of EPA guidelines for
effluent limits, by the permit writer's best professional judgment) at levels that reflect
(depending on the parameter) best conventional control technology ("BCT"), best
practicable control technology currently available ("BPT"), or best available technology
economically achievable ("BAT"). Determinations of BCT, BPT and BAT can change
over time, becoming more stringent as technology evolves.

10 Water quality-based effluent limits ("WQBEL") are established to avoid 11 discharges to water bodies that exceed instream water quality criteria, which are set to protect existing and designated uses, such as recreation and various categories of 12 13 fisheries. WQBEL limits are usually based on the assimilative capacity of a stream to 14 receive and dilute the discharge during extremely low flow – that is, when stream flow is 15 at the 7-day, 10-year low flow ("Q7-10"). By definition, WQBELs may require 16 treatment beyond technology-based values, even beyond what is considered best 17 available technology. Moreover, as streams become cleaner, their classifications may be 18 upgraded (for example, to high quality or exceptional value status under 25 Pa. Code Ch. 19 93) such that their protected uses are deemed to be more sensitive, which, in turn, leads to 20 even more stringent WQBEL calculations.

1	As just one example, the NPDES permit issued in late 2016 for the recently-
2	acquired Scranton system sets more stringent effluent limits for a series of parameters,
3	including total residual chlorine, fecal coliform, ammonia-nitrogen, arsenic,
4	dichlorobromomethane, and bis(2-ethylhexyl)phthalate, some of which go into effect
5	immediately, and some phased in over time. A notable risk in wastewater operations is
6	that limits for some parameters may have conflicting impacts on treatment efforts. Such
7	is the case with respect to fecal coliform standards on the one hand, and limits on
8	treatment residuals (residual chlorine and dichlorobromomethane) on the other – where a
9	delicate balancing is required to concurrently meet all applicable standards.
10	Thus, more stringent effluent limits may be imposed when technology evolves or
11	stream conditions change, engendering requirements for significant capital improvements
12	and/or increased operating costs for enhanced treatment performance. Every five (5)
13	years, NPDES permits are up for renewal, and in any such renewal more stringent limits
14	may be triggered.
15	Another risk for PAWC is that a number of Pennsylvania streams, including those
16	where PAWC is operating wastewater systems, are parts of watersheds that are classified
17	as "impaired" (meaning their instream quality does not meet state standards). Such
18	impaired waters are subject to the development and imposition of Total Maximum Daily
19	Loads ("TMDLs") for parameters that contribute to the instream conditions. A prime
20	example is the Chesapeake Bay watershed, which includes the entire Susquehanna River
21	Basin, where a TMDL has been established for sediments (total suspended solids) and

22 nutrients (phosphorous and nitrogen). Where TMDLs are established by EPA or PADEP,

1	stringent waste load allocations are made to point-source discharges (such as WWTPs),
2	and allocations are also made to non-point sources, such as agriculture and urban runoff.
3	In the case of the Chesapeake Bay TMDL, for example, every WWTP in the
4	Susquehanna Basin has been accorded an annual "cap load" for total nitrogen and total
5	phosphorous – where any cap loading exceedance irrespective of the cause (such as
6	increased flows and loadings from system customers or high stormwater flows entering
7	the system) – can lead to stiff penalties and other enforcement actions.
8	Wastewater systems also face significant regulatory and environmental liability
9	risks. Non-compliance with wastewater system effluent limits and other permit
10	conditions can result in severe penalties. Regulatory violations open the operator to not
11	only governmental agency enforcement actions, but also citizen suits in which both
12	injunctive relief and civil penalties can be imposed. Currently, violation of effluent limit
13	or other permit conditions may result in administrative penalties of up to \$20,965 per day
14	and court-imposed penalties of up to \$52,414 per day.
15	Other potential liability risks from wastewater system operations arise from
16	backups, overflows or releases that may occur from the collection system onto private
17	property or into the environment. As an example, some wastewater system operators
18	have been confronted with claims under the federal Comprehensive Environmental
19	Response, Compensation and Liability Act ("CERCLA") for cleanup of contamination
20	that occurred when wastewater containing "hazardous substances" leaked from sewer
21	lines into soils or groundwater. While not as extreme, liabilities resulting from sewer

backups into buildings or other unplanned discharges are an inherent part of wastewater
 system risks.

3 Another risk arises from the fact that a substantial number of public sewer 4 systems in the northeastern U.S. are combined sewer systems, meaning that both storm 5 water and sanitary/industrial wastewaters are flowing in the same sewer lines. As 6 previously explained, PAWC's Scranton wastewater operation is such a system. 7 Combined sewer systems incur high flows during and after storms, which may exceed the 8 system conveyance and/or treatment capacity, with excess untreated wastewaters 9 discharged to receiving streams through CSOs. In many cases, separation of combined 10 sewer systems into separate sanitary and storm systems is logistically and economically infeasible. 11

12 EPA's CSO Control Policy<sup>6</sup>, which applies to publicly owned treatment works 13 ("POTWs") (i.e., those systems owned or operated by state or local governmental 14 agencies), while recognizing that CSOs cannot be entirely eliminated, seeks to reduce 15 them. Although the federal Clean Water Act generally requires that all wastewater be 16 treated with at least secondary treatment prior to discharge, the CSO Control Policy 17 provides an exception for POTWs. Currently, the CSO Control Policy, by its terms, does 18 not provide similar exceptions for non-publicly owned sewage systems. However, some 19 utilities (including PAWC) have obtained EPA's agreement to continue to apply the CSO 20 Control Policy's exception to systems that were formerly POTWs and were acquired by

<sup>6 59</sup> Fed. Reg. 18687 (April 19, 1994), available at: https://www.epa.gov/sites/production/files/2015-10/documents/owm0111.pdf.

non-public entities. EPA's recognition of such exceptions must be obtained by
 negotiation on a case-by-case basis and typically entails entering into court-approved
 consent decrees or agency consent orders that impose stringent capital improvement and
 operating obligations on the non-public owner of the wastewater system.

5 Under the CSO Control Policy and applicable NPDES permits, operators of 6 combined sewer systems must develop and implement LTCPs, consisting of collection 7 system and treatment plant improvement projects designed to reduce CSOs to no more 8 than four (4) events per year and/or capture and treatment of 85-90% of annual storm 9 water flows. These LTCP requirements often involve very substantial multi-year capital 10 expenditure programs. The impact of LTCP mandates on customers' rates can also be 11 significant and, in what are often economically depressed communities, may require rate increases that approach or exceed EPA's "affordability" criteria for water/wastewater 12 13 system rates.

Combined sewer system operators must also adopt and implement a Nine Minimum Controls Plan,<sup>7</sup> consisting of a series of actions that address the management of storm water and constituents in storm water runoff, including regulation of storm water connections, regulation of land development/erosion and sedimentation activities, control of industrial and other dischargers, catch basin maintenance, and street sweeping, etc.

<sup>7</sup> U.S. Environmental Protection Agency, Combined Sewer Overflows Guidance for Nine Minimum Controls, EPA 832-B-95-003 (May 1995), available at: https://www3.epa.gov/npdes/pubs/owm0030.pdf.

1		Moreover, even where systems being acquired do not involve combined sewers,
2		high rates of I&I <sup>8</sup> during wet weather can surcharge the system and exceed the hydraulic
3		or treatment capacity of the WWTP. System upgrades to reduce I&I may require major
4		capital expenditures. This was the case with the Clarion wastewater system, which
5		PAWC acquired in 2008. PAWC was required to enter into a Consent Order with
6		PADEP to implement a series of collection system and WWTP improvements for the
7		Clarion wastewater operations on a schedule that was enforced by stipulated penalties in
8		the event of any unexcused delay.
9		Challenges Climate Change May Create
10	Q.	Does climate change pose additional risks for water supply and wastewater system
11		utilities such as PAWC?
12	A.	Yes. Whatever the debate may be concerning the causes of climate change, water supply
13		and wastewater utilities face the reality of changing climatic conditions and attendant
14		stresses on water resources. Although climate models for the northeastern U.S. generally
15		predict overall annual precipitation amounts to remain similar to average historic
16		experience, increasingly intense storms and repeated, extended dry periods are
17		anticipated. <sup>9</sup> That means we can expect more droughts of varying degrees of severity
18		and more frequent and intense high-flow events and floods – which impact water and
19		wastewater utilities.

<sup>8</sup> I&I involves the infiltration of groundwater and stormwater into what is considered to be a sanitary only sewer line, such as through joints and other weaknesses in the pipelines.

<sup>9</sup> R. Horton, G. Yohe, W. Easterling, R. Kates, M. Ruth, E. Sussman, A. Whelchel, D. Wolfe, and F. Lipschultz, 2014: Ch. 16: Northeast. Climate Change Impacts in the United States: The Third National Climate Assessment, (J. M. Melillo, Terese (T.C.) Richmond, and G. W. Yohe, Eds.), U.S. Global Change Research Program (2014); *see also*, J. Shortle, *et al*, Pennsylvania Climate Impacts Assessment Update (May 2015), available at http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-108470/2700-BK-DEP4494.pdf.

1	Water supply systems are fundamentally resource-dependent and, therefore, the
2	effects of climate change pose a significant on-going risk and create challenges with
3	regard to maintaining a reliable water supply during the full range of potential future
4	conditions, including even what might be assumed to be "normal" periods. The safe
5	yields of water supply sources have historically been evaluated based on historical
6	climatic patterns, data from so called "droughts of record" or dry period frequency
7	analysis. However, changing climatic conditions suggest that historical hydrologic data
8	(which in many cases only reflect 50-100 years of rainfall and stream flow measurement
9	collection – a quite short period in geologic or climatic time) may not accurately predict
10	future conditions. Thus, the calculated safe yield of streams, reservoirs and groundwater
11	wells are put in question as the effects of climate change are experienced across the
12	northeastern United States. Thus, in response to climate change, water supply systems
13	must address the risks posed to the reliability and resilience of their sources.
14	While droughts are the major challenge for water supply systems, heavy
15	precipitation and high-flow events are the concern of wastewater systems. As mentioned
16	previously, wastewater systems of all types are impacted by storm water - directly in the
17	case of combined sewer systems and indirectly (but nevertheless significantly) by I&I in
18	"sanitary only" systems. The prediction of increased intensity of strong storms and high
19	rainfall events in the northeastern United States portends challenges to wastewater
20	systems which must, in turn, cope with and treat higher peak flows while avoiding
21	exceedance of effluent limitations and reducing the potential for untreated overflows. An
22	additional challenge related to high intensity rain events is higher levels and frequency of

1 flooding. Flooding has the potential to impact both water and wastewater treatment

- 2 facilities which are often located in proximity to water ways.
- 3 Q. Does this conclude your testimony?
- 4 A. Yes, it does.

#### BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY	:
COMMISSION	:
	:
V.	:
	:
PENNSYLVANIA-AMERICAN	:
WATER COMPANY	:

DOCKET NOS. R-2020-3019369 (WATER) R-2020-3019371 (WASTEWATER)

#### **VERIFICATION**

I, **Bruce W. Aiton**, hereby state that the facts set forth in the pre-marked Statement No. 3 and accompanying exhibits, if any, are true and correct to the best of my knowledge, information and belief. I understand that this verification is made subject to the provisions and penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsifications to authorities).

Date: April 29, 2020

Ban W. A.

## Statement No. 4 Everette

**PAWC STATEMENT NO. 4** 

DIRECT TESTIMONY OF ASHLEY E. EVERETTE

#### WITH REGARD TO

#### PENNSYLVANIA-AMERICAN WATER COMPANY'S

REVENUES AND RATE STRUCTURE PROPOSAL; MISCELLANEOUS EXPENSE ADJUSTMENTS; UNCOLLECTIBLE ACCOUNTS EXPENSE ADJUSTMENT; PROPOSED TARIFF CHANGES; LOW INCOME PROGRAM; TAX CUTS AND JOBS ACT OF 2017 STUB PERIOD; SALE OF HERSHEY CORPORATE OFFICE

#### DOCKET NOS. R-2020-3019369 (WATER) R-2020- 3019371 (WASTEWATER)

**DATE: April 29, 2020** 

#### PENNSYLVANIA-AMERICAN WATER COMPANY

#### **DIRECT TESTIMONY OF ASHLEY E. EVERETTE**

1	<u>Intro</u>	Introduction	
2	Q.	What is your name and address?	
3	A.	My name is Ashley E. Everette and my business address is 852 Wesley Drive,	
4		Mechanicsburg, Pennsylvania 17055.	
5	Q.	By whom are you employed and in what capacity?	
6	A.	I am employed by American Water Works Service Company (the "Service Company") as	
7		Director of Rates and Regulatory. I work in the Mechanicsburg office of Pennsylvania-	
8		American Water Company ("PAWC" or "the Company").	
9	Q.	Please state your educational background and professional experience.	
10	A.	I hold a Bachelor's degree in Economics and a Master's degree in Business	
11		Administration, both from the University of Illinois. I have been employed by the Service	
12		Company as the Director of Rates and Regulatory since September 2019. From	
13		September 2012 to September 2019, I was employed by the Pennsylvania Office of	
14		Consumer Advocate ("OCA") as a Regulatory Analyst.	
15	Q.	What are your duties as Director of Rates and Regulatory?	
16	A.	My duties include, principally, preparing and presenting rate applications for PAWC. In	
17		addition, I am responsible for certain aspects of the financial, budgeting and regulatory	
18		functions of the Company.	
19	Q.	Have you previously submitted testimony before the Pennsylvania Public Utility	
20		Commission (the "Commission" or "PUC")?	

A. Yes. On behalf of the OCA, I testified on financial, accounting and policy issues in
 approximately 35 proceedings including base rate cases, fair market value acquisition
 cases, and other types of proceedings. This is my first case testifying before the
 Commission on behalf of PAWC.

5

#### Q. What is the purpose of your testimony?

6 The purpose of my testimony is to explain the portions of the Company's principal A. 7 accounting exhibit, Exhibit No. 3-A, that I am sponsoring, which relate to PAWC's 8 claims for operating revenues and certain operating expenses for its water and wastewater 9 operations, as discussed in more detail below, and proposed tariff changes. The declining 10 usage forecasts for residential and commercial customers were developed by Company witness Gregory Roach. I developed the projected numbers of customers for those classes 11 12 and, based on that, developed the projected revenue for those classes for the twelve 13 months ending December 31, 2021 and December 31, 2022. As further explained below, 14 I also developed the projected revenue for the remainder of the Company's customer 15 classes, including the projected annual revenues from shale gas drillers. Additionally, I am sponsoring the Company's treatment of the tax savings recorded for the period 16 January 1, 2018 through June 30, 2018 as a result of the Tax Cuts and Jobs Act of 2017 17 18 (the "TCJA"). PAWC witness John R. Wilde discusses the Company's proposed 19 amortization of excess accumulated deferred income tax resulting from the TCJA in 20 Statement No. 10.

#### 21 Q. Please provide a description on other areas on which you are testifying in this case.

23

A.

22

In addition to the areas outlined above, my testimony supports the rate design that was

implemented by Company witness Constance E. Heppenstall in PAWC Statement No.

1		12. My testimony also discusses proposed tariff changes, including PAWC's proposed
2		expansion of its low-income customer assistance programs. Finally, I address the
3		Company's ratemaking treatment of the 2019 sale of its corporate office in Hershey.
4	Reve	nues
5	Q.	Please explain the development of pro forma revenues as set forth in Exhibit No.
6		<b>3-A for Water Operations Excluding Steelton.</b>
7	A.	The process of developing the Company's revenue claim begins with revenues recorded
8		on the Company's books of account at December 31, 2019, to which I made various
9		adjustments. Exhibit No. 3-A shows a summary of the development of pro forma
10		revenues for Water Operations Excluding Steelton under present and proposed rates for
11		each of the test years: the Historic Test Year ("HTY") ended December 31, 2019, the
12		Future Test Year ("FTY") ending December 31, 2020, Rate Year 1 ending December 31,
13		2021 and Rate Year 2 ending December 31, 2022.
14		Additionally, for each of the test years, Exhibit No. 3-A includes a schedule
15		showing operating revenues by customer classification as well as a schedule showing a
16		summary of the various adjustments made to book operating revenues to arrive at pro
17		forma operating revenues under present rates.
18	Q.	Does Exhibit No. 3-A show a similar development of pro forma revenues for revenue
19		requirements other than Water Operations Excluding Steelton?
20	A.	Yes. The revenue schedules described above are also provided for the other seven
21		revenue requirements:
22 23 24		Exhibit No. 3-A (Water Steelton Operations) Exhibit No. 3-A (Wastewater SSS Excl. Sadsbury and Exeter Operations) Exhibit No. 3-A (Wastewater SSS Sadsbury Operations)

1 2 3 4		Exhibit No. 3-A (Wastewater SSS Exeter Operations) Exhibit No. 3-A (Wastewater CSS Scranton Operations) Exhibit No. 3-A (Wastewater CSS McKeesport Operations) Exhibit No. 3-A (Wastewater CSS Kane Operations)
5 6	Water	Operations Excluding Steelton
7	Q.	Please explain the various adjustments to the Company's book revenues from water
8		sales that were made to develop pro forma water sales revenues under present and
9		proposed rates for the Company's Water Operations Excluding Steelton.
10	A.	To develop pro forma revenues, I began with per-book 2019 revenues by class and made
11		the following adjustments: (1) unbilled revenue; (2) annualization of private fire
12		protection charges; (3) annualization of public fire protection charges; (4) changes in the
13		numbers of residential and commercial customers; (5) annualization of the Turbotville
14		acquisition; (6) Rate Zone 2 and Rate Zone 3 decreases; (7) changes affecting specific
15		large customers; and (8) pro forma shale gas revenues. Additionally, as discussed below,
16		I made adjustments to annualize the Distribution System Improvement Charge ("DSIC")
17		revenues, to reflect declining consumption for residential and commercial customers, and
18		to reflect the Winola acquisition expected to occur in 2020.
19	Q.	Please explain the adjustment to eliminate unbilled revenue.
20	A.	An adjustment was made to reflect the fact that PAWC records per-book
21		revenues on an accrual basis. This adjustment, consistent with prior practice, eliminates
22		the effect of revenue accrued per books but not billed during the twelve months ended
23		December 31, 2019. Such unbilled revenue is recorded per books pursuant to accepted
24		accrual-accounting procedures to reflect revenues for service rendered but not billed as of
25		the end of an accounting period. Items that produce unbilled revenue include such things

1		as increases in rates and increases in the number of customers. Reflecting such unbilled
2		revenue per books is a normal and correct accounting procedure. In developing pro forma
3		revenues for ratemaking purposes, separate adjustments were made to annualize the
4		revenue effect of such factors as increases in the number of customers and increases in
5		rates that became effective during the historic test year. Therefore, in order to eliminate
6		any duplication of revenue for ratemaking purposes, unbilled revenue accrued per books
7		must be removed. A detailed breakdown of this adjustment by customer class is shown
8		on Exhibit No. 3-A (Water Operations Excluding Steelton).
9	Q.	Please discuss the adjustments to annualize private and public fire protection
10		charges.
11	A.	An adjustment was made to historic test year revenues to annualize private fire protection
12		charges based on the number of fire services at December 31, 2019. This adjustment is
13		set forth on Exhibit No. 3-A (Water Operations Excluding Steelton), and further detail is
14		provided in the response to Question No. FR II.10 of the Standard Filing Requirements.
15		Likewise, adjustments were made to annualize public fire protection revenues based on
16		the number of hydrants and the applicable charges for those hydrants at December 31,
17		2019, December 31, 2020, December 31, 2021 and December 31, 2022. These
18		adjustments are shown on Exhibit No. 3-A (Water Operations Excluding Steelton), and
19		further detail is provided in response to Question No. FR II.10 of the Standard Filing
20		Requirements.
21	Q.	Please discuss the adjustments resulting from the changes in the number of
22		residential and commercial customers.

19	Q.	Please discuss the adjustment to annualize revenues with respect to the Turbotville
18		declining use per customer data developed by Mr. Roach.
17		numbers of customers for the residential and commercial classes and applying the
16		changes affecting customers other than those related to projected changes in growth per
15		Requirements. As explained below, specific customer adjustments were made for
14		adjustments appear in response to Question No. FR II.2 of the Standard Filing
13		during the twelve months ending December 31, 2022. Detailed calculations for these
12		revenue for projected changes in the number of residential and commercial customers
11		of residential and commercial customers. <sup>1</sup> Exhibit No. 3-A also shows a full year's
10		one-half of a year of the change in revenue based on the projected changes in the number
9		2020. For Rate Year 1, adjustments were made to increase or decrease revenues to reflect
8		residential and commercial customers during the twelve months ending December 31,
7		test year revenues to reflect a full year's revenue for projected changes in the number of
6		Operations Excluding Steelton), adjustments were made to increase or decrease future
5		customers during the historic test year. In addition, as shown on Exhibit No. 3-A (Water
4		revenue effect of additions, losses and reclassifications of residential and commercial
3		and commercial customers at December 31, 2019. This adjustment annualizes the
2		adjustments to annualize historic test year revenues based on the number of residential
1	A.	As shown on Exhibit No. 3-A (Water Operations Excluding Steelton), I made

Please discuss the adjustment to annualize revenues with respect to the Turbotville acquisition.

<sup>&</sup>lt;sup>1</sup> Please refer to PAWC Statement No. 1 for the discussion of the Company's use of the half-year convention for Rate Year 1.

1	A.	On July 24, 2019, the Company closed on the acquisition of the water utility property of
2		the Municipal Authority of the Borough of Turbotville and began providing service to
3		that entity's former customers. As shown on Exhibit No. 3-A (Water Operations
4		Excluding Steelton), an adjustment was made to annualize the usage and revenues
5		associated with this acquisition based on a six-month average of revenues from August
6		2019 through January 2020. An adjustment was also made for a laundromat that was over
7		billed in September, October and November 2019 and corrected in January 2020.
8	Q.	Please discuss the adjustment to annualize the phased in increases for Rate Zones 2
9		and 3.
10	А.	The Company's PUC-approved settlement of its last base rate case proceeding at Docket
11		No. R-2017-2595853 provided for rate increases to become effective on January 1, 2018
12		and January 1, 2019 for the Company's Nittany water operations (Rate Zone 2) and
13		McEwensville water operations (Rate Zone 3), as part of a rate phase-in. This adjustment
14		annualizes the Rate Zone 2 and Rate Zone 3 increases that occurred in January 2019
15		Exhibit No. 3-A (Water Operations Excluding Steelton).
16	Q.	Please explain the adjustments that were made to reflect changes in consumption by
17		specific customers.
18	A.	Adjustments to pro forma revenues were made to reflect changes in revenue by
19		individual customers as shown on Exhibit No. 3-A (Water Operations Excluding
20		Steelton). Each of these adjustments is required to reflect the changed circumstances
21		specific to each customer.
22		Ten adjustments relate to changes that affected specific customers during the
23		historic test year and future test year, as listed below: 8
1	(1) The Hershey Medical Center has ten accounts with PAWC, and five accounts	
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2	were coded as commercial and five accounts were coded as municipal	
3	("OPA"). An adjustment is being made to classify all the Hershey Medical	
4	Center accounts under the same municipal classification of revenue.	
5	(2) Ferro Corporation will be phasing out their operations in Pennsylvania with a	
6	final plant closure in 2020. This adjustment eliminates the usage and revenues	
7	due to the plant closure.	
8	(3) In August 2019, Ellwood City Forge installed a new cooling system that	
9	decreased their monthly consumption of water. This adjustment is being made	
10	to annualize usage and revenues for the lower consumption levels.	
11	(4) In February 2020, Ingredion Inc. closed their manufacturing plant. This	
12	adjustment eliminates the usage and revenue associated with this customer.	
13	(5) On January 17, 2020, Governor Wolf announced that the Retreat State	
14	Correctional Institution will be closing in 2020. This adjustment eliminates	
15	the usage and revenues due to the facility closure.	
16	(6) The State Correctional Institute ("SCI") has its own water supply and uses	
17	PAWC as an emergency connection. SCI took its water plant offline for	
18	rehabilitation work in 2018 and again in 2019, which resulted in an increase in	
19	usage. The Company made an adjustment to present rates 2019 to annualize	
20	usage and revenues to a normal level.	
21	(7) During 2019, ConAgra and US Steel, which are served under Rider DIS, and	
22	Newtown Artesian and Oakdale Borough, which are served under Rider DRS,	
23	received increases. Adjustment were made to annualize the rate changes for	

1	these customers. Additionally, increases for 2020, 2021 and 2022 were
2	annualized based on a four-year average of contracted increases.
3	(8) On January 1, 2020, Rider DRS customer Evans City Water and Sewer
4	Authority received an increase. An adjustment was similarly made to reflect
5	this increase on an annualized basis. Additionally, increases for 2021 and
6	2022 were annualized based on a four-year average of contracted increases.
7	(9) In 2019, Rider DRS customer Western Allegheny County Municipal
8	Authority received an increase. An adjustment was made to annualize this
9	increase. The years 2020, 2021 and 2022 have been annualized based on the
10	contracted increase.
11	(10) In January 2019, Rider DIS customer Hershey Foods was issued an
12	additional bill for 2018 to cover the contract usage that it did not meet in
13	2018. An additional bill was issued in 2019 to cover the contract usage that
14	Hershey Foods did not meet through December of 2019. Because Hershey
15	Foods did not meet the contract minimum usage for 2019, additional usage is
16	being added to December 2019 to annualize consumption to meet the
17	minimum contract usage. The revenues at present rates for this customer have
18	been annualized to reflect the increase effective in 2019. Additionally,
19	increases for 2020, 2021 and 2022 were annualized based on a four-year
20	average of contracted increases.
21	The detailed calculations for all of the specific customer adjustments described
22	above are set forth in the Company's response to Question No. FR II.2 of the Standard
23	Filing Requirements.

## Q. Please discuss the adjustment to shale gas revenues.

A. In 2009, the Company began selling water to gas drillers. The annual usage for this type
of operation fluctuates from year to year and the revenues are projected to decline
beginning in 2020. Please refer to PAWC Statement No. 9, the testimony of Company
witness Gregory Roach, for the analysis supporting this anticipated decline in usage. The
Company projects that the annual revenues from shale gas drillers will be equal to 50%
of the per-book 2019 revenues. Please refer to Exhibit No. 3-A for the adjustment to
reflect the decline in shale gas revenues in 2020.

9 Q. Please continue with the various adjustments to the Company's book revenues from
10 water sales that were made to develop pro forma water sales revenues under present
11 and proposed rates for the Company's water operations.

12 A. The adjustments made to the Company's water sales revenues booked during the twelve 13 months ending December 31, 2020, other than specific customer adjustments as reflected 14 above, relate to the following: (1) the annualization of DSIC revenues; (2) declining 15 residential and commercial usage; and (3) annualization of revenues associated with the Winola Water Company acquisition. Each of these adjustments is described below: 16 17 **DSIC**. An adjustment was made to annualize the Company's DSIC revenues based on the 18 Company's pro forma level of non-DSIC revenue at December 31, 2020 and the 5.65% 19 rate that is expected to become effective on October 1, 2020. This adjustment is shown 20 on Exhibit No. 3-A (Water Operations Excluding Steelton). A detailed calculation of this 21 adjustment appears in the response to Question No. FR II.2 of the Standard Filing 22 Requirements.

1		Declining Usage. Residential and commercial water usage has been declining for many
2		years, and that trend is expected to continue. The Company has made an adjustment to
3		reflect the declining trend on Exhibit No. 3-A (Water Operations Excluding Steelton) for
4		revenue at present rates at December 31, 2020, December 31, 2021 and December 31,
5		2022. A detailed calculation of this adjustment appears in the response to Question No.
6		FR II.2 of the Standard Filing Requirements. Company witness Gregory Roach explains
7		the reasons for this trend and how it was quantified in PAWC Statement No. 9.
8		Winola Water Company Acquisition. The Company currently acts as receiver for
9		Winola Water Company, pursuant to the Commission's directive in its Order entered on
10		November 29, 2018 at Docket Nos. P-2018-3006216, C-2018-2644592 and I-2018-
11		3006498. During 2020, the Company expects to close the acquisition of the water utility
12		property of the Winola Water Company and to begin serving that company's former
13		customers. Please refer to Exhibit No. 3-A for the adjustment which annualizes the
14		revenues associated with this acquisition.
15	Water	Steelton Operations
16	Q.	Please describe the various adjustments to the Company's book revenues for the
17		Steelton water service area that were made to develop pro forma Steelton Water
18		sales revenues under present and proposed rates for the Company's water
19		operations.
20	A.	The adjustments made to the Company's Steelton area water sales revenues booked
21		during the twelve months ended December 31, 2019, relate to the following: (1)
22		annualization of the Steelton Water acquisition; (2) unbilled revenue; and (3) reflection of
23		the Steelton fire hydrants. Additionally, the Company made an adjustment at present and 12

1 proposed rates for 2020, 2021 and 2022 to reflect declining residential and commercial 2 usage. 3 Q. Please discuss the adjustment to annualize revenues with respect to the Steelton 4 acquisition. 5 A. On October 9, 2019, the Company closed on the acquisition of the water utility property 6 of the Steelton Borough Authority and began providing service to that entity's former 7 customers. An adjustment was made on Exhibit No. 3-A (Water Steelton Operations) to 8 annualize the revenues associated with this acquisition. 9 Q. Please discuss the adjustment to eliminate unbilled revenue for Steelton. 10 Α. An adjustment was made to reflect the fact that PAWC records per-book revenues on an 11 accrual basis. The methodology of this adjustment shown on Exhibit No. 3-A (Water 12 Steelton Operations) is consistent with that discussed above under Water Operations 13 Excluding Steelton. 14 Please discuss the adjustment to reflect the Steelton fire hydrants. Q. 15 The Borough of Steelton Authority did not charge a rate for public fire hydrants located A. 16 within its municipal borders. Pursuant to Section 1329(d)(v) of the Public Utility Code, 17 the Company adopted a \$0 public fire protection charge upon acquisition. As a result, Steelton did not have public fire protection charges until proposed rates 2021, and the 18 19 public fire protection charge was zero at present rates 2019, 2020, and 2021. As shown 20 on Exhibit No. 3-A (Water Steelton Operations), an adjustment was made to reflect the 21 number of fire services in the Steelton service area at December 31, 2019. 22 **Q**. Please discuss the adjustment to reflect the declining usage for Steelton.

1 A. The Company has made an adjustment to reflect the trend of declining residential and 2 commercial usage on page 78 of Exhibit No. 3-A (Water Steelton Operations) for 3 revenue at present rates at December 31, 2020 and December 31, 2021, December 31, 4 2022. This adjustment is consistent with the discussion above under Water Operations 5 Excluding Steelton. Additionally, please refer to the testimony of Gregory Roach (PAWC 6 Statement No. 9) for the analysis supporting this adjustment. 7 Wastewater SSS Excl. Sadsbury and Exeter Operations 8 Q. Please explain the various adjustments to the Company's book revenues from 9 Wastewater SSS Excluding Sadsbury and Exeter Operations sales that were made 10 to develop pro forma wastewater sales revenues under present and proposed rates 11 for the Company's wastewater operations. 12 The adjustments made to the Company's SSS wastewater sales revenues excluding A. 13 Sadsbury and Exeter booked during the twelve months ended December 31, 2019, relate 14 to the following: (1) unbilled revenue; (2) changes in the numbers of residential and 15 commercial customers; (3) annualization of the Borough of Turbotville acquisition; (4) loss of Sadsbury bulk sales revenues; (5) an increase in sludge hauling fees at proposed 16 17 rates as well as reflection of the loss of sludge hauling revenues related to the Rock Run 18 water treatment plant; and (6) changes affecting specific large customers. 19 **Q**. Please discuss the adjustment to eliminate unbilled revenue. 20 A. As shown on Exhibit No. 3-A (Wastewater SSS Operations Excl. Sadsbury and Exeter), 21 an adjustment was made to reflect the fact that PAWC records per-book revenues on an 22 accrual basis. The methodology of this adjustment is consistent with that discussed above 23 under Water Operations Excluding Steelton.

1	Q.	Please discuss the adjustment for the changes in the number of residential and
2		commercial customers.
3	A.	As shown on Exhibit No. 3-A (Wastewater SSS Excl. Sadsbury and Exeter Operations),
4		adjustments were made to annualize historic test year revenues based on the number of
5		residential and commercial customers at December 31, 2019. This adjustment was made
6		in a manner consistent with that described under Water Operations Excluding Steelton,
7		above.
8	Q.	Please continue with your explanation of the development of the Company's pro
9		forma revenue.
10	A.	As shown on Exhibit No. 3-A (Wastewater SSS Excl. Sadsbury and Exeter Operations),
11		adjustments were made to annualize historic test year revenues based on the number of
12		residential and commercial customers at December 31, 2019. This adjustment annualizes
13		the revenue effect of additions, losses and reclassifications of residential and commercial
14		customers during the historic test year.
15		In addition, as shown in Exhibit No. 3-A (Wastewater SSS Excl. Sadsbury and
16		Exeter Operations), adjustments were made to increase or decrease future test year
17		revenues to reflect a full year's revenue for projected changes in the number of residential
18		customers during the twelve months ending December 31, 2020. For Rate Year 1,
19		adjustments were made to increase or decrease revenues to reflect one-half of a year of
20		the change in revenue based on the projected changes in the number of residential
21		customers. Exhibit No. 3-A also shows a full year's revenue for projected changes in the
22		number of residential customers during the twelve months ending December 31, 2022.
23		Detailed calculations for these adjustments appear in response to Question No. FR II.2 of $15$

1	the Standard Filing Requirements. As explained below, specific customer adjustments
2	were made for changes affecting customers other than those related to projected changes
3	in growth for the residential and commercial classes.

- 4 Q. Please discuss the adjustment to annualize revenues with respect to the Turbotville
  5 acquisition.
- A. On July 24, 2019, the Company closed on the acquisition of the wastewater utility
  property of the Borough of Turbotville and began providing service to that entity's former
  customers. As shown on Exhibit No. 3-A (Wastewater SSS Excl. Sadsbury and Exeter
  Operations), an adjustment was made to annualize the revenues associated with this
  acquisition. This adjustment was made consistent with the adjustment for the Turbotville

water acquisition, described in the Water Operations Excluding Steelton section above.

12 Q. Please discuss the adjustment for the loss of Sadsbury bulk sales revenues.

- 13 A. On March 6, 2019, the Company closed on the acquisition of the wastewater utility
- 14 property of the Township of Sadsbury and began providing service to that entity's
- 15 customers. Prior to the acquisition, the Company billed Sadsbury Township as one of its
- 16 bulk wastewater customers. As shown on Exhibit No. 3-A (Wastewater SSS Excl.
- Sadsbury and Exeter Operations), the Company made an adjustment to eliminate the
  revenues associated with this bulk customer due to the acquisition.
- 19On Exhibit No. 3-A, Combined Water and Wastewater Revenue Requirement –20Summary, the cost of production related to the Sadsbury system is allocated from21Wastewater SSS Excl. Sadsbury and Exeter Operations to Wastewater SSS Sadsbury
- 22 Operations. This adjustment allocates \$671,275 of the cost of production to Sadsbury

Operations in Rate Year 1 and \$699,423 of the cost of production to Sadsbury Operations
 in Rate Year 2.

# 3 Q. Please discuss the adjustment for the sludge hauling revenue for the Rock Run 4 water treatment plant.

5 A. The Company allows sludge haulers to bring tankers into its wastewater plants to dispose 6 of their sludge. During 2019, the Company stopped accepting sludge from the Rock Run 7 water plant in New Jersey because the sludge was causing problems with the digesters at the plant. As shown on Exhibit No. 3-A (Wastewater SSS Excl. Sadsbury and Exeter 8 9 Operations), an adjustment was made to eliminate the 2019 Rock Run sludge hauling 10 revenue. In addition, PAWC is proposing an increase in sludge hauling fees at its 11 Coatesville wastewater treatment plant effective with new rates established in this 12 proceeding. This increase brings the Coatesville sludge hauling rates in line with market 13 rates. As shown on page 133 of Exhibit No. 3-A (Wastewater SSS Excl. Sadsbury and Exeter Operations), an adjustment was made to reflect the proposed increase to the fee. 14 15 Please explain the adjustments that were made to reflect changes in consumption by **Q**. 16 specific customers. 17 A. Adjustments to pro forma revenues were made to reflect changes in revenue by an 18 individual customer as shown on page 130 of Exhibit No. 3-A (Wastewater SSS Excl. 19 Sadsbury and Exeter Operations). The following adjustment is required to reflect the 20 changed circumstances specific to this customer. 21 From December 2018 through March 2019, Valley Township (a bulk wastewater

- 22 customer) was incorrectly billed for a flow meter in thousand gallons instead of hundred
- 23 gallons. The billing correction was made to the account in April 2019. An adjustment is

made on page 130 of Exhibit No. 3-A (Wastewater SSS Excl. Sadsbury and Exeter
 Operations) to remove the December 2018 back bill that occurred in 2019.

Q. Please continue with the various adjustments to the Company's book revenues from
Wastewater SSS Excluding Sadsbury and Exeter Operations sales that were made
to develop pro forma wastewater sales revenues under present and proposed rates
for the Company's wastewater operations.

7 A. The adjustments made to the Company's wastewater sales revenues booked during the 8 twelve months ending December 31, 2020, other than specific customer adjustments as 9 reflected above, relate to the following: (1) the annualization of Distribution System 10 Improvement Charge ("DSIC") revenues (2) declining residential and commercial usage; 11 (3) annualization of revenues associated with the Delaware Sewer Company acquisition; 12 and (4) an increase in sludge hauling fees. Each of these adjustments is described below: 13 **DSIC**. An adjustment was made to annualize the Company's DSIC revenues based on the 14 Company's pro forma level of non-DSIC revenue at December 31, 2020 and the DSIC 15 rate of 5.00% which became effective on January 1, 2020. This adjustment is shown on page 125 of Exhibit No. 3-A (Wastewater SSS Excluding Sadsbury and Exeter 16 17 Operations). A detailed calculation of this adjustment appears in the response to Question 18 No. FR II.2 of the Standard Filing Requirements. 19 Declining Usage. Residential and commercial water usage has been declining for many 20 years and that trend is expected to continue. Because PAWC's wastewater billings are

- 21 based on water consumption, the effect of declining usage is experienced in wastewater
- 22 revenues as well as water. Please refer to the testimony of Gregory Roach (PAWC
- 23 Statement No. 9) for the analysis supporting declining consumption. The Company has

1		made an adjustment to reflect the declining trend on Exhibit No. 3-A (Wastewater SSS
2		Excluding Sadsbury and Exeter Operations) for revenue at present rates at December 31,
3		2020, December 31, 2021 and December 31, 2022. A detailed calculation of this
4		adjustment appears in the response to Question No. FR II.2 of the Standard Filing
5		Requirements. Again, Company witness Gregory Roach explains the reasons for this
6		trend in reduced water usage per customer, and how it was quantified, in PAWC
7		Statement No. 9.
8		Delaware Sewer Acquisition. On June 13, 2019, the Commission issued a final Order at
9		Docket No. I-2016-2526085 approving PAWC's acquisition of Delaware Sewer
10		Company pursuant to Section 529 of the Public Utility Code. During 2020, the Company
11		expects to close on the acquisition of Delaware Sewer Company and to begin providing
12		service to that entity's former customers. Please refer to Exhibit No. 3-A (Wastewater
13		SSS Excl. Sadsbury and Exeter Operations) for the adjustment which annualizes the
14		revenues associated with this acquisition.
15	Waste	ewater SSS Sadsbury Operations
16	Q.	Please describe the various adjustments to the Company's book revenues from
17		Sadsbury sales that were made to develop pro forma SSS wastewater sales revenues
18		under present and proposed rates for the Company's SSS wastewater operations.
19	A.	The adjustments made to the Company's Sadsbury area SSS wastewater sales revenues
20		booked during the twelve months ended December 31, 2019, relate to the annualization
21		of the Sadsbury acquisition. Additionally, the Company made an adjustment at present
22		and proposed rates for 2020, 2021 and 2022 to reflect declining residential and
23		commercial usage.

- Q. Please discuss the adjustment to annualize revenues with respect to the Sadsbury
   acquisition.
- A. On March 6, 2019, the Company closed on the acquisition of the wastewater utility
  property of Sadsbury Township and began providing service to that entity's former
  customers. An adjustment was made on Exhibit No. 3-A (Wastewater SSS Sadsbury
  Operations) to annualize the revenues associated with this acquisition. Additionally, an
  adjustment was made to remove the usage and revenues associated with a water customer
  that is not connected to the Company's wastewater system.

9 Q. Please discuss the adjustment to reflect the declining usage for Sadsbury.

10 A. The Company has made an adjustment to reflect the trend of declining usage on Exhibit

11 No. 3-A (Wastewater SSS Sadsbury Operations) for revenue at present rates at December

12 31, 2020 and December 31, 2021, December 31, 2022. This adjustment is made

13 consistent with the discussion above under Wastewater SSS Excl. Sadsbury and Exeter,

14 as supported by Mr. Roach (PAWC Statement No. 9).

#### 15 <u>Wastewater SSS Exeter Operations</u>

16 Q. Please describe the various adjustments to the Company's book revenues from

17 Exeter sales that were made to develop pro forma SSS wastewater sales revenues

18 under present and proposed rates for the Company's SSS wastewater operations.

19 A. The adjustments made to the Company's SSS wastewater sales revenues booked during

20 the twelve months ended December 31, 2019, relate to the following: (1) annualization of

- 21 the Exeter acquisition and (2) unbilled revenue. Additionally, the Company made an
- adjustment at present and proposed rates for 2020, 2021 and 2022 to reflect declining

residential and commercial water usage.

- 1Q.Please discuss the adjustment to annualize revenues with respect to the Exeter2acquisition.
- A. On March 6, 2019, the Company closed on the acquisition of the wastewater utility
  property of Exeter Township and began providing service to that entity's customers. An
  adjustment was made to annualize the revenues associated with this acquisition.
  Additionally, adjustments were made to present rates in 2020 to include Industrial
  Pretreatment Program (IPP) charges, septage hauling revenues, and revenues for the bulk
  customer (St. Lawrence Borough) which was not billed in 2019 by PAWC.
- 9 Q. Please discuss the adjustment to eliminate unbilled revenue.
- A. As shown on page 223 of Exhibit No. 3-A (Wastewater SSS Exeter Operations), an
   adjustment was made to reflect the fact that PAWC records per-book revenues on an
   accrual basis. The methodology of this adjustment is consistent with that discussed above
   under Water Operations Excluding Steelton.
- 14 Q. Please discuss the adjustment to reflect the declining usage for Exeter.
- 15 A. The Company has made an adjustment to reflect the trend of declining usage on page on
- 16 Exhibit No. 3-A (Wastewater SSS Exeter Operations) for revenue at present rates at
- 17 December 31, 2020 and December 31, 2021, December 31, 2022. This adjustment is
- 18 made consistent with the discussion above under Wastewater SSS Excl. Sadsbury and
- 19 Exeter. Additionally, please refer to the testimony of Gregory Roach (PAWC Statement
- 20 No. 9) for the analysis supporting this adjustment.
- 21 <u>Wastewater CSS Scranton Operations</u>
- 22 Q. Please describe the various adjustments to the Company's book revenues from
- 23 Scranton area wastewater sales that were made to develop pro forma CSS

# wastewater sales revenues under present and proposed rates for the Company's

- 2 CSS wastewater operations.
- A. The adjustments made to the Company's Scranton area CSS wastewater sales revenues
  booked during the twelve months ended December 31, 2019, relate to the following: (1)
  unbilled revenue; (2) changes in the numbers of residential and commercial customers;
  and (3) changes affecting specific large customers. Additionally, the Company made an
  adjustment at present and proposed rates for 2020, 2021 and 2022 to reflect declining
  residential and commercial water usage.

9

## Q. Please discuss the adjustment to eliminate unbilled revenue.

- A. As shown on Exhibit No. 3-A (Wastewater CSS Scranton Operations), an adjustment was
   made to reflect the fact that PAWC records per-book revenues on an accrual basis. The
   methodology of this adjustment is consistent with that discussed above under Wastewater
   SSS Excl. Sadsbury and Exeter.
- 14 Q. Please discuss the adjustment for the changes in the number of residential and
   15 commercial customers.
- A. As shown on Exhibit No. 3-A (Wastewater CSS Scranton Operations), adjustments were
   made to annualize historic test year revenues based on the number of residential and
   commercial customers at December 31, 2019. This adjustment was made in a manner
- 19 consistent with that described under Water Operations Excluding Steelton, above.
- 20 Q. Please explain the adjustments that were made to reflect changes in consumption by
  21 specific customers.
- 22 A. Adjustments to pro forma revenues were made to reflect changes in revenue by
- 23 individual customers as shown on Exhibit No. 3-A (Wastewater CSS Scranton

Operations). Each of these adjustments is required to reflect the changed circumstances 2 specific to each customer.

3		Three adjustments were made that relate to changes that affected several accounts
4		for Vycom Corporation during the historic test year and future test year, as listed below:
5		(1) In April 2019, it was discovered that Vycom was not being billed for a
6		wastewater account from 12/6/2016 through 6/17/2019. Vycom and PAWC
7		agreed to back bill Vycom for \$362,677. An adjustment was made to
8		eliminate the back bill and annualize usage and revenues at present rates for
9		2019. To annualize the 2019 usage for this account, the Company used
10		Vycom's water usage for the months from January 2019 through July 2019.
11		(2) In 2020, it also was discovered that Vycom account number xxxxxxx075
12		was not being billed for their wastewater from 12/5/2016 through 1/17/2020.
13		An adjustment was made to add sewage flows and revenues to present rates
14		for 2020. The sewer flows used in this adjustment are based on Vycom's water
15		usage from January 2019 through December 2019.
16		(3) Finally, in 2020, it was discovered that Vycom account xxxxxxx418 was
17		not a wastewater customer of PAWC but rather was discharging their sewage
18		flows into Moosic Borough's system. An adjustment is made to remove the
19		wastewater sewage flows and revenues from the future test year.
20	Q.	Please discuss the adjustment to reflect the declining usage for Scranton.
21	A.	The Company has made an adjustment to reflect the trend of declining usage on Exhibit
22		No. 3-A (Wastewater CSS Scranton Operations) for revenue at present rates at December
23		31, 2020 and December 31, 2021, December 31, 2022. This adjustment is made 23

1		consistent with the discussion above under Wastewater SSS Excl. Sadsbury and Exeter.
2		Additionally, please refer to the testimony of Gregory Roach (PAWC Statement No. 9)
3		for the analysis supporting this adjustment.
4		
5	Wast	ewater CSS McKeesport Operations
6	Q.	Please describe the various adjustments to the Company's book revenues from
7		McKeesport wastewater service area sales that were made to develop pro forma
8		CSS wastewater sales revenues under present and proposed rates for the
9		Company's CSS wastewater operations.
10	A.	The adjustments made to the Company's McKeesport area CSS wastewater sales
11		revenues booked during the twelve months ended December 31, 2019, relate to the
12		following: (1) unbilled revenue and (2) changes in the numbers of residential and
13		commercial customers. Additionally, the Company made an adjustment at present and
14		proposed rates for 2020, 2021 and 2022 to reflect declining residential and commercial
15		usage.
16	Q.	Please discuss the adjustment to eliminate unbilled revenue.
17	A.	As shown on Exhibit No. 3-A (Wastewater CSS McKeesport Operations), an adjustment
18		was made to reflect the fact that PAWC records per-book revenues on an accrual basis.
19		The methodology of this adjustment is consistent with that discussed above under Water
20		Operations Excluding Steelton.
21	Q.	Please discuss the adjustment for the changes in the number of residential and
22		commercial customers.

1	A.	As shown on Exhibit No. 3-A (Wastewater CSS McKeesport Operations), adjustments
2		were made to annualize historic test year revenues based on the number of residential and
3		commercial customers at December 31, 2019. This adjustment was made in a manner
4		consistent with that described under Water Operations Excluding Steelton, above.
5	Q.	Please discuss the adjustment to reflect the declining usage for McKeesport.
6	A.	The Company made an adjustment to reflect the trend of declining usage on Exhibit No.
7		3-A (Wastewater CSS McKeesport Operations) for revenue at present rates at December
8		31, 2020 and December 31, 2021, December 31, 2022. This adjustment is consistent with
9		the discussion above under Wastewater SSS Excl. Sadsbury and Exeter. Additionally, I
10		relied on the testimony of Gregory Roach (PAWC Statement No. 9) for the analysis
11		supporting declining use per customer.
12	Waste	ewater CSS Kane Operations
13	Q.	Please describe the adjustments to the Company's book revenues to reflect the
13 14	Q.	Please describe the adjustments to the Company's book revenues to reflect the Wastewater CSS Kane Operations.
13 14 15	<b>Q.</b> A.	Please describe the adjustments to the Company's book revenues to reflect theWastewater CSS Kane Operations.During 2020, the Company will close on the acquisition of the wastewater utility property
13 14 15 16	<b>Q.</b> A.	Please describe the adjustments to the Company's book revenues to reflect theWastewater CSS Kane Operations.During 2020, the Company will close on the acquisition of the wastewater utility propertyof the Borough of Kane Authority and begin providing service to that entity's former
13 14 15 16 17	<b>Q.</b> A.	Please describe the adjustments to the Company's book revenues to reflect theWastewater CSS Kane Operations.During 2020, the Company will close on the acquisition of the wastewater utility propertyof the Borough of Kane Authority and begin providing service to that entity's formercustomers. An adjustment was made to annualize the revenues associated with this
13 14 15 16 17 18	<b>Q.</b> A.	Please describe the adjustments to the Company's book revenues to reflect theWastewater CSS Kane Operations.During 2020, the Company will close on the acquisition of the wastewater utility propertyof the Borough of Kane Authority and begin providing service to that entity's formercustomers. An adjustment was made to annualize the revenues associated with thisacquisition.
13 14 15 16 17 18 19	Q. A.	Please describe the adjustments to the Company's book revenues to reflect the Wastewater CSS Kane Operations. During 2020, the Company will close on the acquisition of the wastewater utility property of the Borough of Kane Authority and begin providing service to that entity's former customers. An adjustment was made to annualize the revenues associated with this acquisition. Operating Revenues
<ol> <li>13</li> <li>14</li> <li>15</li> <li>16</li> <li>17</li> <li>18</li> <li>19</li> <li>20</li> </ol>	Q. A. <u>Other</u> Q.	Please describe the adjustments to the Company's book revenues to reflect the         Wastewater CSS Kane Operations.         During 2020, the Company will close on the acquisition of the wastewater utility property         of the Borough of Kane Authority and begin providing service to that entity's former         customers. An adjustment was made to annualize the revenues associated with this         acquisition.         Operating Revenues         Were any adjustments made to the Company's Other Operating Revenue for water
<ol> <li>13</li> <li>14</li> <li>15</li> <li>16</li> <li>17</li> <li>18</li> <li>19</li> <li>20</li> <li>21</li> </ol>	Q. A. <u>Other</u> Q.	Please describe the adjustments to the Company's book revenues to reflect the         Wastewater CSS Kane Operations.         During 2020, the Company will close on the acquisition of the wastewater utility property         of the Borough of Kane Authority and begin providing service to that entity's former         customers. An adjustment was made to annualize the revenues associated with this         acquisition.         Operating Revenues         Were any adjustments made to the Company's Other Operating Revenue for water         and wastewater operations?
<ol> <li>13</li> <li>14</li> <li>15</li> <li>16</li> <li>17</li> <li>18</li> <li>19</li> <li>20</li> <li>21</li> <li>22</li> </ol>	Q. A. <u>Other</u> Q. A.	Please describe the adjustments to the Company's book revenues to reflect the         Wastewater CSS Kane Operations.         During 2020, the Company will close on the acquisition of the wastewater utility property         of the Borough of Kane Authority and begin providing service to that entity's former         customers. An adjustment was made to annualize the revenues associated with this         acquisition.         Operating Revenues         Were any adjustments made to the Company's Other Operating Revenue for water         and wastewater operations?         Yes, adjustments were made to Other Operating Revenue with respect to: (1) late

from the American Water Works Service Company for office space and equipment. Each
 adjustment is explained below.

3	Late Payment Fees. Adjustments were made to adjust revenue from late payment
4	charges ("Penalties") based on: (1) the annualized effect of changes to water and
5	wastewater sales at December 31, 2019, December 31, 2020, December 31, 2021 and
6	December 31, 2022; and (2) the annualized effect of the rate increases proposed by this
7	rate filing. These adjustments are shown in the Revenues section of Exhibit No. 3-A
8	associated with each revenue requirement. The late payment charge is 1.50% of
9	delinquent billings. Consequently, as the Company's billed revenue increases due to rate
10	increases, late payment charge revenue increases correspondingly. Therefore, the
11	Company calculated a three-year average of late payment charges as a percentage of total
12	water and wastewater sales. That percentage was applied to pro forma revenue at present
13	and proposed rates to calculate the corresponding adjustments to late payment charge
14	revenue. Because the Company is claiming a level of late payment charge revenue based
15	upon a percentage of pro forma water and wastewater sales, any change to water and
16	wastewater sales revenue under present or proposed rates requires a concomitant
17	adjustment to late payment charge revenue.

18 Rental Income for Cell Towers – Water Only. The Company is paid by cellular phone 19 providers for the lease of space on top of certain water towers for the placement of 20 antennas. An adjustment was made to adjust for the difference between the revenues that 21 were recorded in 2019 that included prior period adjustments, and the revenue that is 22 expected to be recorded as cell tower rental income in 2020, 2021 and 2022 based on

contracted increases. Please refer to Exhibit No. 3-A (Water Operations Excluding
 Steelton).

3		Office Rental Income – Water only. PAWC collects office rent for the Service
4		Company portion of the Wilkes-Barre Scranton office. This adjustment annualizes the
5		office rent income at present rates December 31, 2019, 2020, 2021 and 2022 for this
6		office. PAWC also collects Service Company rent for the lease of office space by Service
7		Company employees in the Mechanicsburg Capital Campus. This adjustment also
8		annualizes the Service Company office rental income at present rates December 31, 2019,
9		2020, 2021 and 2022 for the new the Pennsylvania corporate headquarters in
10		Mechanicsburg ("Capital Campus"). Please refer to Exhibit No. 3-A (Water Operations
11		Excluding Steelton).
12	Q.	Were the pro forma revenues under present and proposed rates for each water and
13		wastewater revenue requirement, as reflected in each Exhibit No. 3-A, verified by
14		applying present rates and proposed rates to an analysis of customers' bills?
15	A.	Yes, all pro forma revenues were verified by a bill analysis.
16	Q.	Does Exhibit No. 3-A set forth the number of customers served by the Company by
17		customer class?
18	A.	Yes, it does. The actual number of customers served at December 31, 2018, and
19		December 31, 2019, and the projected number of customers to be served at December 31,
20		2020, December 31, 2021 and December 31, 2022 are shown on the respective Exhibit
21		No. 3-A for each revenue requirement.

1		Rate Design Proposal
2	Q.	Please discuss the Company's rate zones in effect following the last base rate case.
3	A.	At the conclusion of the Company's last base rate case, the Commission-approved water
4		rates achieved a consolidation of the Company's rate zones such that a large majority of
5		its customers are now being billed under the same set of rates for metered service. This
6		consolidation represented the continued implementation of the Commission-approved
7		concept of Single Tariff Pricing. However, Water Rate Zone 2 (Nittany, Sutton Hills, All
8		Seasons, Balsinger and Berry Hollow) and Rate Zone 3 (McEwensville) continue to have
9		separate rates.
10		Additionally, Wastewater Rate Zone 2 (New Cumberland), Rate Zone 3
11		(Scranton), Rate Zone 4 (Koppel), and Rate Zone 5 (Franklin) continue to have separate
12		rates.
13	Q.	Please summarize the rate zones that have been created since the last rate case.
14	A.	Since the last case, the following water rate zones have been created through acquisitions:
15		Zone 4 (Turbotville) and Zone 5 (Steelton) and the following wastewater zones have
16		been created through acquisitions: Zone 6 (McKeesport), Zone 7 (Sadsbury), Zone 8
17		(Turbotville), and Zone 9 (Exeter).
18	Q.	Please summarize the consolidation of water rates proposed by the Company in this
19		proceeding.
20	A.	In this filing, the Company proposes to consolidate Rate Zone 2 identified above into
21		Rate Zone 1. For the consolidated Rate Zone 1, PAWC proposes to increase the service
22		charge for a 5/8 inch meter to \$18.00 per month in Rate Year 1 and to \$18.50 per month
23		in Rate Year 2. The Company also proposes to make the service charges for residential $\frac{28}{28}$

1	customers with 3/4 inch, 1 inch, and 1-1/2 inch meters the same as the service charge for
2	residential customers with a 5/8 inch meter. This change is appropriate because it ensures
3	that residential customers with automatic fire protection systems are not charged a
4	standby charge for their larger meter size, in accordance with Section 1326 of the Public
5	Utility Code.
6	Private fire rates will be increased as indicated by the cost of service study. In
7	addition, for Rate 1, consistent with the terms of the Commission-approved settlement of
8	the Company's rate case at Docket No. R-996438, hydrants that were placed in service
9	after January 1, 2000 will have their applicable annual charges adjusted to 25% of cost of
10	service, or \$202.44 in Rate Year 1 and \$213.60 in Rate Year 2.
11	The Company proposes to maintain a separate rate zone for Rate Zone 3
12	(McEwensville). The residential and commercial rates for McEwensville are increased in
13	Rate Year 1, including a service charge of \$18.00 for customers with a 5/8 inch meter in
14	accordance with the Zone 1 service charge. In Rate Year 2, the residential and
15	commercial rates for McEwensville are increased and equaled to the proposed Zone 1
16	rates. This proposal to move the McEwensville rates to Zone 1 over two years moves a
17	larger portion of the Company's customers to Single Tariff Pricing, while also mitigating
18	the impact on these customers.
19	The Company proposes to maintain a separate rate zone for Rate Zone 4
20	(Turbotville). The proposed residential rates for Turbotville are the same as Zone 1 rates
21	in Rate Year 1 and Rate Year 2. The proposed commercial rates for Tubotville are
22	increased in Rate Year 1 with a service charge of \$18.00 for a 5/8 inch meter in
23	accordance with the Zone 1 service charge. In Rate Year 2, residential rates are increased 29

1		in accordance with Zone 1 rates and commercial rates are increased and equaled to the
2		proposed Zone 1 rates. This proposal to move the Turbotville rates to Zone 1 over two
3		years moves a larger portion of the Company's customers to Single Tariff Pricing, while
4		also mitigating the impact on these customers.
5		Water Steelton Operations is maintained as a separate rate zone due to the
6		limitations on the increase provided for in the settlement of the acquisition proceeding, as
7		discussed below. The Winola system, which is part of Water Operations Excluding
8		Steelton, will be added as a separate rate zone upon acquisition. The Company is not
9		proposing an increase to Winola's existing rates; however, the proposed tariff applies the
10		monthly flat rate amount to both full-time and seasonal customers.
11	Q.	Please summarize the consolidation of wastewater rates proposed by the Company
12		in this proceeding.
13	A.	In this filing, the Company proposes to consolidate Wastewater Rate Zone 1, Zone 4
14		(Koppel), Zone 5 (Franklin), Zone 7 (Sadsbury), Zone 8 (Turbotville), Zone 9 (Exeter),
15		and Future Zone 11 (Delaware). For the consolidated Wastewater Rate Zone 1, PAWC
16		proposes to increase the service charge to \$11.00 per month in Rate Year 1 and to \$12.00
17		per month in Rate Year 2.
18		In addition to Zone 1, the Company proposes four additional rate zones for Rate
19		Year 1 and Rate Year 2: Zone 2 (New Cumberland), Zone 3 (Scranton), Zone 4 (Kane),
20		and Zone 6 (McKeesport). <sup>2</sup>
21	Q.	Did the Company employ any of the authority provided by amendments to the

<sup>&</sup>lt;sup>2</sup> Wastewater Zone 5 is held for future use.

1		Public Utility Code made by Act 11 of 2012 in developing its rate design in this case?
2	A.	Yes, in this case the Company is proposing to incorporate wastewater revenue
3		requirements into its water revenue requirement. Combining water and wastewater
4		revenue requirement and the resulting rate design are discussed in the direct testimony of
5		Company witness Nevirauskas (Statement No. 1) and the direct testimony of Company
6		witness Heppenstall (Statement No. 12).
7	Q.	Please summarize the Company's commitments regarding rate increases for certain
8		acquisitions prior to the last rate case.
9	A.	The following systems acquired by the Company in 2016 are subject to rate increase
10		limitations: The Borough of New Cumberland wastewater system, which is part of the
11		Company's Wastewater SSS Operations Excluding Sadsbury and Exeter, and the
12		Scranton wastewater system, which comprises the Company's Wastewater CSS Scranton
13		Operations.
14		In the New Cumberland application proceeding at Docket No. A-2016-2544151
15		the Commission approved a settlement that provided the following guidelines regarding
16		the increases that the Company would propose for this system:
17 18 19 20 21 22		In PAWC's second and third base rate filings following closing of the Transaction, PAWC shall propose revenue allocations and rate structures which equalize, in a gradual manner, the wastewater base rates for System customers with PAWC's system average wastewater base rates (Rate Zone 1) by the effective date of rates resulting from the respective second and third base rate filings following closing of the Transaction <sup>3</sup>

<sup>&</sup>lt;sup>3</sup> Application of Pennsylvania American Water Company for approval of 1) the transfer of substantially all of the Borough of New Cumberland's assets, properties and rights related to its wastewater collection and treatment system to PAWC; 2) the right of PAWC to begin to provide wastewater service to the Borough of New Cumberland and 3) for PAWC to provide wastewater service to three residential customers in Lower Allen Township, Cumberland County, Pennsylvania, Docket No. A-2016-2544151 (Joint Petition for Approval of Unanimous Settlement of All Issues filed on September 2, 2016 and approved by Order entered on October 27, 2016).

2		The current filing is the second base rate case filing following closing of the New
3		Cumberland transaction. PAWC proposes to move the rates for the New Cumberland
4		system toward Rate Zone 1 rates in this case. The Company's proposal decreases the
5		New Cumberland service charge to be equal to the Zone 1 service charge and
6		consolidates the New Cumberland current block rate structure into a single volumetric
7		rate.
8		In the Scranton application proceeding, the Commission approved the Amended
9		Asset Purchase Agreement which provided that PAWC would not propose rate increases
10		that would be equal to an amount greater than a 1.9% Compounded Annual Growth Rate
11		("CAGR") increase in annual revenues over a ten-year period relative to the starting
12		amount of annual revenues. The Company's proposed increase of approximately 12% in
13		Rate Year 1 is the increase permitted by this provision.
14	Q.	Please summarize the Company's commitments regarding rate increases for certain
15		acquisitions since the last rate case.
16	A.	The McKeesport, Exeter, and Steelton systems were acquired by the Company in 2017,
17		2019 and 2019, respectively. <sup>4</sup> In each of these application proceedings, the Commission

<sup>&</sup>lt;sup>4</sup> Application of Pennsylvania-American Water Company-Wastewater under Section 1329 of the Pennsylvania Public Utility Code For Approval of the Use For Ratemaking Purposes of the Lesser of the Fair Market Value or the Negotiated Purchase Price of The Municipal Authority of the City of McKeesport's Assets Related to Its Wastewater Collection and Treatment System and Other Related Transactions, Docket No. A-2017-2606103 (Joint Petition for Settlement of All Issues filed Sept. 20, 2017 and approved by Order entered on October 26, 2017) ("McKeesport Settlement"); Application of Pennsylvania-American Water Company under Sections 507, 1102 and 1329 of the Public Utility Code for Approval of its Acquisition of Wastewater System Assets of Exeter Township, Docket No. A-2018-3004933 (Joint Petition for Settlement of All Issues filed June 12, 2019 and approved by Opinion and Order entered on Oct. 3, 2019) ("Exeter Settlement"); Application of Pennsylvania American Water Company under 66 Pa C.S. §1102(a), and 66 Pa. C.S. §1329 of the PA Code, for approval of the transfer, by sale, of substantially all the

1	approved settlements, which are discussed below, providing that the Company would
2	propose certain rate increases for these systems. These Settlement provisions are shown
3	below. Additionally, the Company expects to close on its acquisition of the Borough of
4	Kane Authority wastewater assets in 2020.
5	<u>McKeesport</u>
6	The McKeesport Settlement (p. 7) provided for the following regarding the rate increase:
7 8 9 10 11 12 13 14 15 16	In its first base rate case following the closing of the acquisition, PAWC will propose to establish a rate zone for McKeesport and increase the rates of the System to an amount equal to the Zone 1 wastewater rates of PAWC's wastewater division, unless such increase would be more than two times the system-average increase for the wastewater division (calculated on a percentage increase basis). If the increase for the System would be more than two times the system-average increase of the wastewater division, PAWC will propose that the increase for the System be capped at two times the system- average wastewater division increase in this first base rate case.
17	Steelton
18	The Steelton Settlement (p. 5) provided for the following regarding the rate increase:
19 20 21 22 23 24	In its first base rate case following the closing of the acquisition, PAWC will propose to move the Steelton System to its cost of service or 1.4 times the current Steelton rates, whichever is lower, based on a separate cost of service study for the Steelton System, provided that such rates for Steelton customers do not exceed the proposed Zone 1 water rate.
25	Exeter
26	The Exeter Settlement (p. 7-8) provided for the following regarding the rate increase:

Steelton Borough Authority's assets, properties and rights related to its water treatment, transportation, and distribution facilities, to PAWC, the rights of PAWC to supply water service to the public in the Borough of Steelton, and a portion of the Township of Swatara, Dauphin County, Docket No. A-2019-3006880 (Joint Petition for Settlement of All Issues filed July 3, 2019 and approved by Opinion and Order entered on Oct. 3, 2019) ("Steelton Settlement").

1 2 3 4 5 6 7 8		PAWC agrees that it will propose to move Exeter wastewater rates to Exeter's cost of service in the first base rate case that includes Exeter wastewater system assets unless such increase is more than 1.8 times current rates; provided, however, that PAWC will not be obligated to propose Exeter wastewater rates in excess of PAWC's proposed Rate Zone 1 system-average rates. The Joint Petitioners acknowledge, however, that PAWC may agree to rates other than those proposed for Exeter customers in the context of a settlement of the base rate case.
9		Kane
10		On April 17, 2020, PAWC filed a Joint Petition for Settlement of All Issues in the Kane
11		acquisition proceeding ("Kane Settlement"), which is currently pending before the
12		Commission at Docket No. A-2019-3014248. <sup>5</sup> The Kane Settlement (p. 7) proposes the
13		following regarding the rate increase for Kane:
14 15 16 17 18 19 20 21 22		In the first base rate case that includes the Authority's wastewater system assets, PAWC will propose to move the Authority's system to its cost of service or 1.46x the current Authority rate, whichever is lower, based on a separate cost of service study for the Authority's system; provided, however, that PAWC will not be obligated to propose Authority wastewater rates in excess of PAWC's proposed Rate Zone 1 system-average rates. The Parties acknowledge, however, that PAWC may agree to rates other than those proposed for Authority customers in the context of a settlement of the base rate case.
23	Q.	Please summarize how the Company has complied with the above-referenced
24		Settlements.
25	A.	The Company's proposals with regard to the rate increases to New Cumberland,
26		McKeesport, Exeter, Steelton and Kane customers comply with the respective
27		Settlements. As stated above, PAWC proposes to move New Cumberland's rates toward
28		Wastewater Rate Zone 1, in this case.
29		The Company proposes that Steelton (current Water Rate Zone 5) be maintained
30		as a separate rate zone in Rate Year 1 and Rate Year 2. Consistent with the Steelton

<sup>&</sup>lt;sup>5</sup> Docket No. A-2019-3014248.

Settlement, PAWC proposes a 40% cumulative increase over Rate Year 1 and Rate Year 2.

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3		The Company proposes that Exeter (current Wastewater Zone 9) rates be
4		consolidated with Zone 1 wastewater rates in Rate Year 1. As part of Zone 1, Exeter is
5		proposed to receive an increase in Rate Year 2 in accordance with other Zone 1
6		customers. This proposed change in Exeter's rates equals an increase of approximately
7		80% over Rate Year 1 and Rate Year 2, as required by the Exeter Settlement.
8		The Company proposes to set the rates for McKeesport (currently Wastewater
9		Zone 6) equal to Zone 1 rates, consistent with the McKeesport Settlement. Because of the
10		differences between PAWC's Zone 1 wastewater rate structure and McKeesport's current
11		rate structure, some customers with larger meter sizes may receive a decrease as part of
12		the movement to Zone 1 rates. The current tariff applicable to McKeesport customers
13		includes separate monthly and quarterly rates for Port Vue customers as compared to the
14		monthly rates for McKeesport customers in McKeesport, Duquesne, Dravosburg, and
15		West Mifflin. The Company is proposing to move all customers under the McKeesport
16		tariff to uniform monthly rates in Rate Zone 6.
17		The Company proposes to set the rates for Kane in a separate Rate Zone 4.
18		Consistent with the proposed Kane Settlement, PAWC proposes a 46% cumulative
19		increase over Rate Year 1 and Rate Year 2.
20	Q.	The McKeesport rates are proposed to be equalized with Rate Zone 1. Please
21		explain why the Company has maintained McKeesport as a separate rate zone.
22	A.	The McKeesport system is a combined sewer system, while all systems in Rate Zone 1
23		are sanitary sewer systems. In future cases, the Company expects to consolidate $\frac{25}{25}$

1		wastewater rates into two separate categories: one consolidated rate zone for sanitary
2		sewer systems (similar to Rate Zone 1), and a separate consolidated rate zone for
3		combined sewer systems. The proposal to maintain McKeesport as a separate rate zone is
4		consistent with this intention.
5	Q.	Did you participate in the decision-making process concerning the rates proposed in
6		this case?
7	A.	Yes. I consulted with Rod Nevirauskas, PAWC's Senior Director of Rates and
8		Regulation, and Ms. Heppenstall of Gannet Fleming on several occasions concerning
9		tariff design policies. During this process, Ms. Heppenstall was provided the rate design
10		guidelines necessary to develop the various rates proposed in this case.
11	Q.	What rate design guidelines were provided to Ms. Heppenstall?
12	A.	Ms. Heppenstall was requested to design rates consistent with the following goals: (1)
13		Single Tariff Pricing for both the Company's water and wastewater operations; (2) to
14		increase customer service charges for water service to a level more in line with the cost of
15		providing service for the water operations; (3) to adjust public and private fire protection
16		in the manner I previously described; and (4) to increase rates by customer class to
17		recover the proposed revenue increase taking into account (i) the results of the cost of
18		service study for the water and wastewater operations, (ii) the acquisition Settlements
19		described above, and (iii) the combining of wastewater and water revenue requirements.
20	<u>Expe</u>	ense Adjustments
21	Q.	Please explain the development of pro forma operating and maintenance ("O&M")
22		expenses as set forth in Exhibit No. 3-A.
23	A.	Pro forma O&M expenses have been developed in a manner consistent with previous

filings. In general, data recorded on the Company's books of account for the historic test
year were used as a starting point. Those data were then adjusted to reflect the effects of
changes which have occurred or will occur by December 31, 2020, December 31, 2021
and December 31, 2022. All adjustments that were made in developing pro forma
expenses are summarized in Exhibit No. 3-A. The details of each specific adjustment are
set forth on separate pages following the summary page.
What O&M expense adjustments are you addressing?

- 8 A. I will address the Company's claims for the following: (1) miscellaneous expenses and
  9 associated adjustments, including annualization of O&M expenses for systems acquired
- 10 in the HTY; (2) Pennsylvania Department of Environmental Protection ("PADEP") fees
- 11 for the Safe Drinking Water program; (3) credit card fees; (4) receivership expenses; and
- 12 (5) uncollectible accounts expense. Ms. Gress addresses labor and labor related and
- 13 Service Company expenses in her direct testimony (PAWC Statement No. 6). Mr.
- 14 DeGrazia addresses production costs, insurance other than group and various other
- 15 expense claims in his testimony (PAWC Statement No. 7).
- 16 Miscellaneous Expenses
- 17 Q. Please explain what is included in the Miscellaneous Expense Adjustment.
- 18 A. Exhibit No. 3-A sets forth items that are being adjusted or eliminated from the
- 19 Company's O&M claim in this proceeding.
- 20 First, I will discuss deductions reflected in the Miscellaneous Expense
- 21 Adjustment. The Company eliminated duplicative expense items such as pension and
- 22 other post-employment benefits that have been included in the development of
- 23 Company's claim for the ongoing water expense levels (Exhibit No. 3-A Water

1 Operations Excluding Steelton). Additionally, donations, lobbying expenses, and fines 2 incurred during the historic test year were removed. Costs associated with temporary 3 employees were excluded from the Company's claim because the need for these 4 employees will be significantly reduced by the full-time staffing levels reflected in the 5 salary and wage claim in this case. Naturally, this part of the adjustment assumes 6 recognition in this proceeding of the requested staffing levels. The Company has reduced 7 per-book severance costs, as well as injuries and damages, to reflect a normalized level 8 that is based on a three-year average. As discussed by Ms. Gress in PAWC Statement No. 9 6, the Company has reflected the removal of customer accounting and postage expense as 10 these costs are now paid through the Service Company.

11 For Water Operations Excluding Steelton, the Company removed an expense for 12 prepaid NAWC - PA Chapter dues in order to not duplicate this expense. Additionally, 13 the Company has reflected an adjustment in Exhibit No. 3-A to reflect the allocation of a 14 portion of the cost of the Capital Campus from Water Operations Excluding Steelton to 15 Water Steelton Operations, Wastewater SSS Operations Excluding Sadsbury and Exeter, 16 Wastewater SSS Sadsbury Operations, Wastewater SSS Exeter Operations, Wastewater 17 CSS Scranton Operations, and Wastewater CSS McKeesport Operations. 18 Second, the Miscellaneous Expense Adjustment also includes additions to the 19 Company's O&M claim for water operations. The Company added costs associated with 20 the Company's revolving line of credit because those costs were reclassified from interest 21 expense to operating costs. Consistent with prior cases, the Company has adjusted per 22 book severance costs, as well as injuries and damages, to reflect a normalized level that is 23 based on a three-year average. An adjustment to General Facility Maintenance expense is

1	shown in Exhibit No. 3-A to reflect the projected ongoing level of maintenance expense.
2	Please refer to Mr. Clarkson's testimony in PAWC Statement No. 2 for the supporting
3	analysis associated with this adjustment.
4	The Company also made adjustments to annualize the O&M expenses not fully
5	recognized in the historic test year for the Company's acquisitions, as follows:
6 7 8	<b>Water Operations Excluding Steelton</b> : the water assets of the Municipal Authority of the Borough of Turbotville (acquired July 23, 2019) and Winola Water Company (anticipated acquisition in 2020).
10 11 12 13	Water Steelton Operations: the water assets of Steelton Borough Authority (acquired October 9, 2019). This adjustment applies to the Water Steelton Operations.
14 15 16 17	<b>Wastewater SSS Excluding Sadsbury and Exeter</b> : the wastewater assets of the Borough of Turbotville (acquired July 23, 2019) and Delaware Sewer Company (anticipated acquisition in 2020)
18 19 20	<b>Wastewater SSS Sadsbury Operations</b> : the wastewater assets of Sadsbury Township (acquired March 6, 2019)
21 22 23	Wastewater SSS Exeter Operations: the wastewater assets of Exeter Township (acquired October 24, 2019)
24 25 26	<b>Wastewater CSS Kane Operations</b> : the wastewater assets of the Borough of Kane Authority (anticipated acquisition in 2020)
27 28	Details supporting these adjustments are provided in Exhibit No. 3-B.
29	Finally, Exhibit No. 3-A reflects adjustments related to PADEP Safe Drinking
30	Water Fees, the cost of e-check and credit card payments, and O&M expense associated
31	with acquisitions during 2019 and 2020. These adjustments are discussed in more detail
32	below.
33	Safe Drinking Water Annual Fees
34	Q. Please explain the Miscellaneous Expense Adjustment for the Safe Drinking Water

("SDW") Annual Fee imposed by the PADEP for Water Operations Excluding
 Steelton.

3	A.	On May 9, 2019, the Commission's Order at Docket No. P-2019-3008253 authorized the
4		Company to defer expenses associated with the PADEP's SDW program beginning
5		January 1, 2019 through the effective date of base rate established in its next general base
6		rate case. The amount of the SDW annual fee is based on the population served under
7		each public water system ID ("PWSID"). Exhibit No. 3-A (Water Operations Excl.
8		Steelton) reflects an adjustment based on two components: 1) the amortization of the
9		deferred expenses in 2019 and 2020 and 2) the ongoing SDW annual fee expense.
10		As noted above, the Company was permitted to defer the SDW fees incurred in
11		2019 and 2020. The amount of the deferred expense for 2019 was \$837,500 and the
12		projected deferred expense in 2020 is \$838,500. In total, the deferred expenses for 2019
13		and 2020 are \$1.676 million.
14	Q.	Please explain how the Company projected the 2020 SDW annual fee expense of
15		\$838,500.
16	A.	The 2020 fee structure is anticipated to remain the same as 2019, however, the addition
17		of the acquired Turbotville PWSID has been included. The \$1,000 projected expense for
18		Turbotville Water is based on the population in this area.
19	Q.	Please discuss the amortization period the Company has used for the deferred SDW
20		annual fee expense.
21	A.	As shown on Exhibit No. 3-A, the expenses are amortized over a period of two years.
22		Based on the time period over which the expenses were incurred by PAWC and the

1		expense. This two-year amortization period results in an annual amortization expense of
2		\$838,000. Please refer to Exhibit No. 3-B for the calculation of this expense.
3	Q.	Please summarize the second component of the annual SDW expense.
4	A.	The projected ongoing expense for SDW annual fees is also \$838,500 for 2021 and 2022.
5		This projected expense is based on the 2020 expense as described above.
6	Q.	Please summarize the total annual SDW expense for Water Operations Excluding
7		Steelton.
8	A.	The total adjustment to operating expense for the SDW fees is \$1,676,500 (\$838,000
9		amortization expense + \$838,500 ongoing expense).
10	Q.	Does the Company include a similar adjustment for the SDW expense for Water
11		Steelton Operations?
12	A.	Yes. Steelton Water will also be assessed an SDW annual fee of \$10,000 for 2020 based
13		on its population of 6,377. Due to the Steelton acquisition occurring in late 2019, there
14		was no expense incurred during that year. The 2020 deferred expense will be amortized
15		over two years for an annual amortization expense of \$5,000.6 The ongoing expense for
16		2021 and 2022 is \$10,000. Thus, the total expense adjustment for the SDW fees for
17		Steelton Water Operations is \$15,000 (\$5,000 amortization expense + \$10,000 ongoing
18		expense).
19	<u>Credi</u>	t Card Fees
20	Q.	Is the Company including credit card fees as an O&M expense in this case?
21	A.	Yes. Currently, customers making payments using a credit card pay a fee per transaction.

<sup>6 \$10,000</sup> expense for 2020 / 2 years = \$5,000 per year. 41

1 The Company has a contracted rate with a third-party vendor for processing the 2 transactions, which the vendor bills directly to the customer. The Company is proposing 3 to provide a no-fee option to customers who make a credit card payment. Under this 4 proposal, the Company would pay for the third-party vendor fees which would be 5 recovered through the Company's base rates. 6 **Q**. How does the Company's proposal benefit customers? 7 Providing customers with another payment option without a fee will ease the payment A. 8 process for customers, incentivize paperless billing, and increase customer satisfaction. It 9 also supports the Company's efforts to continue encouraging customers to use online payment platforms. In addition to being a "green alternative" to submitting payments by 10 mail, the Company anticipates that customer satisfaction will improve.<sup>7</sup> 11 12 **Receivership Costs** 13 Q. Please provide an overview of the costs associated with receivership of small 14 troubled water companies. 15 On August 8, 2019, the Commission entered an Order at Docket No. M-2019-3011972 A. appointing PAWC as Receiver of Indian Springs Water Company ("Indian Springs 16 Order"). In Appendix A to the Indian Springs Order, the Commission outlined PAWC's 17 18 duties and responsibilities as Receiver. The Order stated that as Receiver, PAWC has, 19 among others, the following duties and responsibilities: 20 s. Establish deferred accounting treatment for expenses incurred by Indian 21 Springs that are payable to the Receiver and to present those expenses for

<sup>&</sup>lt;sup>7</sup> The 2016 J.D. Power & Associates Electric Utility Residential Customer Satisfaction Study Power & Associates found that customers who were given the option of paying by credit card without a fee had a higher customer satisfaction index. The study also cited "Fee-Free Card Payment" options as a "Best Practice."

1 2 2		recovery as a part of a subsequent base rate proceeding if not recoverable from Indian Springs.
3 4 5 6 7		t. Establish deferred accounting treatment for reasonable capital costs incurred by the Receiver to restore safe, adequate, and reasonably continuous service to Indian Springs customers and to present those costs for recovery as a part of a subsequent base rate proceeding if not recoverable from Indian Springs.
8 9		On November 29, 2018, the Commission issued an Ex Parte Emergency Order at
10		Docket No. P-2018-3006216 appointing PAWC as the receiver of Winola Water
11		Company ("Winola Order"). In Appendix A to the Winola Order, the Commission
12		outlined PAWC's duties and responsibilities as Receiver. The Order stated that as
13		Receiver, PAWC has, among others, the following duties and responsibilities:
14 15 16 17		b. Establish a deferred expense account for expenses incurred by the receiver resulting from this order, including prudent and reasonable legal expenses.
18	Q.	Please discuss the adjustment for the Receivership costs incurred by PAWC.
19	A.	The adjustments for the Winola and Indian Springs receivership costs are shown on
20		Exhibit No. 3-A (Water Operations Excluding Steelton) and on Exhibit No. 3-B (Water
21		Operations Excluding Steelton). This adjustment is based on the actual operation and
22		maintenance expenses as well as capital expenditures incurred on behalf of Winola and
23		Indian Springs. Additionally, the adjustment includes a projection of the expenses PAWC
24		will incur throughout the remainder of 2020. This estimate of expenses for the remainder
25		of 2020 is based on the costs PAWC has actually incurred to date as Receiver of these
26		systems. The Company's claims for receivership expenses are offset by the revenues
27		PAWC has received from Indian Springs and Winola customers and projects to receive
28		through 2020. Please refer to Exhibit No. 3-C, Water Operations Excluding Steelton, for
29		a monthly detail of expenses incurred on behalf of Winola and Indian Springs. The $43$

Company proposes to amortize these costs over a ten-year period.

## 2 <u>Uncollectible Accounts Expense</u>

## 3 0. Please explain the Company's claim for uncollectible accounts expense. 4 A. The Company's claims for uncollectible accounts expense in Rate Year 1, shown on 5 Exhibit No. 3-A was developed by applying the three-year average ratio of net write-offs 6 of water and wastewater revenues to the total water and wastewater revenues. The claim 7 for uncollectible expense in Rate Year 2 was calculated in the same manner. The 8 Company expects uncollectible accounts expense to increase due to the economic 9 impacts of the COVID-19 crisis on customers. Such increase has not been quantified by 10 the Company and a claim for increased expense is not being made at this time. 11 **Proposed Water and Wastewater Tariffs** 12 Q. Please discuss the tariff changes shown in the proposed Water Tariff. 13 The Company is proposing seven changes to the following Rules and Regulations in its 14 Water Tariff. First, the Company proposes to eliminate the TCJA Voluntary Surcharge 15 because base rates proposed in this proceeding incorporate the income tax changes 16 created by the TCJA. Second, the Company proposes a Regionalization and 17 Consolidation Surcharge (RCS) for water customers, as further discussed by Company 18 witnesses Nevirauskas and Grundusky in Statement Nos. 1 and 8, respectively. Third, 19 regarding Rule 6.3 Meter Test Fees, the Company proposes to change the language of the 20 tariff to permit the Company to bill customers for the meter test fee only after the meter 21 has been shown to be accurate. Fourth, regarding new Rule 7.8 Landlord Assumption of 22 Responsibility, the Company proposes that if an applicant for service is a landlord who 23 assumes responsibility for rates and charges related to water or wastewater service
1		provided to tenants and is billed for such service, the landlord must also assume
2		responsibility and be billed for both water and wastewater service, if such service is
3		provided or billed by the Company. Fifth, regarding Rule 8.5 Application for Public Fire
4		Hydrant Service, the Company proposes to change the required signature from a Vice
5		President to an Authorized Representative of the Company. A similar change is proposed
6		for Rule 21.2, Application for Qualified Private Fire Hydrant. Sixth, regarding Rule 15
7		Liability of Company, the Company proposes to change the language regarding the
8		Company's liability for damages, consistent with the Commission-approved tariffs of
9		other Pennsylvania public utility companies limiting liability for certain types of damages
10		such as direct damages, extraordinary damages, special damages, consequential damages
11		and lost profits or similar types of damages (e.g., loss of business). Seventh, the
12		Company proposes a change to the Low Income Rider, as discussed in more detail below.
13	Q.	Please discuss the tariff changes shown in the proposed Wastewater Tariff.
14		The Company is proposing six changes to the following Rules and Regulations in its
15		Wastewater Tariff. First, the Company proposes to eliminate the TCJA Voluntary
16		Surcharge as discussed in the water tariff section above. Second, the Company proposes a
17		Regionalization and Consolidation Surcharge (RCS) for wastewater customers, as further
18		discussed by Company witnesses Nevirauskas and Grundusky in Statement Nos. 1 and 8,
19		respectively. Third, regarding the Wastewater Plant, Residential Septage and Commercial
20		Waste Disposal Fee, the Company is modifying the language regarding the applicable
21		rate zones. This change is necessary to clarify that although the Exeter system is
22		proposed to be part of Rate Zone 1, Exeter's separate waste disposal fees continue to
<b>^</b>		angles Fourth responding new Section C.5. Londland Assumption of Desmansibility, the
23		apply. Fourth, regarding new Section G.5 Landiord Assumption of Responsibility, the

1 Company proposes language consistent with the Landlord Assumption of Responsibility 2 in the water tariff as described above. Fifth, regarding Section I.2 Liability for Damages 3 and Section Q Liability of Company, the Company proposes to change the language 4 regarding the Company's liability for damages consistent with the proposed change to the 5 water tariff described above. Sixth, the Company proposes a change to the Low Income 6 Rider, as discussed in more detail below. 7 0. Has the Company provided a redlined version of the proposed tariffs? 8 Yes, the Company has provided a redlined version of its proposed tariffs showing A. 9 changes made relative to its current Water and Wastewater Tariffs, including changes to 10 the rules as described above and the proposed rates. The proposed consolidation of 11 certain rate zones is discussed in the Rate Design section above. 12 Low Income Program 13 Q. Does the Company currently offer a low-income discount? 14 Yes. PAWC's Water tariff currently provides for an 85% discount on the service charge A. 15 for customers at or below 150% of the Federal Poverty Level. PAWC's Wastewater Tariff currently provides for a 20% discount on the total bill for customers at or below 16 17 150% of the Federal Poverty Level. 18 Please describe the changes to the low-income discount that the Company is Q. 19 proposing in this case. 20 A. In consideration of increasing pressures on low-income customers, particularly those 21 impacted by the current COVID-19 crisis, the Company proposes the following changes 22 to the low income discount program in this case: the addition of a 10% discount on the 23 volumetric charge for water customers in addition to the current 85% discount on the 46

1		service charge; and an increase to the wastewater total bill discount from 20% to 30% of
2		the total bill.
3	<u>TCJA</u>	<u>A Stub Period</u>
4	Q.	Please discuss the tax expense reduction produced by the Tax Cuts and Jobs Act of
5		2017.
6	A.	The TCJA, passed into law in December 2017, reduced the corporate federal income tax
7		rate applicable to PAWC from 35% to 21%.
8		On July 1, 2018, PAWC implemented its TCJA Voluntary Surcharge which
9		reduced rates for water customers by 6.79%, for wastewater other than Scranton
10		customers by 7.84%, and for Scranton wastewater customers by 5.79%. Since that time,
11		PAWC has continue to reflect this negative surcharge on customers' bills. The TCJA
12		negative surcharge reduced customers' rates by more than a total of \$71 million in 2018
13		and 2019. This surcharge continues in 2020 and PAWC expects it will remain until the
14		effective date of new rates in this proceeding.
15		The Commission permitted PAWC to establish a regulatory liability in which the
16		tax savings between January 1, 2018 and June 30, 2018 ("Stub Period") were deferred.
17		The Company filed a Section 1307(e) reconciliation for its TCJA Voluntary Surcharge on
18		April 29, 2019. This 2019 filing showed an under collection in 2018 of \$28,620 for water
19		and an over collection in 2018 of \$3,169 for wastewater. <sup>8</sup> The Company was permitted to
20		defer the reconciliation amount in the previously approved regulatory liability. The 2020
21		Section 1307(e) reconciliation, which is being filed concurrent with this rate filing, shows

<sup>8</sup> In this context, an "under collection" means the Company refunded more than the indicated amount while an "over collection" means the Company refunded less than the indicated amount. 47

1		an under collection in 2019 of \$11,831 for water and an over collection in 2019 of	
2		\$15,734 for wastewater. Similar to the prior year filing, the Company proposes to include	
3		these amounts in the previously approved regulatory liability.	
4	Q.	Please discuss how the Company is returning the Stub Period tax expense savings to	
5		customers.	
6	A.	The Company proposes to amortize the tax savings from the Stub Period, netted for the	
7		reconciliation amount, back to customers over a three-year period. This three-year period	
8		is appropriate because it returns the tax savings to customers over a reasonable period of	
9		time without causing unnecessary rate fluctuations.	
10	<u>Sale (</u>	of Hershey Corporate Office	
11	Q.	Please discuss the sale of the Hershey Corporate Office.	
12	A.	As discussed in the Company's last base rate case, the Hershey corporate office was to be	
13		sold as part of the Company's move to the Mechanicsburg office. This sale was approved	
14		by the Commission at Docket No. A-2018-3004550. Please refer to Confidential	
15		Schedule AEE-1 in Confidential Volume 6d for the depreciated original cost at the time	
16		of sale, the Company's estimate of market value based on the sales price, the transaction	
17		and closing costs, the gain on the land, net salvage value of the building sale, and the	
18		journal entries for the transaction.	
19	Q.	Please discuss how the sale of the Hershey property was treated for ratemaking	
20		purpose.	
21	A.	In accordance with normal accounting and ratemaking procedures, the sales price of the	
22		building was credited to salvage value, while the difference between the original cost and	
23		the sales price of the non-depreciable property (land) was recorded below the line. $48$	

## 1 Conclusion

- 2 Q. Does this conclude your testimony at this time?
- 3 A. Yes, it does.

## **BEFORE THE** PENNSYLVANIA PUBLIC UTILITY COMMISSION

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PENNSYLVANIA PUBLIC UTILITY
COMMISSION
<b>v.</b>
PENNSYLVANIA-AMERICAN
WATER COMPANY

**DOCKET NOS. R-2020-3019369** (WATER) R-2020-3019371 (WASTEWATER)

## **VERIFICATION**

I, Ashley E. Everette, hereby state that the facts set forth in the pre-marked Statement No. 4 and accompanying exhibits, if any, are true and correct to the best of my knowledge, information and belief. I understand that this verification is made subject to the provisions and penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsifications to authorities).

Date: April 29, 2020

Ashley E. Everette

# Statement No.5 Chard

**PAWC STATEMENT NO. 5** 

## DIRECT TESTIMONY OF DR. CHRISTINA E. CHARD

## WITH REGARD TO PENNSYLVANIA-AMERICAN WATER COMPANY'S CLAIMED RATE BASE, DEPRECIATION AND AMORTIZATION, TAXES OTHER THAN INCOME, AND ACQUISITIONS IN RATE BASE

## DOCKET NOS. R-2020-3019369 (WATER) R-2020-3019371 (WASTEWATER)

DATE: April 29, 2020

## PENNSYLVANIA-AMERICAN WATER COMPANY

## **DIRECT TESTIMONY OF DR. CHRISTINA E. CHARD**

1	Q.	What is your name and business address?
2	A.	My name is Christina E. Chard. My business address is 1600 Pennsylvania Avenue,
3		Charleston, WV 25302.
4	Q.	By whom are you employed and in what capacity?
5	A.	I am employed by American Water Works Service Company (the "Service Company") as
6		Director of Rates and Regulations – Mid Atlantic Division. In that capacity, I provide
7		rate and regulatory support to the water utilities within the Mid-Atlantic Division, which
8		includes Pennsylvania-American Water Company ("PAWC" or the "Company").
9	Q.	Please summarize your educational background and professional experience.
10	A.	I hold a doctorate degree in Executive Leadership, a Master's degree in Forensic
11		Accounting, and a Bachelor of Science Degree in Mathematics from the University of
12		Charleston. I have also completed the National Association of Regulatory Utility
13		Commissioners' utility ratemaking course. My professional experience is set forth in
14		Appendix A to this Testimony.
15	Q.	What are your duties as Director of Rates and Regulations?
16	A.	My responsibilities as Director of Rates and Regulatory Support for the Mid-Atlantic
17		Division include the following: 1) leading rates and regulatory activity, including
18		coordination with the finance, engineering, and legal departments; 2) presenting rate
19		change applications and supporting documents and exhibits as prescribed by regulatory
20		commission requirements and in conformance with American Water Works Company
21		("AWW" or "American Water") management policies and guidelines; 3) preparing rate

1		analyses and studies to evaluate the effect of proposed rates on revenues, rate of
2		return, and tariff structures; 4) executing the implementation of rate orders, including the
3		development of any revised tariff pricing necessary to produce proposed revenue
4		levels; 5) overseeing the preparation of revenue and capital requirements analyses; 6)
5		providing support for financial analyses, including the preparation of applicable
6		regulatory commission filings; and 7) ensuring compliance with Generally Accepted
7		Accounting Principles ("GAAP"), regulatory, and American Water policies.
8	Q.	Have you previously submitted testimony before the Pennsylvania Public Utility
9		Commission (the "Commission" or "PUC")?
10	A.	No, but I have prepared and provided testimony in various water rate applications and
11		acquisition cases on behalf of an American Water subsidiary, West Virginia-American
12		Water, before the West Virginia Public Service Commission.
13	Q.	What is the purpose of your testimony?
14	A.	The purpose of my testimony is to explain the portions of the Company's principal
15		accounting exhibit, Exhibit No. 3-A, that I am sponsoring, which relate to the Company's
16		claims for rate base, depreciation and amortization, taxes other than income, and
17		acquisitions in rate base since the last base rate case.

1 2		The Development Of The Combined Water And Wastewater Revenue Requirement
3	Q.	Please explain how the Company developed its revenue requirement in this case.
4	A.	The total Company revenue requirement was developed based on eight separate revenue
5		requirements as defined as follows;
6		• Water Operations Excluding Steelton,
7		• Water Steelton Operations,
8		Wastewater Sanitary Sewer Systems ("SSS") Excluding Sadsbury and Exeter
9		Operations,
10		Wastewater SSS Sadsbury Operations,
11		• Wastewater SSS Exeter Operations,
12		• Wastewater Combined Sewer Systems ("CSS") Scranton Operations,
13		Wastewater CSS McKeesport Operations, and
14		Wastewater CSS Kane Operations.
15		In this case, the Company is distributing a portion of the revenue requirements for its
16		wastewater operations to the revenue requirements of its water operations as shown on
17		Exhibit No. 3-A on the Revenue Requirement Summary. In addition, a portion of the
18		revenue requirement for Water Steelton Operations was distributed to the revenue
19		requirement for Water Operations Excluding Steelton. The allocation of a portion of
20		Water Steelton Operations to Water Operations Excluding Steelton is supported by the
21		concept of "single tariff pricing," which the Commission has approved and embraced for
22		water utilities for over thirty-five years. The allocation of a portion of wastewater
23		revenue requirements to water revenue requirements by utilities that provide both forms
24		of service was authorized by amendments to the Public Utility Code made by Act 11 of

1 2012. Those amendments provide the Commission a reasonable means of moderating the 2 rate impact of significant investments needed to improve the service, reliability and 3 environmental compliance of acquired wastewater systems. The Commission approved 4 the allocation of a portion of the Company's wastewater revenue requirements to water 5 revenue requirements in the Company's last two base rate proceedings. In the 6 Company's last base rate case, Docket No. R-2017-2595853, the PUC approved a 7 Settlement that allocated 46% of the Company's wastewater revenue requirement 8 increase to the water revenue requirement.

9 For the Company's eight revenue requirements identified above, the Company 10 has prepared eight detailed revenue requirement studies that set forth the Company's 11 claims for rate base, depreciation, operating and maintenance expenses, taxes and pro 12 forma revenues for a historic test year ending December 31, 2019 ("HTY"), a projected 13 future test year ending December 31, 2020 ("FTY"), and fully projected future test years 14 ending December 31, 2021 ("Rate Year 1"), and 2022 ("Rate Year 2") respectively. In 15 Exhibit No. 3-A, the historic test year data are generally identified by the title or heading 16 "Present Rates at December 31, 2019" and the future test year and fully projected future 17 test year data are generally identified by the title or heading "Present Rates at December 18 31, 2020," "Present Rates at December 31, 2021," and "Present Rates at December 31, 19 2022," respectively.

## 20

## Q. Why did the Company prepare separate revenue requirements?

A. The Company developed revenue requirements for its base water and wastewater services
 and also developed individual revenue requirements as required through previous
 settlements for acquisitions. Separate revenue requirements were developed for Water

10	Data Daga
11	para. 11) of the Company's last rate case.
10	identifies all storm water costs for CSS operations in the Joint Settlement agreement (at
9	requirement studies for each CSS and to file a cost of service study that separately
8	2606103). In addition, the Company previously agreed to define separate revenue
7	(Docket Nos. A-2019-3006880, A-2018-3002437, A-2018-3004933, and A-2017-
6	for Steelton Water, SSS Sadsbury, SSS Exeter, and CSS McKeesport acquisitions
5	for separate revenue requirements in the its next base rate case within each of the cases
4	Company's last base rate case, Docket No. R-2017-2595853, the Company agreed to file
3	Operations, and Wastewater CSS Kane Operations acquisitions independently. In the
2	Operations, Wastewater CSS Scranton Operations, Wastewater CSS McKeesport
1	Steelton Operations, Wastewater SSS Sadsbury Operations, Wastewater SSS Exeter

## <u>Rate Base</u>

## 13 Q. What are the Company's rate base claims in this proceeding?

- 14 A. The total Company rate base claim in this proceeding is shown below for each of the
- 15 eight revenue requirements:

Rate Base	2021 (Average)	2022
Water Operations Excl. Steelton	\$3,304,569,811	\$3,580,590,309
Water Steelton Operations	\$23,759,790	\$24,266,268
WW SSS Excl. Sadsbury & Exeter Operations	\$184,077,745	\$202,602,920
Wastewater SSS Sadsbury Operations	\$8,266,613	\$7,989,217
Wastewater SSS Exeter Operations	\$90,923,800	\$90,749,413
Wastewater CSS Scranton Operations	\$177,564,450	\$193,597,795
Wastewater CSS McKeesport Operations	\$167,005,729	\$165,787,000
Wastewater CSS Kane Operations	\$19,169,938	\$21,413,380
Total:	\$3,975,337,876	\$4,286,996,302

- 17 The calculations of these amounts are shown in Exhibit No. 3-A under the
- 18 respective rate base sections for each revenue requirement.

#### **Q**. What are the elements of the Company's rate base claims?

2 A. PAWC's rate base claims consist of several elements. The first and largest element is the 3 depreciated original cost of net plant in service. To this amount, three items have been 4 added to each of the rate base claims: (1) materials and supplies; (2) cash working 5 capital; and (3) accrued taxes net of prepaid taxes.

6 For Water Operations Excluding Steelton, fourth and fifth items were added: 7 (4) the unamortized balance of the Commission-approved utility plant acquisition 8 adjustments at Docket No. R-2017-259585 associated with the Company's acquisition of 9 the water assets of the former Pennsylvania Gas & Water Company ("PG&W"), 10 Saxonburg Area Authority, Birch Acres Waterworks, Inc., Lake Spangenberg Water 11 Company, the Fernwood Community Water System, and the Olwen Heights Water 12 Service Company, Inc.. In addition, the Company is seeking approval for recovery of the 13 transaction and closing costs associated with its acquisition of the water and wastewater 14 system from the Municipal Authority of the Borough of Turbotville. These acquisition 15 transaction and closing costs are similar to the acquisition transaction and closing costs 16 approved by the Commission for the Borough of New Cumberland acquisition, Docket 17 No. R-2017-259585; and

18 (5) the unamortized costs incurred by the Company as receiver of the Winola 19 Water Company and Indian Springs Water Company, Docket Nos. P-2018-3006216 and 20 M-2019-3011972, respectively.

21 For Water Steelton Operations, a fourth item was added: (4) the Company is 22 seeking approval for recovery of the acquisition transaction and closing costs associated 23 with the Company's acquisition of the water assets of the Steelton Borough Authority,

Docket No. A-2019-3006880. These acquisition transaction and closing costs are similar
 to the acquisition transaction and closing costs discussed above.

3 For the Wastewater SSS Excluding Sadsbury and Exeter Operations rate base 4 claim, a fourth item was added: (4) the unamortized balance of the Commission-approved 5 utility plant acquisition adjustments at Docket No. R-2017-259585 associated with the 6 Company's acquisition of the wastewater assets of the former Clean Treatment Sewage 7 Company and the wastewater assets of the Borough of New Cumberland. In addition, the 8 Company is seeking approval for recovery of the unamortized balance of the utility plant 9 acquisition adjustment for the acquisition of Delaware Sewer Company, Docket No. I-10 2016-2526085. In addition, the Company is seeking approval for recovery of the 11 acquisition transaction and closing costs associated with the Delaware Sewer Company 12 and the Borough of Turbotville acquisitions. These acquisition transaction and closing 13 costs are similar to the acquisition transaction and closing costs approved by the 14 Commission for the Borough of New Cumberland acquisition, Docket No. R-2017-15 259585.

16 For Wastewater SSS Sadsbury Operations, a fourth item was added: (4) the 17 Company is seeking approval for recovery of the acquisition transaction and closing costs 18 associated with the Company's acquisition of the wastewater assets of the Sadsbury 19 Township, Docket No. A-2018-3002437. These acquisition transaction and closing costs 20 are similar to the acquisition transaction and closing costs discussed previously. 21 For Wastewater SSS Exeter Operations, a fourth item was added: (4) the 22 Company is seeking approval for recovery of the acquisition transaction and closing costs 23 associated with the Company's acquisition of the wastewater assets of the Exeter

1	Township, Docket No. A-2018-3004933. These acquisition transaction and closing costs
2	are similar to the acquisition transaction and closing costs discussed previously.
3	For Wastewater CSS Scranton Operations, a fourth item was added: (4) the
4	unamortized balance of the Commission-approved acquisition transaction and closing
5	costs with the Company's acquisition of the wastewater assets of Sewer Authority of the
6	City of Scranton, Docket No. R-2017-259585.
7	For Wastewater CSS McKeesport Operations, a fourth item was added: (4) the
8	Company is seeking approval for recovery of the acquisition transaction and closing costs
9	associated with the Company's acquisition of the wastewater assets of the Municipal
10	Authority of the City of McKeesport, Docket No. A-2017-2606103. These acquisition
11	transaction and closing costs are similar to the acquisition transaction and closing costs
12	discussed previously.
13	For Wastewater CSS Kane Operations, a fourth item was added: (4) the Company
14	is seeking approval for recovery of the acquisition transaction and closing costs
15	associated with the Company's future acquisition of the wastewater assets of the Borough
16	of Kane Authority, Docket No. A-2019-3014248. These acquisition transaction and
17	closing costs are similar to the acquisition transaction and closing costs discussed
18	previously. As further described by [Bernard J. Grundusky, Jr.] in Statement No. [8], a
19	Joint Petition for Approval of Settlement of All Issues was filed with the Commission on
20	April 17, 2020 relative to the Company's acquisition of the Borough of Kane Authority's
21	wastewater system.] For the calculation of the Water Operations Excluding Steelton rate
22	base claim, seven items have been deducted: (1) a net offset to cash working capital
23	requirements to reflect the timing of the payment of interest and preferred dividends; (2)

1	unamortized investment tax credits that were generated prior to 1971; (3) a thirteen-
2	month average of extension deposits in suspense; (4) contributions-in-aid-of-construction
3	("CIAC") and customer advances for construction ("CAC") associated with the
4	Company's acquisition of the water assets of the former Citizens Utilities Water
5	Company of Pennsylvania ("Citizens"); (5) the federal income tax savings associated
6	with the 2017 Tax Cuts and Jobs Act ("TCJA") for January 1, 2018 through June 30,
7	2018 (the "Stub Period"); (6) other deductions (as described below); and (7) accumulated
8	deferred taxes.
9	For the calculation of the Water Steelton Operations rate base claim, two items
10	have been deducted: (1) a net offset to cash working capital requirements to reflect the
11	timing of the payment of interest and preferred dividends; and (2) accumulated deferred
12	taxes.
13	For the calculation of the Wastewater SSS Excluding Sadsbury and Exeter
14	Operations and Wastewater CSS Scranton Operations rate base claim, three items have
15	been deducted: (1) a net offset to cash working capital requirements to reflect the timing
16	of the payment of interest and preferred dividends; (2) TCJA Stub Period; and (3)
17	accumulated deferred taxes.
18	For the calculation of the Wastewater SSS Sadsbury Operations, Wastewater SSS
19	Exeter Operations, Wastewater CSS McKeesport Operations, and Wastewater CSS Kane
20	Operations rate base claims, two items have been deducted: (1) a net offset to cash
21	working capital requirements to reflect the timing of the payment of interest and
22	preferred dividends; and (2) accumulated deferred taxes.

2

## Q. Please explain how the depreciated original cost of net plant for Rate Year 1 and Rate Year 2 was determined.

3 Net plant is total plant in service less CIAC, CAC, and excluded property. Depreciated A. 4 original cost is original cost less accrued depreciation. The original cost of net utility 5 plant as of the end of the fully projected future test year consists of the amount recorded 6 in PAWC's plant accounts at December 31, 2019, plus projected additions, net of 7 retirements, through December 31, 2021 and 2022, respectively less CIAC and CAC. 8 The original cost of plant in service at December 31, 2019, and the original cost of 9 claimed additions and retirements, shown by detailed plant account, are set forth in 10 Exhibit No. 3-A under the respective rate base sections for each revenue requirement 11 study. Mr. Aiton discusses the more significant plant additions in his direct testimony 12 (PAWC Statement No. 3). 13 I will address the water and wastewater acquisitions that the Company has 14 consummated since its last base rate case. The accrued depreciation at December 31, 15 2021 and 2022, respectively related to net plant in service was determined by the 16 Company's depreciation consultant, John J. Spanos (PAWC Statement No. 11), and is 17 shown in Exhibit No. 3-A under the respective rate base sections for each revenue

18 requirement study.

Q. Do the continuing property records, as maintained by the Company and augmented
 by depreciated original cost studies and fair market value appraisals for
 acquisitions, accurately reflect additions and retirements to plant in service?
 A. Yes, they do. Depreciated original cost studies were completed for the Borough of

23 Turbotville water and wastewater acquisitions. For the other fair market value

1		acquisitions I describe herein, the Company used the reproduction cost and associated
2		accumulated depreciation shown in the appraisal provided by the Company's Utility
3		Valuation Expert (UVE) in each respective acquisition proceeding (Docket Nos. A-2017-
4		2606103, A-2018-3002437, A-2018-3004933, A-2019-3006880, and A-2019-3014248).
5		Because the reproduction cost net of accumulated depreciation was greater than the
6		ratemaking rate base approved by the Commission in each case, the Company scaled the
7		reproduction cost and associated accumulated depreciation of each acquisition to equal
8		the ratemaking rate base approved by the Commission. The Journal Entries associated
9		with each fair market value acquisition are provided in Exhibit 3-C. For the Borough of
10		Kane Authority fair market value acquisition, the Company utilized the rate base value
11		agreed to by the parties in the Joint Petition for Approval of Settlement of All Issues,
12		filed with the Commission on April 17, 2020.
13	Q.	Are the data shown on the Company's continuing property records an accurate
14		basis for developing the original cost of property?
15	A.	Yes, they are.
16	Q.	Do the Company's rate base claims include the cost of water and wastewater assets
17		that were acquired since the Company's last base rate case?
18	A.	Yes, the Company's rate base claims include the depreciated original cost of assets
19		acquired since the Company's last base rate case, which includes the water assets
20		acquired from: (1) the Municipal Authority of the Borough of Turbotville; and (2)
21		Steelton Borough Authority; and the wastewater assets of: (1) the Borough of
22		Turbotville; (2) Sadsbury Township; (3) Exeter Township; and (4) the Municipal

1		Authority of the City of McKeesport. Exhibit No. 3-A provides a listing of the
2		Commission orders approving each of the acquisitions listed above.
3	Q.	Do the Company's rate base claims include the cost of water and wastewater assets
4		that are to be acquired during the pendency of this proceeding?
5	A.	Yes, the Company's rate base claims include the cost of water assets to be acquired from
6		Winola Water Company and the wastewater assets to be acquired from Delaware Sewer
7		Company and the Borough of Kane Authority.
8	Q.	Has the Company made any adjustments to its historic test year end CIAC and
9		CAC balances?
10	A.	Yes, it has made adjustments to those balances for its Water Operations Excluding
11		Steelton, its Wastewater SSS Excluding Sadsbury and Exeter Operations, and
12		Wastewater CSS Scranton Operations. The December 31, 2019 CIAC balance for Water
13		Operations Excluding Steelton has been increased to reflect \$455,660 and \$1,366,980 of
14		additional contributions projected to be received through Rate Year 1 and Rate Year 2,
15		respectively. The CAC balance has been adjusted to reflect \$3,714,341 and \$11,143,022
16		of additional advances projected to be received through Rate Year 1 and Rate Year 2,
17		respectively, and decreased for \$2,500,000 and \$7,500,000 of refunds anticipated to be
18		paid during 2021 and 2022 with respect to customer advances received in prior years.
19		These calculations are shown in Exhibit No. 3-A under the respective rate base sections
20		for the revenue requirements of Water Operations Excluding Steelton, Wastewater SSS
21		Excluding Sadsbury and Exeter Operations, and Wastewater CSS Scranton Operations.
22		For the Wastewater SSS Excluding Sadsbury and Exeter Operations, the
23		December 31, 2019 CIAC balance has been increased to reflect \$181,500 and \$544,500

of additional contributions projected to be received through Rate Year 1 and Rate Year 2,
 respectively.

3		For the Wastewater CSS Scranton Operations, the December 31, 2019 CIAC
4		balance has been increased to reflect \$14,675 and \$44,025 of additional contributions
5		projected to be received through Rate Year 1 and Rate Year 2 respectively. The
6		calculations for each of these operations are shown in Exhibit No. 3-A under the
7		corresponding rate base section for CIAC and CAC.
8		The Company does not anticipate any changes to the CAC balances for its
9		Wastewater SSS excluding Sadsbury and Exeter operations or Wastewater CSS Scranton
10		operations. In addition, the Company does not anticipate any changes to the CIAC and
11		CAC balances for its remaining operations. Therefore, no adjustments to the December
12		31, 2019 balances for those operations are required.
13	Q.	Has the Company excluded from its rate base certain property recorded in its utility
14		plant accounts?
15		A. Yes. The amount of \$1,558,014 has been excluded from the Company's rate base
16		claim for Water Operations Excluding Steelton as shown in Exhibit No. 3-A under
17		the corresponding rate base section. For the most part, the excluded amount
18		represents the original cost of utility plant in service for which the Company received
19		relocation reimbursement payments from the Commonwealth of Pennsylvania. The
20		remainder of the excluded amount consists of certain allowance for funds used during
21		construction ("AFUDC") accruals that the Company agreed to remove from rate base
22		pursuant to a stipulation approved in the Company's rate proceeding at Docket No. R-

**Q**.

## Please explain the addition to rate base for materials and supplies.

2 A. In accordance with procedures previously approved by the Commission, the Company's 3 materials and supplies claims were determined by averaging the monthly balances of the 4 materials and supplies account for the thirteen months ended December 31, 2019. The 5 calculations of the materials and supplies claims are shown in Exhibit No. 3-A under the 6 respective rate base sections for each revenue requirement study. The Company's 7 materials and supplies claim for the Water Steelton Operations, Wastewater SSS 8 Sadsbury Operations, Wastewater SSS Exeter Operations, and Wastewater CSS Kane 9 Operations were derived as follows: (1) monthly balances of the materials and supplies 10 accounts for PAWC's other wastewater operations for the thirteen months ended 11 December 31, 2019 were summed and the total divided by the number of customers in 12 those wastewater districts to determine the average materials and supplies balance per 13 customer and (2) the average materials and supplies balance per customer was multiplied by the total number of customers served by the water and wastewater systems. The 14 15 calculation of this adjustment is shown in Exhibit 3-A under the respective rate base 16 sections for materials and supplies.

## 17 Q. Please explain the Company's claim for cash working capital.

A. The cash working capital requirement is calculated by multiplying the net lag days
 (revenue lag days less expense lag days) by the average operating expenses per day (total
 operating expenses / 365 days). All calculations have been made to two decimal places.
 In accordance with Commission policy, uncollectible accounts expense and amortizations
 were subtracted from total operating expenses before performing the calculation. The
 calculation of the gross cash working capital requirement is shown in Exhibit No. 3-A

2

under the respective rate base sections for cash working capital for each of the Company's revenue requirements.

## 3 Q. How were the revenue and expense lags determined?

4 Revenue and expense lags were determined by a lead-lag study. The revenue lag consists A. 5 of three components: (1) the lag from the midpoint of the service period to the end of the 6 service period, i.e., the meter-read date; (2) the time required for bill preparation and 7 mailing; and (3) the lag in receipt of payment. The first component is calculated as 8 follows: the number of days in a standard calendar year (365) is first divided by the 9 customer billings per year of 12. That figure is divided by two to determine the interval 10 from the midpoint to the end of the service period. The final result of 15.03 days is the 11 service period lag.

12 The second component is billing lag. The billing lag of two days used for this 13 calculation was proposed by a witness for the Commission's Bureau of Investigation and 14 Enforcement and agreed to by the Company in a prior base rate case at Docket No. R-15 2013-2355276.

16 The third component, the collection lag, requires a further calculation to 17 determine the average length of time that revenues are outstanding before payment. This 18 calculation was performed as follows: (1) daily accounts receivable balances for the 19 twelve months ended December 31, 2019 were summed and the total divided by the 20 number of days in 2019 to determine the average accounts receivable balance per day; (2) 21 the Company's total revenue for the twelve months ended December 31, 2019 was 22 divided by the number of days in 2019 to determine the average revenue billed per day; 23 and (3) the average accounts receivable balance per day was divided by the average

revenue billed per day. The result of the division in (3), above, yields the number of days
on average that billed revenue was outstanding prior to receipt of payment, which in the
study was 32.91 days. This is a standard calculation used by other water utilities in
Pennsylvania. Finally, 0.77 days of "Lockbox Collection Lag" was added to the revenue
lag, which represents the time between the collection of customer remittances to a post
office box and deposit of those funds into the Company's bank account. The total
revenue lag for this study, when the items above are combined, is 50.70 days.

8 The expense lag was based upon a comprehensive lag study. Using procedures 9 approved by the Commission in prior proceedings and data obtained from the Company's 10 centralized accounts payable system, samples of expense vouchers for each category of 11 expense were analyzed to determine the lag between the receipt of goods or services and 12 the applicable payment due date. A summary of the expense lags by category is shown in 13 Exhibit No. 3-A under the corresponding rate base section. These lag calculations reflect 14 an addition for "Check Float," which represents the average amount of time that it takes 15 for a vendor to deposit a payment from the Company. For the Labor and Service 16 Company calculations, an addition of 0.14 days was included, which has the same 17 purpose as the "Check Float," but is instead calculated by taking a weighted average of 18 direct deposit and check payments to employees. The detailed calculations of the 19 revenue and expense lag days appear in the response to Question No. FR V. 8 of the 20 Commission's Standard Filing Requirements.

21

## Q. Please explain the addition to rate base for accrued and prepaid taxes.

A. This addition to rate base reflects the fact that, on balance, taxes are paid in advance. The
lead/lag in payment of Pennsylvania corporate net income tax is based on four equal

1 payments throughout the year. The General Assessment tax lead was calculated based 2 upon actual payment dates in 2019. The lead/lag day calculations for the payment of 3 taxes imposed by the Public Utility Realty Tax Act ("PURTA") and federal income tax 4 were based upon statutory payment schedules. The lag for local property taxes was 5 determined using the regular expense lag calculation, which was discussed above. 6 Payments are made by check, and the average payment was a lead of (56.0) days, 7 adjusted to (48.4) when Check Float was accounted for. The calculations of the lead/lag 8 days for the aforementioned taxes are set forth in Exhibit 3-A in the respective rate base 9 sections for each of the Company's revenue requirements. The net lead/lag days for each 10 tax are then applied to the pro forma tax amounts, as shown in the applicable section of 11 Exhibit No. 3-A, to calculate the overall working capital effect which, in this instance, is 12 positive for all operations. Thus, the average net lead in payment of these taxes 13 constitutes an addition to cash working capital requirements and, therefore, is reflected as 14 a rate base addition.

15 Q. Please explain the addition to rate base for acquisition adjustments.

16 There are two types of acquisition adjustments claimed by the Company in this case. The A. 17 first type represents utility plant acquisition adjustments and the second type represents 18 acquisition transaction and closing costs. These are further broken down to adjustments 19 that were approved in prior base rate cases and adjustments that the Company is 20 proposing in this case. The applicable rate base claims and docket numbers are shown on 21 Exhibit No. 3-A under the rate base section entitled Acquisition Adjustments. The first 22 six utility plant acquisition adjustments were approved by the Commission in the 23 Company's last base rate case and are shown on Appendix D of the Joint Petition for

1		Settlement at Docket No. R-2017-2595853. The acquisition transaction and closing costs
2		for the Borough of Turbotville Water acquisition claimed in this case are similar to the
3		acquisition transaction and closing costs approved by the Commission for the New
4		Cumberland acquisition, also in Docket No. R-2017-259585.
5	Q.	Please explain the addition of receivership costs to rate base for water?
6	A.	The fifth addition to the Water Operations Excluding Steelton, shown in Exhibit No. 3-A
7		in the corresponding rate base section, is the Winola and Indian Springs receivership
8		costs, Docket Nos. P-2018-3006216 and M-2019-3011972, respectively. This is
9		consistent with the Commission Orders entered in those proceedings appointing the
10		Company as receiver. See Pennsylvania Public Utility Commission v. Winola Water
11		Company, Docket No. P-2019-3006216 (November 29, 2018 Ex Parte Emergency Order
12		at Appendix A, Section 2(b); In re The Indian Springs Water Company, Docket No. M-
13		2019-3011972 (August 8, 2019 Order at Appendix A, Sections 1(s) and 1(t).
14	Q.	Please explain the items that were deducted from rate base for the Company's water
15		and wastewater operations.
16	A.	Two items were deducted from rate base for the Company's water and wastewater
17		operations. The first deduction, which offsets cash working capital requirements, relates
18		to the average net lag in payment of interest on long-term debt and dividends on preferred
19		stock. The deduction was calculated using procedures previously approved by the
20		Commission and is set forth in Exhibit No. 3-A in the corresponding rate base section for
21		each of the Company's revenue requirements.
22		The second deduction is for accumulated deferred taxes as addressed by
23		Company Witness John R. Wilde in his direct testimony, PAWC Statement No. 10.

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## Q. Were additional items deducted from rate base for the Company's water operations?

A. Yes. Three rate base deductions apply only to the Company's water operations. The first
item is unamortized investment tax credits generated prior to 1971. These amounts are
shown in Exhibit No. 3-A under the respective rate base sections. Investment tax credits
accrued in 1971, and thereafter, are amortized to income and are not permitted to be
deducted from rate base under the requirements of Section 46 (f) of the Internal Revenue
Code.

9 Another item deducted from rate base for water operations, shown in Exhibit No. 10 3-A under the respective rate base sections, is a twelve-month average of extension 11 deposits in suspense. The Company requires applicants for water service to advance a 12 portion of the cost to construct main extensions needed to serve them under specified 13 conditions, as more fully set forth in the Company's tariff. At the completion of the 14 project, accounting entries are made to adjust estimated costs of construction to actual 15 costs of construction. The difference is recorded in the extension deposit in suspense 16 account until it is either refunded to the party that made the advance, or an additional 17 amount owed is collected. In its final Order at Docket No. R-891208, the Commission 18 agreed with the Office of Consumer Advocate ("OCA") that an average balance of such 19 funds should be reflected in rate base, and the Company has made this adjustment, shown 20 in Exhibit No. 3-A, to comply with that determination.

21

22

CIAC and CAC booked by Citizens prior to its acquisition by PAWC. The Joint Petition

The final rate base offset for Water Operations Excluding Steelton comprises

1		for Settlement at Docket No. R-2009-2097323, as approved by the Commission for
2		ratemaking purposes, provided as follows:
$3 \\ 4 \\ 5 \\ 6 \\ 7 \\ 8 \\ 9 \\ 10 \\ 11 \\ 12 \\ 13 \\ 14 \\ 15 \\ 16 \\ 17 \\ 18 \\ 19 \\ 20 $		<ul> <li>(i) \$14,147,208, or 40%, of the December 31, 2009, balance of the net customer advances for which Citizens retained the refund liability upon the Company's acquisition of Citizens' water utility assets will be deemed deducted from the Company's rate base; (ii) \$8,895,830 (100%) of the December 31, 2009 balance of the net contributions in aid of construction the OCA proposed to attribute to PAWC from its acquisition of Citizens' water assets will be deducted from PAWC's rate base; (iii) in future base rate cases, the foregoing balances, adjusted to reflect accumulated amortization, will be deducted for ratemaking purposes until such balances are fully amortized; and (iv) the applicable depreciation rate for PAWC's transmission and distribution mains will be used to calculate the amortization of such balances for ratemaking purposes to offset the portion of depreciation expense on gross plant in service that is related to these advances and contributions.</li> </ul>
21		Settlement, set forth above, are detailed in Exhibit 3-A under the rate base section.
22	Q.	Please explain the deduction from rate base shown as Other Deductions on the rate
23		base schedule.
24	A.	The Company is proposing a rate base deduction associated with an equipment discount.
25		Rate base is being decreased by this amount to provide customers the benefit of this
26		discount that the Company anticipates. This adjustment applies only to Water Operations
27		Excluding Steelton.
28	Q.	Do the adjustments explained above constitute all of the adjustments necessary to
29		establish the Company's rate base?
30	A.	Yes, they do.
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## **Depreciation And Amortization Expense**

Have adjustments been made to the annual depreciation expense recorded on the

3 **Company's books at December 31, 2019?** 4 A. Yes. Adjustments to booked amounts were made to a full annual amount of the 5 depreciation accrual for the Company's plant in service as of December 31, 2019 and for 6 plant to be added during 2020. For 2021, an average annual depreciation expense was 7 calculated by averaging the full annual accrual amount for 2020 and 2021. The 8 depreciation expense for 2022 was based on the full annual amount of the depreciation 9 accrual for the Company's projected plant in service as of December 31, 2022. The 10 annual accrual was determined largely on a Straight-Line Average Remaining Life basis. 11 The adjustments to reflect the annual accrual for depreciation related to plant in service in 12 2019, 2020, 2021 and 2022 are shown in Exhibit No. 3-A under the respective rate base 13 sections, and, as noted previously, are explained and sponsored by Mr. Spanos. 14 For Water Operations excluding Steelton, a reduction to depreciation was made 15 for CIAC and CAC associated with the Company's acquisition of the water assets of the 16 Citizens, Joint Petition for Settlement at Docket No. R-2009-2097323. 17 Please explain the Company's claim for "Amortizations" that appears in Exhibit No Q. 18 3-A. 19 The amortization claims for each of the revenue requirements are described as follows A. 20 and are reflected on Exhibit No. 3-A under the respective rate base sections: 21 For Water Operations Excluding Steelton, five amortization claims are made: 22 (1) amortization of the Utility Plant Acquisition Adjustments ("UPAA") for 23 PG&W and for other UPAA amounts as previously approved by the Commission, which

1	include the Commission-approved utility plant acquisition adjustments at Docket No. R-
2	2017-259585 associated with the Company's acquisition of the water assets of the former
3	PG&W, Saxonburg Area Authority, Birch Acres Waterworks, Inc., Lake Spangenberg
4	Water Company, the Fernwood Community Water System, and the Olwen Heights Water
5	Service Company, Inc., Boggs Township, Amwell Municipal Authority, Sutton Hills
6	Homeowners Association, Indian Rocks Property Owners Association, North Fayette
7	County Municipal Authority, and the Wildcat Park Corporation; as well as amortization
8	of the negative UPAA and transaction and closing costs associated with Municipal
9	Authority of the Borough of Turbotville;
10	(2) amortization of equipment discount, as previously described in my testimony,
11	(3) amortization of SFAS 109 regulatory assets – AFUDC as previously approved
12	by the Commission;
13	(4) PAWC's claimed amortization of receivership costs for Winola Water
14	Company and Indian Springs Water Company, Docket Nos. P-2018-3006216 and M-
15	2019-3011972, previously discussed in my testimony; and
16	(5) amortization of the TCJA Stub Period and deferred taxes, as previously
17	discussed in my testimony and in the direct testimony of John R. Wilde (PAWC
18	Statement No.10).
19	For Water Steelton Operations, three amortizations claims are made: (1)
20	amortization of the transaction and closing costs associated with the Company's
21	acquisition of the water assets of the Steelton Borough Authority, Docket No. A-2019-
22	3006880, previously discussed in my testimony, (2) post-in-service AFUDC for new
23	plant additions made after the acquisition (see Section 1329(f) of the Public Utility Code.

1	66 Pa.C.S. $\$1329(f)$ , and (3) deferred depreciation associated with the acquisition (see
2	Section 1329(f) of the Public Utility Code. 66 Pa.C.S. §1329(f)).
3	For Wastewater SSS Excluding Sadsbury and Exeter Operations, two
4	amortizations claims are made: (1) Commission-approved utility plant acquisition
5	adjustments at Docket No. R-2017-259585 associated with the Company's acquisition of
6	the wastewater assets of the former Clean Treatment Sewage Company and Borough of
7	New Cumberland. In addition, the Company is claiming amortization of the acquisition
8	adjustment for the acquisition of Delaware Sewer Company, Docket No. I-2016-
9	2526085, and acquisition transaction and closing costs associated with the Delaware
10	Sewer Company and the Borough of Turbotville acquisitions; and (2) amortization of the
11	TCJA Stub Period and deferred taxes.
12	For Wastewater SSS Sadsbury Operations, three amortizations claims are made:
13	(1) acquisition transaction and closing costs associated with the Company's acquisition of
14	the wastewater assets of the Sadsbury Township, Docket No. A-2018-3002437; (2) post-
15	in-service AFUDC for new plant additions made after the acquisition; and (3) deferred
16	depreciation associated with the acquisition.
17	For Wastewater SSS Exeter Operations, three amortizations claims are made:
18	(1) acquisition transaction and closing costs associated with the Company's acquisition of
19	the wastewater assets of the Exeter Township, Docket No. A-2018-3004933;and (2) post-
20	in-service AFUDC for new plant additions made after the acquisition; and (3) deferred
21	depreciation associated with the acquisition.
22	For Wastewater CSS Scranton Operations, two amortizations claims are made:
23	(1) acquisition transaction and closing costs with the Company's acquisition of the

1		wastewater assets of Sewer Authority of the City of Scranton, Docket No. R-2017-
2		259585; and (2) amortization of the TCJA Stub Period and deferred taxes.
3		For Wastewater CSS McKeesport Operations, three amortizations claims are
4		made: (1) acquisition transaction and closing costs associated with the Company's
5		acquisition of the wastewater assets of the Municipal Authority of the City of
6		McKeesport, Docket No. A-2017-2606103; (2) post-in-service AFUDC for new plant
7		additions made after the acquisition; and (3) deferred depreciation associated with the
8		acquisition.
9		For Wastewater CSS Kane Operations the only amortization claim being made is
10		the acquisition transaction and closing costs associated with the Company's future
11		acquisition of the wastewater assets of the Borough of Kane Authority, Docket No. A-
12		2019-3014248. In the Joint Petition for Settlement of the Kane application proceeding,
13		the Company agreed to separately identify outside legal fees included in transaction and
14		closing costs. The transaction and closing costs are estimated to be \$787,000, including
15		\$400,000 of outside legal expenses (Appendix-A-10 to the Application). These costs are
16		based on the estimates at the time of the application filing and will be updated with actual
17		costs.
18		
19		<b>Property Taxes and General Assessments</b>
20	Q.	Please explain the adjustments to claims for property taxes.
21	A.	PURTA tax is imposed on certain real property dedicated to utility water service in
22		Pennsylvania based upon the fair market value of such property, as determined by
23		applying per-county common level ratios to the assessed values of the property. Property

1	taxes imposed on real property, not subject to PURTA, are administered at the county
2	level in Pennsylvania. In every county, the sum of local tax rates (school taxes,
3	municipal taxes and county taxes) is applied to the assessed value of each property.
4	However, each county has its own system for determining assessed value. The
5	Company's claims for its Water Excluding Steelton Operations, Wastewater Excluding
6	Sadsbury and Exeter Operations, and Scranton CSS and McKeesport CSS Operations
7	were calculated based on the ratio of actual 2019 tax liability to tax base. This ratio was
8	applied to the Company's pro forma claim for property tax eligible utility plant at
9	December 31, 2020, December 31, 2021 (utilizing an average), and December 31, 2022.
10	These calculations are detailed in Exhibit 3-A, Pennsylvania Property Tax under the
11	section for Taxes, Other Than Income. The Company's claim for its Steelton water
12	operations was calculated by applying the actual 2019 property tax to tax base ratio for
13	the Company's water operations to the Company's pro forma claim for property tax
14	eligible utility plant at December 31, 2020, December 31, 2021 (utilizing an average),
15	and December 31, 2022. Similarly, the Company's claim for Sadsbury and Exeter SSS
16	wastewater operations was calculated by applying the actual 2019 property tax to tax
17	base ratio for the Company's other wastewater operations excluding Sadsbury and Exeter
18	to the Company's pro forma claim for property tax eligible utility plant at December 31,
19	2020, December 31, 2021 (utilizing an average), and December 31, 2022. These
20	calculations are detailed in Exhibit 3-A, Pennsylvania Property Tax under the section for
21	Taxes, Other Than Income.

22 Q. Please explain the adjustment for General Assessments.

10	Q.	Does this conclude your direct testimony at this time?
9		Company's Exhibit No. 3A under the respective rate base sections.
8		are available. Backup for the calculation of these adjustments is provided in the
7		Company will update these adjustments with the new General Assessment rates once they
6		proposed rates as shown on Exhibit No. 3-A under the respective rate base sections. The
5		rates were applied to a tax base consisting of pro forma sales revenue under present and
4		wastewater service. To calculate pro forma General Assessments, the current assessment
3		Assessment rates are applied to a tax base consisting of revenue from water and
2		Commission, the OCA and the Office of Small Business Advocate. The General
1	A.	The General Assessments are imposed on regulated utilities to provide funding for the

11 A. Yes, it does.

## Christina Chard - Business, Educational, and Professional Background

From 2015 to 2017, I served as Assistant Professor and Director of the University of Charleston's Master of Forensic Accounting ("MFAcc") Program. I provided administrative oversight of the program to include curriculum development, faculty development and coordination, program assessment, recruiting, retention, marketing, and fiscal planning and management. I also served as faculty in the MFAcc program, teaching MFACC 624 - Data as Evidence which included data mining, probability concepts and calculations, link analysis, timelines and relationship charts, and applications of statistics in the courtroom. In addition I taught the following undergraduate courses: BUSI 215 - Business Software, ACCT 460 -Accounting Information Systems, and ACCT 281 - Introduction to Forensic Accounting. From 2010 to 2015, I served as Manager of Information Technology Services Expense Management for American Water ("AW"), responsible for managing operating and capital expenditures for the ITS department. I proposed and received approval for establishment of AW's first IT Finance team overseeing the management of IT related operating and capital funding projects across AW's subsidiaries. I was responsible for business planning and reporting, contracts processing, capital asset management, procurement of ITS goods/services, and budget management of \$70M+ annually. During this time, I also served as the ITS functional lead member of AW's Procure to Pay Service Delivery Council. I established the Centrally Sponsored Financial Model for use by the company in SAP and related system asset management post-system implementation. I established an annual CIO communication to state presidents, finance, rates, and capital leads within the operating companies for the purpose of communication business planning needs for information systems projects at enterprise and state levels.

From 2003 to 2010, I served as Team Lead for the ITS Service Delivery department overseeing up to 9 states and service company locations with 22 support specialists for the delivery of information technology services such as local network, computer, and software support. I also serve as a contract instructor and presenter for the National Association of Valuators and Analysts (NACVA), presenting on topics such as computer forensics and the digital age.

I hold a doctor of Executive Leadership degree, a bachelor's degree in Mathematics, and a master's degree in Forensic Accounting.

## **BEFORE THE** PENNSYLVANIA PUBLIC UTILITY COMMISSION

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PENNSYLVANIA PUBLIC UTILITY
COMMISSION
<b>v.</b>
PENNSYLVANIA-AMERICAN
WATER COMPANY

**DOCKET NOS. R-2020-3019369** (WATER) R-2020-3019371 (WASTEWATER)

## **VERIFICATION**

I, Christina E. Chard, hereby state that the facts set forth in the pre-marked Statement No. 5 and accompanying exhibits, if any, are true and correct to the best of my knowledge, information and belief. I understand that this verification is made subject to the provisions and penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsifications to authorities).

Date: April 29, 2020

Christina E. Chard
# Statement No. 6 Gress

#### **PAWC STATEMENT NO. 6**

#### **DIRECT TESTIMONY**

#### OF

#### **STACEY D. GRESS**

#### WITH REGARD TO

#### PENNSYLVANIA-AMERICAN WATER COMPANY

#### LABOR AND LABOR RELATED EXPENSES,

#### RATE CASE AND REGULATORY EXPENSE,

#### SERVICE COMPANY EXPENSE, AND ALLOCATION OF

#### COMMON COSTS BETWEEN WATER AND WASTEWATER OPERATIONS

#### DOCKET NOS. R-2020-3019369 (WATER) R-2020-3019371 (WASTEWATER)

**DATE: April 29, 2020** 

#### <u>PENNSYLVANIA-AMERICAN WATER COMPANY</u> DIRECT TESTIMONY OF STACEY D. GRESS

#### BACKGROUND

#### 1 Q. Please state your name and business address.

A. My name is Stacey D. Gress, and my business address is 1 Water Street, Camden, New
Jersey 08102.

#### 4 Q. By whom are you employed and in what capacity?

5 A. I am employed by American Water Works Service Company, Inc. ("AWWSC" or the

6 "Service Company") as Senior Manager Regulatory Services. The Service Company is a

7 wholly owned subsidiary of American Water Works Company, Inc. ("American Water")

8 that provides services to Pennsylvania-American Water Company ("PAWC",

9 "Pennsylvania-American" or "Company") and its affiliates.

#### 10 Q. What are your responsibilities as Senior Manager Regulatory Services?

11 A. My duties comprise the review, preparation and presentation of regulatory filings and 12 related activities for Pennsylvania-American and West-Virginia American Water. In 13 addition, my team's responsibilities include the preparation of written testimony, exhibits 14 and workpapers in support of rate applications and other regulatory filings, as well as 15 responses to data requests related to filing requirements. My role also allows me to stay 16 apprised of regulatory developments or policy initiatives that may impact regulated water 17 utilities and support the analysis and coordination of process improvements of rates and 18 regulatory processes and services.

#### **1 Q.** Please summarize your educational background.

A. I received a Master of Business Administration Degree, with a specialization in Finance,
from Drexel University in 2007. I also hold a Bachelor of Arts Degree in Economics from
Rutgers University, as well as an Associate in Science Degree for Business Administration
from Camden County College. In October 2017, I attended the Utility Rate School sponsored
by the National Association of Regulatory Utility Commissioners ("NARUC").

#### 7

#### Q. Please outline your business experience.

8 A. My employment with AWWSC and its affiliates began in February 2011. I began working 9 with American Water Enterprises, LLC ("AWE") as a Senior Financial Analyst supporting 10 AWE's market-based businesses, providing detailed financial analysis, and reporting the 11 consolidated results for all AWE business units. In 2014, I assumed the position of a 12 supervising Senior Financial Analyst in AWE's Contract Services business unit, and, in 13 2016, I was promoted to Finance Manager in the same department, overseeing financial 14 reporting and coordinating the budgets for systems at approximately forty locations that 15 AWE operated under service contracts. In 2017, I was selected as the first candidate to 16 participate in a rotational program with the AWWSC Regulatory Services department and 17 provide support for a general rate case and other regulatory filings. In this role, I was able 18 to gain hands-on experience of all aspects of the ratemaking process, including preparation 19 of multiple exhibits in support of the revenue requirement, as well as assistance with the review and analysis of both company and intervener testimony. Following the conclusion 20 21 of the rotational program, I became the Finance Manager for New Jersey-American Water 22 and New York-American Water. In October of 2018, I was promoted to my current

position of Senior Manager Regulatory Services. Prior to my employment with AWWSC,
 I served in multiple finance and budget analyst roles in the healthcare industry at the
 Independence Blue Cross family of companies. Additionally, I served as an Account
 Executive at SHI, a technology reseller, for the sales of computer hardware, software
 licensing, and integrated solutions.

#### **PURPOSE OF TESTIMONY**

6	Q.	What is the purpose of your testimony in this rate proceeding?
7	A.	The purpose of my testimony is to support and explain the Company's claims for: (1)
8		labor and labor-related expenses; (2) Service Company expenses; (3) regulatory and rate
9		case expenses; and (4) the application of an inflation factor to develop projected levels of
10		certain other expenses. Additionally, I will explain the methodology used to support the
11		allocation of common costs between water and wastewater operations, as the Company
12		committed to do in Paragraph 20 of the Commission-approved Joint Petition for
13		Settlement of Rate Investigation in its last base rate case at Docket No. R-2017-2595853.
14	Q.	What methodology did the Company use in calculating its pro forma expense levels
15		in this case?
16	A.	In this case, the Company is proposing a multi-year rate plan, which is explained in more
17		detail in PAWC Statement No. 1, the direct testimony of Rod P. Nevirauskas. Therefore,
18		the Company is presenting supporting data for a historic test year ended December 31,
19		2019 ("HTY"), a future test year ending December 31, 2020 ("FTY"), Rate Year 1,
20		ending December 31, 2021, and Rate Year 2, ending December 31, 2022. The Company

14		("O&M") expense levels.
14		
13	Q.	Please provide a brief overview of the Company's operating and maintenance
12		3-A and 3-B.
11		the 2022 GDP Price Index is 2.0%. <sup>1</sup> All adjustments are detailed in PAWC Exhibit Nos.
10		forecasters. The 2020 GDP Price Index is 1.98%, the 2021 GDP Price Index is 2.08% and
9		of a wide range of financial professionals, including bank, academic and corporate
8		anticipated future changes in those costs. The Blue Chip forecast is based upon a survey
7		forecast for future periods, as compiled by the Blue Chip Economic Indicators, to capture
6		adjustments, PAWC used the average Gross Domestic Product ("GDP") Price Index
5		normalized level of expense. For expenses that were not subject to such specific
4		or, in some cases, relied upon historical averages to smooth annual variations to reflect a
3		certain expenses or categories of expenses based on projected changes in those expenses
2		For the FTY, Rate Year 1 and Rate Year 2, the Company made specific adjustments to
1		adjustments to reflect known and measurable changes expected to occur during the HTY.

A. The overall O&M expense level claim in this case represents a 3.2% annual increase over
 the level of O&M expenses claimed in the last base rate case. There are numerous factors
 that contribute to the increase in operating expenses, including those associated with
 enhanced maintenance activities discussed by Company witness William Andrew

<sup>&</sup>lt;sup>1</sup> The United States Bureau of Labor Statistics ("BLS") has calculates two measures of inflation in the United States' economy, which consist of the Consumer Price Index (CPI) and the GDP price index and implicit price deflator. The BLS computes the CPI to measure changes in the prices of goods and services purchased out-of-pocket by urban consumers, and computes the GDP price index and implicit price deflator to measure changes in the prices of goods and services purchased by consumers, businesses, government, and foreign persons and entities, but not importers. The Company has determined that the GDP price index and implicit price deflator is an appropriate measure of inflation for its projection of pro forma expenses in this case that are not subject to specific adjustments.

1		Clarkson, as well as the addition of multiple acquired systems since the last base rate
2		case, as addressed in the testimony of Company witness Bernard Grundusky. Although
3		we project modest increases to O&M expense going forward, the Company's proposed
4		O&M expense remains nearly flat on a cost per customer basis when compared to O&M
5		expense from a decade ago.
6	Q.	Please explain how the adjustments you describe below apply to the revenue
7		requirement studies set forth in PAWC Exhibit No. 3-A.
8	A.	The adjustments I describe below apply to the expenses reflected in each of the eight
9		revenue requirement studies that are set forth in PAWC Exhibit No. 3-A. Because the
10		adjustments apply to the expense claims set forth in each revenue requirement study, I
11		will describe those adjustments generally and not address the specific adjustments
12		reflected in each study.
13		LABOR AND LABOR RELATED EXPENSES
14	Q.	Please describe PAWC's labor and labor-related expenses.
15	A.	PAWC's labor and labor-related expenses are associated with employees who support
16		PAWC exclusively and, therefore, are on the payroll of PAWC. As Mr. Clarkson
17		explains, PAWC's labor force is responsible for assuring the production of high-quality
18		drinking water, operating and maintaining the Company's production and treatment
19		facilities and its distribution and collection systems, monitoring water quality, providing
20		engineering services, and generally supporting the efficient management of all of the
21		Company's operations.

22		labor-related expenses.
21	Q.	Please describe the overall approach the Company has used to calculate labor and
20		These costs are described further in my testimony below.
19		(4) Payroll Taxes
18		d. Employee Stock Purchase Plan ("ESPP")
16 17		c. Pension and Other Post-Employment Benefits ("OPEBs") for certain eligible employees
15		b. Defined Contribution Plan ("DCP")
14		a. 401k
13		(3) Other benefits, including:
12		(2) Group Insurance
11		(1) Salaries and wages (including Annual and Long-Term Performance Pay)
10		The labor and labor related expenses that are discussed in my testimony include:
9		pay (e.g. overtime, shift pay), and performance pay for eligible employees.
8		classification of employees includes fixed pay (base pay) and some form(s) of variable
7		and are eligible for performance pay. Therefore, total wages or salaries for each
6		overtime pay and are eligible for performance pay. Exempt employees receive base pay
5		eligible for performance pay. Non-CBU hourly employees receive base pay and
4		cases, other compensation (such as shift premiums and meal allowances) and are also
3		exempt employees. CBU hourly employees receive base pay, overtime pay, and, in some
2		hourly employees, non-collective bargaining unit ("non-CBU") hourly employees and
1		There are three classifications of PAWC employees: collective bargaining unit ("CBU")

7		below:
6		complement of employees for each of the Company operations, as set forth in the table
5		The labor expenses claimed for the FTY, Rate Year 1 and Rate Year 2 reflect a full
4		number of employees, consisting of 1,133 full-time positions and one part-time position.
3		were calculated on a position-by-position basis, based on the Company's HTY authorized
2		related sections of Exhibit Nos. 3-A and 3-B. Pro forma labor and labor-related expenses
1	A.	PAWC's proposed labor and labor related expenses are reflected in the labor and labor-

PAWC Operations Employee Levels	2020	2021	2022
Water Excl. Steelton	1,015	1,019	1,022
Water Steelton	8	8	8
WW SSS Excl. Sadsbury and Exeter	32.65	32.65	32.65
WW SSS Sadsbury	0.35	0.35	0.35
WW SSS Exeter	10	10	10
WW CSS Scranton	71	71	71
WW CSS McKeesport	36	36	36
Total Company	1,173	1,177	1,180

8 The HTY labor hours were annualized and adjusted to a normalized level. These hours 9 were then multiplied by the actual 2020 wage rates by employee position to determine an 10 annualized level of expense. This amount was then adjusted using a historic three-year average of base pay increases for non-CBU employees. To adjust the level of expense 11 12 for CBU employees, the most recent collective bargaining agreements ("CBAs") that 13 remain in effect were used to determine costs for each of the FTY and Rate Years 1 and 2. For those bargaining units for which CBAs expired, a historic three-year average of 14 contract wage increases was used to determine projected costs for the FTY and Rate 15

1		Years 1 and 2. The Company's Rate Year 1 reflects a prorated level of salary increases
2		calculated using the three-year average of base pay described above, while Rate Year 2
3		annualizes the effects of the increases calculated using the three-year average of wage
4		increases described above. The details of these calculations, by employee position, are set
5		forth in Exhibit 3-B.
6		Some labor and labor-related costs are capitalized and added to the costs of utility plant.
7		Therefore, a capitalization percentage is applied to total labor and labor-related costs to
8		calculate the portion of those costs that are recorded as capital costs. The Company has
9		calculated capitalization percentages based on the historic three-year average ratio of
10		direct labor dollars charged to capital to total direct labor costs. The capitalization
11		percentages calculated in that manner are 37.18% for the Company's water operations
12		and 17.07% for its wastewater operations. The complement of those percentages
13		represents the portion of labor and labor-related costs recorded as an expense.
14		Salaries and Wages
15	Q.	Please describe how the various components of pro forma salaries and wages are
16		calculated.
17	A.	Salary and wage expense has four components: (1) base pay; (2) overtime; (3) shift
18		premium and meal compensation pursuant to the terms of applicable CBAs; and (4)
19		annual and long-term performance compensation for eligible employees. Each
20		component is discussed in further detail below.
21		<b>Base Pay</b> – Base pay was calculated for the FTY by applying a three-year average of the
22		historical percentage increases to the annualized HTY wage rates. The wage rate

1	projected to be in effect for each month of the FTY is applied to the working hours for
2	each month. Regular working hours total 2,088 for all full-time hourly employees and
3	2,080 for all full-time non-hourly employees. Wage rates for CBU employees were based
4	on CBAs for each month of the FTY, and Rate Years 1 and 2. If wage rates have not
5	been established by CBAs that will be in effect the end of Rate Year 2, the wage rates
6	were adjusted using an annual increase percentage equal to the historical three-year
7	average of contracted increases. Non-CBU employees' wage rates were based on the
8	rates that became effective on March 9, 2020. Those rates were adjusted through Rate
9	Year 1 based on a three-year average of the historical percentage increases, prorated by
10	the dates each increase will become effective in Rate Year 1. Wage rates for Rate Year 2
11	were also based on three-year average of historical percentage increases but were
12	annualized as of the end of Rate Year 2.
13	<b>Overtime</b> – Overtime was calculated by starting with the total HTY overtime hours by
14	position and multiplying those hours by the projected overtime wage rate for each
15	employee position. In addition, for the Water Steelton Operations, WW Exeter SSS,
16	Turbotville wastewater and WW Sadsbury SSS systems, which PAWC acquired during
17	the HTY, the overtime hours for each employee positions were annualized and were used
18	to calculate the applicable adjustments for overtime pay for the FTY and Rate Years 1
19	and 2.

Shift Premium and Meal Compensation – CBU employees' CBAs provide wage
 premiums for employees working on uncommon shifts or when employees obtain certain
 licenses or complete certain training. CBU employees are compensated for meals during

1 extended shifts and, therefore, meal compensation is also included in salaries and wage 2 expense. The actual total HTY amounts of shift premiums, licensing and training 3 premiums and meal compensation were determined on a per-employee basis and included 4 in salary and wage expense for the FTY and Rate Years 1 and 2. 5 **Performance Pay** – The last component of labor expense is the annual and long- term 6 performance compensation for eligible employees. Performance pay was calculated on a 7 position-by-position basis for eligible employees based on each position's target percent, 8 or percentage of base salary that is provided if an employee achieves their performance 9 target, under both the Annual Performance Plan ("APP") and Long Term Performance 10 Plan ("LTPP"). The target percent was multiplied by each eligible employee's pro forma 11 base salary in the FTY, Rate Year 1, and Rate Year 2, to determine the cost of 12 compensation under the APP and LTPP. In PAWC Statement No. 2, Mr. Clarkson 13 describes the performance pay program in more detail. 14 **Q**. Please discuss the Company's rationale for offering both fixed and variable pay to 15 employees. 16 A. The objective of American Water is to pay compensation that is, on average, comparable 17 to the mid-point of compensation paid by enterprises with whom it competes for 18 employee talent. To achieve this goal, American Water uses a combination of base 19 salary, variable (or at risk) pay and benefits to attract and retain employees and to 20 improve performance and efficiency. The combination of fixed and variable 21 compensation comprises the overall salary expense. Since the Company's last rate case, 22 the APP has been extended to CBU employees, beginning in 2019.

1		American Water's compensation program is designed to provide employees with a total
2		compensation package on par with those offered by companies with whom it competes
3		for employees. By using a combination of base and variable compensation, PAWC
4		satisfies a dual objective of reasonably compensating our employees while incentivizing
5		them to achieve goals that benefit our customers. Our compensation plans, therefore,
6		emphasize customer service, environmental compliance, a safe work environment, and
7		other operational goals, as well as certain financial metrics that help to measure
8		operational efficiency.
0		
9		Group Insurance
10	Q.	Please describe the components of the Company's group insurance expense.
11	A.	Group insurance includes several insurance coverages that PAWC provides its
12		employees. These can be grouped into two primary categories: (1) basic life, short-term
13		disability, long-term disability and accidental death and disability insurance ("AD&D");
14		and (2) medical, dental, prescription and vision insurance.
15	Q.	How was the pro forma adjustment for group insurance expense calculated?
16	A.	Costs were calculated for the pro forma adjustment as follows:
17		• <u>Basic life, short- and long-term disability and AD&amp;D</u> . The starting point is the
18		2020 premium rates for each position under the applicable insurance plans for
19		CBU and non-CBU positions.
20		• <u>Medical, dental, and vision insurance</u> . The Company's cost for this category of
21		insurance is net of employee contributions. The total costs and employee

1		contributions vary by plan type (e.g. family, employee, or employee plus spouse).
2		Costs and contributions were calculated using the 2020 plan rates, on a position-
3		by-position basis, taking into account actual employee plan selections.
4		Once the 2020 cost level was established, a historical three-year average of the change in
5		Company costs for group insurance between 2017 and 2020 was applied to the
6		annualized amount for 2020 in order to adjust the insurance expense to the level
7		appropriate for Rate Year 1 and Rate Year 2.
8	Q.	What steps in general has American Water taken to manage the group insurance
9		benefit costs?
10	А.	Group insurance is obtained for employees of PAWC and its affiliates based on benefit
11		plans administered by American Water. American Water has been proactive in seeking
12		changes that improve how healthcare is delivered in order to control the costs of
13		providing health insurance to its employees. These efforts have included offering high-
14		deductible health plans and a telemedicine option, which lower the overall cost of health
15		insurance programs. For example, instead of an office or urgent care visit, for which
16		providers charge \$100 or more, employees have the option to consult with a physician
17		remotely, at a cost to the insurer of \$39 per visit. American Water also became a
18		founding member of the Health Transformation Alliance ("HTA") in 2016 to help
19		achieve the goal of providing higher quality care at lower cost by identifying facilities
20		and physicians that have better outcomes, using American Water's purchasing power to
21		keep costs down, and helping every employee become a more engaged consumer.

2

### Q. What is HTA and why is it better than the traditional approach to obtaining healthcare coverage for employees?

3 HTA is group of 50 major corporations that have come together to drive change in the A. 4 healthcare system. In addition to American Water, its members include American 5 Express Company, Caterpillar, Inc., IBM Corporation, Macy's, Inc., Marriott 6 International Inc., NextEra Energy, Inc., The Coca-Cola Company, and many more. 7 Acting on its own, any single HTA member is unlikely to change the trends in healthcare 8 that are driving up costs. By working together, however, HTA members can create more 9 transparency to drive changes in the way healthcare is delivered, and those changes can 10 result in lower prices for prescription medicine and medical services and produce better 11 outcomes, which make health care more affordable. To that end, the HTA has developed 12 value-driven solutions in the areas of data and analytics, pharmacy and medical services 13 and consumer engagement specifically designed to improve patient care and economic 14 value. For example, through the HTA, American Water was able to secure better pricing 15 on prescriptions in order to lower the amounts the Company and its employees spend on 16 prescription coverage. For American Water, this resulted in \$3 million in savings in 2018 17 that partially offset the increase in rates generally, mitigating the overall increase in 18 prescription coverage costs.

#### **Other Benefits**

### 2 Q. Please describe the components of other benefits the Company provides and how the 3 costs of those benefits were calculated.

A. Other benefits PAWC provides include savings programs, such as 401k plans, DCP,
pension benefits, OPEBs, and the Company's ESPP. The costs of these benefits were
calculated on a position-by-position basis. The calculations of the costs included in the
Company's labor-related expense claims are described below.

8 401k – PAWC incurs 401k expense when it matches employee contributions to 401k 9 retirement accounts. The matching amounts are determined by each employee's benefit 10 group or hire date. For employees whose benefit group falls into an "original" category 11 (including CBU employees hired before 2001 and non-CBU employees hired before 12 2006), the Company matches 50% of the first 5% of the employee's contribution (for a 13 maximum of 2.5%). For the remaining employees, the Company matches 100% of the 14 first 3%, and 50% of the next 2% of the employee's contributions (for a maximum of 15 4%). Pro forma 401k costs were calculated for each position based on future test year 16 wages, current employee contribution levels, and the level of match for the benefit group.

DCP – DCP is a retirement savings program for employees not eligible for the defined
benefit pension program. Under the DCP, PAWC contributes an amount equal to 5.25%
of an employee's base pay into a retirement account. The pro forma DCP expense was
calculated by multiplying the FTY and Rate Years 1 and 2 regular time pay of each
eligible position by 5.25%.

1	Pension – Certain Company employees, upon retirement, are eligible for pension benefits
2	under a defined benefit plan. Covered employees include non-CBU employees hired
3	before January 1, 2006, and CBU employees hired before January 1, 2001. Consistent
4	with PAWC's calculation of pension expense in its last base rate case, the Company
5	calculated its pension expense claim in this case in accordance with Financial Account
6	Standards Board Accounting Standards Codification Topic 715 or "ASC 715" (formerly
7	Statement of Financial Accounting Standards 87). The Company started with the report
8	furnished by its actuary, Willis Tower Watson, that furnished pension costs for 2020
9	determined in accordance with ASC 715. From that report, the Company identified the
10	service and non-service cost components of its pension costs. The service cost portion
11	was reduced by the capitalization rate of 37.18% to determine the portion of total pension
12	costs recorded as an expense. The Company's claim for OPEB expense is explained
13	below. However, it should be noted that the Company has also requested approval of a
14	tracker for the difference between projected and actual pension and OPEB expense, as
15	further described by Mr. Nevirauskas in PAWC Statement No. 1.

In addition to the pro-forma pension expense determined in the manner described above, the Company's claim reflects a credit for the annual amortization of a deferred pension asset that was created when the Company began using the accrual method of accounting, based on ASC 715, to calculate pension expense for ratemaking purposes in its last base rate case. Prior to its last case, the Company's pension expense claimed for ratemaking purposes had been based on its cash contributions to its pension plan. The amortization of the deferred pension asset is being continued at the level approved in the Company's last

case. The ten-year amortization began with the effective date of the rates set in that case
 and, therefore, will expire in 2028.

3	<b>OPEB</b> – Certain PAWC employees are eligible for OPEBs upon their retirement
4	depending on their employment start date. Only non-CBU employees hired before
5	January 1, 2002, and CBU employees hired before January 1, 2006 are eligible for
6	OPEBs. The investments made to fund OPEBs are divided into three Voluntary
7	Employees Beneficiary Association Plans ("VEBAs"): Post-Retirement Medical
8	Benefits/Bargaining Unit, Post-Retirement Medical Benefits/Non-Bargaining Unit, and
9	Life Insurance Benefits. In 2016 and 2018, American Water negotiated a cap on benefits
10	in the Bargaining Unit and Non-Bargaining Unit VEBAs.
11	OPEB expense is based on the accrual cost recognized under ASC 715, as projected by
12	Willis Towers Watson for 2020. The Company adjusted its request to revise the expense
13	associated with the Bargaining Unit VEBA, as currently there is a balance in that account
14	subject to 100% tax if removed from the plan. The 37.18% capitalization rate was
15	applied the service cost component that will be charged to capital.
16	In addition, for active bargaining unit employees covered under American Water's
17	National Benefits Agreement who are not eligible for retiree medical benefits under the
18	OPEB plan, the Company makes an annual contribution of \$600 per employee to a
19	separate VEBA plan that is administered by the Utility Workers Union of America. That
20	plan is designed to reimburse eligible participants for certain health care expenses they

21 incur in retirement. A pro forma adjustment to reflect these contributions on behalf of

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eligible employees of the Company's Water Operations and Steelton Water Operations has been made to the Company's OPEB expense claim in this case.

ESPP – ESPP expense is incurred to fund the 15% discount on purchases of American
Water stock by employees that are enrolled in the ESPP. This expense was calculated
based on the FTY, Rate Year 1 and Rate Year 2 salaries and wages for each employee
who participates in the plan. The employees' forecasted base compensation is multiplied
by the percentage of base compensation each employee has selected to devote to
purchasing American Water stock. That amount was then multiplied by the fifteen
percent discount on stock purchases to determine the pro forma expense for the ESPP.

#### 10 Q. What actions has PAWC taken to manage retirement plan costs?

11 A. The Company's retirement plans are one component of an employee's overall 12 compensation. Throughout the past two decades, the Company has modified retirement 13 benefits to control costs, including closing the defined benefit plan to new hires in 2006, 14 and eliminating the availability of retiree medical benefits for non-CBU new hires in 15 2002 and CBU new hires in 2006. The Company's retirement benefits underwent a 16 significant change in 2006 when a DCP replaced the defined benefit plan for employees 17 hired after January 1, 2006. This froze the number of participants in the defined benefit 18 plan. In 2014, participants in the American Water defined benefit pension plan who had 19 vested benefits but were no longer active employees had a limited-time opportunity to 20 accept a lump sum distribution in lieu of their retirement annuity under the plan. In 2019, 21 American Water introduced a lump sum benefit option for the remaining participants in 22 its defined benefit plan. The lump sum payment option reduces plan expenses and

employer risk. For example, for each employee that takes the lump sum option, the
 Company avoids incurring the expense associated with the Pension Benefit Guarantee
 Corporation annual premium associated with each plan participant.

In addition to freezing the availability of retiree medical benefits in the manner I
explained above, a fixed-cost model was adopted to determine the level of retiree medical
benefits provided to employees who are still eligible to receive those benefits.
Specifically, the Company has capped its pre-65 retiree medical coverage cost at the level

8 fixed in 2018 for each employee and has shifted its post-65 retiree medical coverage from
9 a self-funded program to a fixed-dollar amount. Under the revised benefit structure,

10 employees can use the benefit provided by the Company to purchase their own health

11 coverage on the Medicare Supplemental Exchange.

#### 12 Q. Please describe the Company's payroll tax expense.

13 Payroll tax expense consists of the federal and state taxes the Company pays based on its A. 14 employee's salaries and wages. The Federal Insurance Contributions Act imposes taxes on employers for Old Age Survivors and Disability Insurance ("OASDI," or more 15 16 commonly "FICA") and Hospital Insurance (or more commonly "FICA Medicare"). The 17 Company is also required to pay Federal Unemployment Tax ("FUTA") and State 18 Unemployment Tax ("SUTA"). Pro forma payroll taxes were calculated on a position-19 by-position basis using current 2020 tax rates and pro forma wages for the FTY and Rate 20 Years 1 and 2. The current 6.2% FICA tax rate will apply to wages of up to \$137,700 in 21 2020. The wage ceiling for applying the FICA tax rate is estimated to increase to 22 \$141,399 and \$145,198 for Rate Years 1 and 2, respectively, based on a three-year

1		average of historical actual increases in the wage ceiling for FICA tax. For the FTY and
2		Rate Years 1 and 2, the Company applied the FICA Medicare tax rate of 1.45% to all
3		wages, applied the SUTA tax rate of 1.82% to the first \$9,833 of wages, and applied the
4		FUTA tax rate to the first \$7,000 in wages.
5		<b>REGULATORY AND RATE CASE EXPENSE</b>
6	Q.	Please explain the adjustment for regulatory and rate case expense.
7	А.	These adjustments are being made to reflect and normalize the costs related to this rate
8		case and to recover the annual amounts necessary to amortize other regulatory expenses
9		that were incurred by the Company with the Commission's prior approval.
10		The costs for preparing and litigating this rate filing consist of the costs associated with
11		the Company's consultants, outside legal counsel and charges from the AWWSC
12		Regulatory Services team. Costs for customer communications, mailings, legal notices,
13		administrative fees, and miscellaneous expenses associated with this application are also
14		part of the regulatory expense adjustment. Some of these costs have already been
15		incurred. The Company's claim reflects its total costs, both incurred to date and
16		estimated to be incurred through the completion of this case. PAWC proposes that these
17		costs be normalized over a three-year period, which generally reflects the Company's
18		historical base rate filing frequency. Detail of the cost categories included in the
19		projected rate case expense can be found in the Rate Case Expense section of Exhibit 3-
20		B.
21	Q.	Please identify the additional claims for regulatory expense the Company is making

22 in this case.

1	A.	The Company is claiming for recovery two other categories of regulatory expense. First,
2		the Company is continuing the ten-year amortization of the costs it incurred for a
3		Customer Class Demand Study performed in accordance with the terms of the
4		Commission-approved settlement of PAWC's rate proceeding at Docket No. R-2011-
5		2232243. The costs of that study were approved for recovery via a ten-year amortization,
6		beginning in January 2018, as part of the Company's last base rate case. Second, the
7		Company is claiming for recovery the regulatory expenses it incurred for the preparation,
8		filing, litigation and resolution by settlement of the Company's petition at Docket No. P-
9		2017-2606100 for approval of a plan to replace customer-owned lead service pipes. The
10		Company proposes to amortize those costs over ten years beginning on the effective date
11		of the base rates established in this case.
12	Q.	Has the Company allocated the pro forma rate case and regulatory expense?
13	А.	Yes. The Company uses an allocation factor based on customer counts to apportion the
14		projected rate case and regulatory expense to the individual water and wastewater
15		operations for which separate revenue requirement studies have been provided in Exhibit
16		No. 3-A. The allocation factor will be explained in more detail below. The Rate Case
17		Expense section of Exhibit No. 3-B shows the costs allocated to each separate revenue
18		requirement study from applying this allocation factor.
19		SERVICE COMPANY COSTS

A. The services provided by the Service Company include customer service, water quality
testing, environmental compliance, human resources, communications, technology and

What kinds of services does PAWC obtain from the Service Company?

20

Q.

1 innovation, finance, accounting, legal, engineering, supply chain, and risk management. 2 As part of the broad range of services summarized above, the Service Company provides 3 a variety of financial and accounting services for Pennsylvania-American that include 4 payroll, human resources data management, utility plant accounting, cash management, 5 general accounting and reporting, accounts payable, and tax accounting. As part of its 6 customer-service function, the Service Company operates customer service centers in 7 Alton, Illinois, and Pensacola, Florida, that handle customer calls, billing, and collection 8 activities for PAWC and American Water's other public utility subsidiaries. The 9 customer service centers also handle customer inquiries and correspondence and process 10 service order requests.

11 In addition, the Service Company operates two Field Resource Coordination Centers 12 responsible for tracking and dispatching service orders for PAWC's field representatives 13 and distribution crews. The Service Company also operates the Central Laboratory 14 located in Belleville, Illinois, which employs chemists, laboratory technicians, analysts, 15 and support employees to perform water quality testing and research. The Central 16 Laboratory is certified by the United States Environmental Protection Agency, the 17 Commonwealth of Pennsylvania Department of Environmental Protection and the 18 regulatory agencies of other states in which American Water's subsidiaries provide 19 service. The Central Laboratory owns and uses state-of-the-art water testing equipment 20 to test source water and finished water for all of American Water's subsidiaries, including 21 PAWC.

2

### Q. How do Pennsylvania-American's customers benefit from obtaining the services you described from AWWSC?

3 The Service Company provides PAWC access to highly trained professionals who A. 4 possess expertise in various specialized areas, whose background, experience and training 5 are focused on water utility operations and who work exclusively for American Water's 6 subsidiaries. Furthermore, the size of AWWSC and the scope of its operations have 7 enabled it to assemble a uniquely qualified group of professionals who, through 8 AWWSC, have a platform for sharing their extensive knowledge, expertise, experience 9 and best practices across the American Water system to the benefit of all of American 10 Water's state-regulated utilities and their customers. The Company benefits from getting 11 these services and tapping into the expertise of AWWSC's personnel at cost. The 12 Company also benefits from the size and breadth of American Water, which affords the 13 Company increased purchasing power that it could not obtain on its own, and provides 14 access to discounts on equipment and supplies needed for utility operations, including, 15 for example, pipe, fittings, and water treatment chemicals. In this way, Pennsylvania-16 American achieves costs savings that it could not obtain if it were a stand-alone water 17 company.

18

#### Q. How does the Service Company charge PAWC for its services?

A. The Service Company provides its services to PAWC at cost and issues monthly
invoices. Under the Service Company's billing system, costs can be billed as direct
charges to a single company or as charges reflecting an allocation among several
companies. If the Service Company can identify costs that relate exclusively to PAWC,

1		100% of those costs are charged directly to Pennsylvania-American. Costs the Service
2		Company incurs in rendering services in common to a group of companies and not
3		exclusive to Pennsylvania-American are charged to each service recipient in the relevant
4		group based on an allocation
5	Q.	Please explain the direct charging of Service Company costs.
6	А.	Service Company personnel are instructed to charge their hours and any operational
7		expenses they incur directly to the entity for which they are performing service. In
8		addition, charges associated with the Central Laboratory and certain charges associated
9		with the customer service centers are directly charged based on specific volumes of work.
10	Q.	How are Service Company costs allocated to PAWC?
11	A.	Service Company costs are charged to PAWC and its affiliates using Tier One or Tier
12		Two allocation factors. The Tier One allocation factor represents the allocation of costs
13		between regulated and non-regulated companies. The allocation factors are based on
14		cost-causation drivers for a particular service and include operating revenues, net
15		property, plant and equipment and number of employees. The allocation is calculated
16		using one or an applicable combination of these allocation factors. If a combination of
17		allocation factors is used, each factor is equally weighted in the calculation. The Tier
18		Two allocation factor is used to allocate regulated company costs to the regulated
19		businesses that benefit from a service. Tier Two factors are primarily based on the
20		number of customers served in the immediately preceding calendar year.
21	Q.	What level of Service Company expense is Pennsylvania-American seeking in this

case and how was it calculated?

1	A.	The Company is seeking recovery of an expense of Service Company charges of \$58.3
2		million for Rate Year 1 and \$59.5 million for Rate Year 2. The expense is divided into
3		two categories consisting of labor and labor-related expenses and all other expenses. For
4		the labor and labor-related portion, the expenses incurred for the HTY have been adjusted
5		to annualize a base pay increase in March 2019 of 2.90% for non-CBU employees of the
6		Service Company, and annual contract increases of 3.00% for CBU employees of the
7		Service Company. For non-CBU employees, the HTY level of base pay was further
8		adjusted to annualize base pay increases of 2.84% per year to calculate the base pay for
9		the FTY and Rate Year 2. That percentage increase reflects a historical three-year
10		average of the base pay increase for non-CBU employees. For CBU employees, the HTY
11		level of base pay was further adjusted to annualize annual contract increases of 3.00% to
12		calculate the base pay for the FTY and Rate Year 2. The base pay increases for Rate Year
13		1 reflect the same annual percentages increases employed for 2020 and 2022 but those
14		increases were pro-rated for nine months of Rate Year 1, beginning April 2021.
15		Additionally, adjustments were made to eliminate severance expense, to reflect
16		performance pay for CBU employees (annualized for the FTY and Rate Year 2), to
17		normalize pension and OPEB costs, and to reflect the movement of employees between
18		PAWC and the Service Company.
19	Q.	Please explain the adjustment for employee movements between PAWC and
20		AWWSC.
21	A.	Six PAWC positions in Legal Services were transferred to the Service Company during

22 the HTY. Because these positions have been transferred to the Service Company, they

have been excluded from the full complement of employees reflected in the labor
 adjustment for PAWC employees for the HTY, the FTY or Rate Years 1 and 2.

4

3

#### Q. What other adjustments were made to Service Company expense?

4 A. Costs pertaining to lobbying, charitable contributions, penalties, and injuries and 5 damages have been removed and, therefore, are not included in the pro forma expenses 6 reflected in the Company's expense claim in this case. Additional adjustments were 7 made for depreciation, interest associated with capital leases, the transfer of postage and 8 certain customer accounting expenses to the Service Company, and to update the Tier 9 Two allocation factor due to the pending sale of New York-American Water Company. 10 Finally, an inflation adjustment was applied for Rate Years 1 and 2 non-labor cost items 11 excluding depreciation and capital lease interest.

#### 12 Q. Please explain the transfer of postage and customer accounting expenses from

13

#### PAWC to Service Company.

14 Effective January 2020, the Service Company began to incur the costs for goods and A. 15 services from the following vendors: United States Postal Service large meter postage, 16 collection agency fees from EOS Collection Company of America, Gulf Coast Collection 17 Services and Penn Credit, Regulus form creation costs, ORC International customer 18 survey fees and language services provided by Metrolina. In order to reflect the 19 reclassification of these expenses, the FTY pro forma expense of \$7.8 million was 20 removed from PAWC's books, as shown in the section of Exhibit 3-A dealing with 21 Miscellaneous Adjustments and included in the pro forma adjustment for the Service 22 Company's Customer Service Organization function for the FTY. To calculate the pro

1		forma adjustment to Service Company expenses, the HTY per book amounts for the
2		customer accounting vendors were increased using the 2020 GDP Price Index of 1.98%.
3		The adjustment for postage at December 31, 2020 was calculated by annualizing the
4		postal increase that went into effect on January 26, 2020 and applying that rate to the
5		total number of mailings in the HTY. All of the pro forma customer accounting expenses
6		for Rate Years 2021 and 2022, except postage expense, were increased by applying the
7		GDP Price Index inflation factors for those respective years. Postage expense was
8		increased by 1.89%, which is the twelve -month average change in the Consumer Price
9		Index for the period ending January 2020. This methodology is consistent with the way
10		the Company has adjusted postage expense in prior rate cases.
11	0	Diago avalain the undets to the Tier Two ellocation factor due to the nonding sale
11	Ų.	r lease explain the update to the Tier 1 wo anocation factor due to the pending sale
12		of New York-American Water Company.
13	А.	The Company has adjusted the Tier Two allocation factor beginning in Rate Year 1 to
14		reflect the change necessary to reflect the fact that no portion of the Service Company's
15		costs will be allocated to New York-American Water Company after the closing on its

- 16 pending sale, which is expected to occur before the end of 2020. This adjustment
- 17 increases overall Service Company annual costs allocated to PAWC by approximately
- 18 0.7% in 2021 and 2022.

1 2		ALLOCATION OF COSTS <u>BETWEEN WATER AND WASTEWATER OPERATIONS</u>
3	Q.	Please explain the commitment the Company made in its last base rate case
4		concerning the allocation of costs between water and wastewater operations?
5	A.	In the Joint Petition for Settlement of Rate Investigation in the Company's settlement last
6		base rate case, the Company agreed that, in its next case, "common costs," such as
7		Service Company expense, would be allocated between its water and wastewater
8		operations.
9	Q.	Please describe the cost categories that fall under the term "common costs".
10	A.	The costs classified as "common costs" include Service Company expenses (including
11		postage and customer accounting costs), insurance other than group, rate case expense
12		and regulatory expense, and the costs associated with the Pennsylvania Headquarters
13		Corporate Campus located in Mechanicsburg, Pennsylvania.
14	Q.	What is the methodology used by the Company to allocate common costs between its
15		water and wastewater operations?
16	А.	The Company allocates the above categories based on four different factors, as shown in
17		Schedule SDG-1.
18		Factor 1 – Customers (for Service Company and Customer Accounting). This factor was
19		calculated based on the number of customers as of December 31, 2019. In allocating
20		costs to PAWC, the Service Company identifies customers that receive both water and
21		wastewater service from the Company. These accounts are not treated as two separate

1	customers in the customer-count used to allocate Service Company costs. Instead, each
2	dual service customer is assigned the value of 1.05 in the count of total Company
3	customers and the value of 0.05 in the count of wastewater customers. PAWC used the
4	same convention in allocating costs between water and wastewater operations. The dual
5	service customers counted in the manner explained above plus wastewater-only
6	customers are summed to arrive at the wastewater customer count used for the customer-
7	based allocation.
8	Factor 2 – Customers (for Rate Case and Regulatory Expense). This calculation is based
9	on the total number of customers for each water or wastewater system and allows for
10	subsets of allocations based on water and wastewater sanitary sewer systems ("SSS"),
11	water and wastewater SSS and wastewater combined sewer systems ("CSS") customers.
12	The breakdown of this level is necessary, as there are certain rate case expense
13	components which only relate to specific customer types. For example, cost of service
14	and rate design activities are completed for water and wastewater SSS customers, but
15	separately for wastewater CSS customers. The application of this allocation factor is
16	shown in the Rate Case Expense section of Exhibit 3-B.
17	Foster 2 Customers (for Denneylysenic American's Comparets Hoodsyserters (Conital
17	<u>ractor 5 – Customers (for Pennsylvania-American's Corporate Headquarters (Capitar</u>
18	<u>Campus</u> )). This allocation is based on each water or wastewater system's percentage of
19	the Company's total customers as of December 31, 2019.
20	Factor 4 – Depreciated Cost of Utility Plant in Service (for Insurance Other Than Group)
_0	<u>ruetor respireduted cost of curry runt in Service (for insurance other filan Oroup)</u> .
21	This factor is based on the depreciated original cost of total net utility plant in service as

7	Q.	Does this conclude your testimony at this time?
6		CONCLUSION
5		property, vehicle and general liability, which closely aligns with plant assets.
4		operations. The Company's expense for Insurance Other than Group consists of
3		Company to determine the portion of total expenses allocated to water and wastewater
2		plant are applied to the pro forma Insurance Other Than Group expenses claimed by the
1		of December 31, 2019 for each water or wastewater system. The percentages of utility

8 A. Yes, it does.

#### **BEFORE THE** PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY	:
COMMISSION	:
	:
v.	:
	:
PENNSYLVANIA-AMERICAN	:
WATER COMPANY	:

**DOCKET NOS. R-2020-3019369** (WATER) R-2020-3019371 (WASTEWATER)

#### **VERIFICATION**

I, Stacey D. Gress, hereby state that the facts set forth in the pre-marked Statement No. 6 and accompanying exhibits, if any, are true and correct to the best of my knowledge, information and belief. I understand that this verification is made subject to the provisions and penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsifications to authorities).

Date: April 29, 2020

Hacey D. Gress

#### Allocation Factors for Common Costs to be Allocated from Water to Wastewater Pennsylvania-American Water Company

#### Factor 1: Customers (for Service Company and Customer Accounting)

		Dual	Wastewater Only		Tatal Customore	
		Water/Wastewater	(5% of Dual		For Allocation	
As of 12/31/19	Total Customers	Customers	Customers)	Wastewater Only	(Wastewater: D+E)	Allocation Factor
Water Excl. Steelton	663,475				663,475	97.3%
Steelton Water	2,354				2,354	0.3%
WW SSS Excl. Sadsbury and Exeter	25,551	24,111	1,206	1,440	2,646	0.4%
Sadsbury SSS	1,127	829	41	298	339	0.1%
Exeter SSS	7,866	6,273	314	1,593	1,907	0.3%
Scranton CSS	29,242	29,234	1,462	8	1,470	0.2%
McKeesport CSS	10,568	587	29	9,981	10,010	1.5%
Total	740,183	61,034	3,052	13,320	682,201	100%

#### Factor 2: Customers (for Rate Case and Regulatory Expense)

As of 12/31/19	Total Customers	Allocation Factor	Water	WW SSS Only	W & WW SSS Only	WW CSS
Water Excl. Steelton	663,475	89.4%	99.7%		94.7%	
Steelton Water	2,354	0.3%	0.4%		0.3%	
WW SSS Excl. Sadsbury and Exeter	25,551	3.4%		74.0%	3.7%	
Sadsbury SSS	1,127	0.2%		3.3%	0.2%	
Exeter SSS	7,866	1.1%		22.8%	1.1%	
Scranton CSS	29,242	3.9%				69.9%
McKeesport CSS	10,568	1.4%				25.3%
Kane CSS (as of 12/31/20)	2,019	0.3%				4.8%
Total	742,202	100%	100%	100%	100%	100%

#### Factor 3: Customers (for Pennsylvania-American Corporate Headquarters -Capital Campus)

As of 12/31/19	Total Customers	Allocation Factor
Water Excl. Steelton	663,475	89.6%
Steelton Water	2,354	0.3%
WW SSS Excl. Sadsbury and Exeter	25,551	3.5%
Sadsbury SSS	1,127	0.2%
Exeter SSS	7,866	1.1%
Scranton CSS	29,242	4.0%
McKeesport CSS	10,568	1.4%
Total	740,183	100%

#### Factor 4: Depreciated Utility Plant in Service (Insurance Other Than Group)

	Depreciated Utility	
As of 12/31/19	Plant in Service	Percentage
Water Excl. Steelton	3,988,228,857	85.33%
Steelton Water	20,505,194	0.44%
WW SSS Excl. Sadsbury and Exeter	243,909,214	5.22%
Sadsbury SSS	8,186,810	0.18%
Exeter SSS	91,717,083	1.96%
Scranton CSS	157,800,756	3.38%
McKeesport CSS	163,285,258	3.49%
Total Net Utility Plant in Service	4,673,633,172	100%

<sup>1</sup>5% is the percentage used per the Service Company methodology of qualifying a dual service customer. The Massachusetts Formula approach supports that dual service customers be counted as one customer plus 5% of another customer.

#### Factor 4: Depreciated Utility Plant in Service (Insurance Other Than Group) Pennsylvania-American Water Company

			WW SSS Excl.					
	Water Excl. Steelton	Steelton Water	Sadsbury and Exeter	Sadsbury SSS	Exeter SSS	Scranton CSS	McKeesport CSS	<u>Company Total</u>
Non-Depreciable Plant	25,555,367	26,992	3,117,203	18,345	3,111,032	752,812	1,110,000	33,691,751
Depreciable Plant	5,207,216,552	44,349,363	333,269,364	11,236,469	190,585,478	227,052,179	348,980,890	6,362,690,295
Total Utility Plant In Service	5,232,771,919	44,376,355	336,386,567	11,254,814	193,696,510	227,804,991	350,090,890	6,396,382,046
Deduct:								
Contributions In Aid Of Construction	224,157,007		38,806,464			11,454,549		274,418,020
Customer Advances For Construction	64,511,651		361,374					64,873,025
Excluded Property	1,558,014							1,558,014
Sub-Total	290,226,672	-	39,167,838	-	-	11,454,549	-	340,849,059
			207 210 720	11 25 4 01 4	102 000 510	216 250 442		
Net Utility Plant In Service	4,942,545,247	44,376,355	297,218,729	11,254,814	193,696,510	216,350,442	350,090,890	6,055,532,987
Accumulated Depreciation	954,316,390	23,871,161	53,309,515	3,068,004	101,979,427	58,549,686	186,805,632	1,381,899,815
Depreciated Litility Plant In Service	3 988 228 857	20 505 194	2/13 909 21/	8 186 810	91 717 083	157 800 756	163 285 258	/ 673 633 172
	5,500,220,057	20,303,134	243,303,214	0,100,010	51,717,005	137,000,750	105,205,250	4,075,055,172
Percentage of Total	85.33%	0.44%	5.22%	0.18%	1.96%	3.38%	3.49%	100.0%

## Statement No.7 DeGrazia

#### PAWC STATEMENT NO. 7

#### **DIRECT TESTIMONY**

#### OF

#### **DOMINIC J. DEGRAZIA**

#### WITH REGARD TO

#### PENNSYLVANIA-AMERICAN WATER COMPANY'S

#### **O&M EXPENSES INCLUDING:**

#### PURCHASED POWER, PURCHASED WATER, CHEMICALS,

#### WASTE DISPOSAL, CHANGE IN WATER CONSUMPTION, TRANSPORTATION,

#### **INSURANCE OTHER THAN GROUP, AND RENT**

#### DOCKET NOS. R-2020-3019369 (WATER) R-2020-3019371 (WASTEWATER)

DATE: April 29, 2020
### PENNSYLVANIA-AMERICAN WATER COMPANY DIRECT TESTIMONY OF DOMINIC J. DEGRAZIA

#### 1 Q. What is your name and business address?

A. My name is Dominic J. DeGrazia. My business address is 1 Water Street, Camden New
Jersey 08102.

#### 4 Q. By whom are you employed and in what capacity?

5 A. I am employed by American Water Works Service Company, Inc. ("AWWSC" or

6 "Service Company") as a Principal Regulatory Analyst for the Mid-Atlantic Region.

#### 7 Q. Please summarize your educational background and professional experience.

8 I graduated from Arizona State University of Tempe, Arizona with a Master's in A. 9 Business Administration, with a Finance emphasis. I also graduated from Drexel 10 University of Philadelphia, Pennsylvania with a Bachelor of Science Degree in Finance 11 and Economics. In September 2019, I earned the Chartered Financial Analyst credential. 12 I began my employment in a contract role as a Financial Analyst with New Jersey-13 American Water Company in October 2011, providing analytical support for the 14 Financial Planning and Rates departments. In August 2013, I became employed full time 15 by American Water Works Service Company, working as a Financial Analyst in the 16 Financial Planning and Analysis department. In this capacity I supported the budgeting 17 and consolidated reporting process of all American Water Subsidiaries. In 2015, I was 18 promoted to a Senior Financial Analyst role working in the Budgeting & Internal 19 Reporting department. My main duties involved the generation and consolidation of the 20 long-term financial plans. In October 2018, I was promoted to my current position as a

1		Principal Regulatory Analyst in the Regulatory Services department. My current duties
2		include the preparation and presentation of regulatory filings and related activities for
3		Pennsylvania-American Water Company ("PAWC" or "Company") and West-Virginia
4		American Company.
5	Q.	What is the purpose of your testimony?
6	А.	The purpose of my testimony is to explain the portions of Exhibit No. 3-A that I am
7		sponsoring, which relate to PAWC expense claims for the following: purchased power,
8		purchased water, chemicals, waste disposal, transportation, insurance other than group
9		policies, and rent. Additionally, my testimony explains the adjustment necessary to
10		account for changes in customer water consumption. Other components of the
11		Company's claim for operating and maintenance ("O&M") expenses are addressed in the
12		direct testimony of Ashley E. Everette (PAWC Statement No. 4) and Stacey D. Gress
13		(PAWC Statement No. 6).
14	Q.	Please explain the development of pro forma operating and maintenance ("O&M")
15		expenses as set forth in Exhibit No. 3-A that you are sponsoring.
16	A.	In general, amounts recorded on the Company's books for the historic test year ended
17		December 31, 2019 ("HTY") were used as a starting point. Book data were adjusted to
18		reflect the effects of known and measurable changes that occurred during the HTY and to
19		reflect changes that are projected to occur by the end of the future test year ending
20		December 31, 2020 ("FTY"), Rate Year 1, ending December 31, 2021, and Rate Year 2,
21		ending December 31, 2022. For the most part, PAWC's specific adjustments were

22 developed in a manner consistent with the way the Company presented its O&M expense

1		claims in prior rate filings. Consistent with prior filings, certain O&M expenses for
2		which specific adjustments were not made were increased by applying inflation factors of
3		1.98%, 2.08%, and 2.00% for the FTY, Rate Year 1 and Rate Year 2, respectively, to
4		reflect cost levels the Company is expected to incur in those years. The inflation factors
5		were derived from the 2020, 2021 and 2022 Blue Chip forecasts of the average annual
6		Gross Domestic Product Price Indices. Ms. Gress explains in more detail the GDP Price
7		Indices the Company is using in this filing.
8		Purchased Power Expense
9	Q.	Please explain the methodology used to forecast purchased power expense.
10	А.	Purchased power expense is incurred for treating, pumping and delivering water and
11		collecting and treating wastewater. In order to forecast purchased power expense, HTY
12		expenses were adjusted to remove closed accounts and credit balances, to annualize
13		electricity expense for active accounts, and to reflect known changes in the prices
14		charged by the Company's electricity generation suppliers ("EGSs") and in the rates of
15		the electric distribution companies ("EDCs") that furnish distribution service. Changes
16		experienced during the HTY and projected to occur during the FTY and for Rate Years 1
17		and 2 were used to derive the expense levels for those years. Additionally, adjustments
18		were made to annualize electricity expenses for Steelton water operations, Sadsbury
19		sanitary sewer operations, and Exeter wastewater operations to reflect a full year of costs
20		for the FTY because the Company acquired those systems in 2019.
21		The Company has contracted with multiple EGSs to supply the Company's electric
22		generation through 2022. I used the prices under those contracts to calculate electric

1		expense for the FTY, Rate Year 1 and Rate Year 2, including rate reductions effective
2		during those periods under new contracts that the Company successfully obtained
3		through its competitive procurement process described by PAWC witness William
4		Clarkson in PAWC Statement No. 2. For the distribution and transmission portions of the
5		Company's bills, the applicable EDC's distribution and transmission rates and applicable
6		riders and surcharges/credits in effect as of December 31, 2019 were reflected to
7		determine total purchase power expense. The purchased power adjustments are
8		summarized in Exhibit No. 3-A, and supporting workpapers are provided in Exhibit No.
9		3-B.
10		Purchased Water Expense
11	0	Plasse explain the methodology used to forecast numbered water expanse
11	Q.	Thease explain the methodology used to forecast purchased water expense.
12	А.	Purchase water expense is comprised of two components, contractual usage and
13		diversion rights. The annualized usage levels from all contracted suppliers in the HTY
14		were priced at the applicable supplier's rates effective in the FTY, and those rates were
15		used to annualize purchased water expense for the FTY. For the FTY, diversion rights
16		expenses, which are not based on contracted annual pricing terms or usage levels, were
17		adjusted by the inflation factor of 1.98%. For the Rate Year 1 and Rate Year 2 all
18		purchased water expenses as of the FTY were increased by the inflation factors of
19		2.08% & 2.00%, respectively. In the HTY, the Company's 36-inch Snyder Street
20		Connection with the Westmoreland Municipal Utility Authority in Connellsville was
21		curtailed due to pressure issues caused by the use of a single meter. The interconnection
22		pressure issues were resolved after the installation of additional meters and is now
23		active. The FTY activity was adjusted to reflect twelve monthly bills at HTY average

1		monthly usage levels for water purchased at this interconnection. Details of the
2		Company's purchased water adjustments are provided in Exhibit No. 3-B.
3		<u>Chemical Expense</u>
4	Q.	Please explain the methodology used to forecast chemical expense.
5	A.	PAWC uses various chemicals for water and wastewater treatment. In order to obtain the
6		best available pricing, the Company participates in American Water's system-wide
7		competitive bidding process and enters into unit-price contracts with the successful
8		bidders for the chemicals needed at its water and wastewater treatment facilities
9		throughout Pennsylvania. Usage levels were adjusted in three respects. First,
10		adjustments were made to eliminate the chemicals that are no longer being used as of
11		January 2020 and to add chemicals the Company will begin using for the first time in
12		2020. Second, usage was increased to reflect the chemicals that are needed at the
13		treatment plants of the Steelton Water Operations and Exeter Wastewater Systems, which
14		were acquired in 2019. Third, usage levels were adjusted based on known and
15		measurable changes that occurred in the HTY or changes that are projected to occur in
16		the FTY, Rate Year 1 and Rate Year 2. An adjustment was made to reflect an estimate of
17		a full year's usage in the FTY at the new Ellwood water treatment plant and to remove
18		the usage associated with the old plant, which has been replaced and is no longer in
19		service.
20		
20		Contract prices effective at January 1, 2020, were applied to the adjusted levels of
21		chemical usage to project the FTY expense claim. To determine chemicals expense for
22		Rate Years 1 and 2, FTY chemical costs were increased by 5.06%, which is the volume-

1		weighted average of the price increases the Company experienced from 2016-2019. If
2		the Company enters into new unit-price chemical contracts before the close of the record
3		in this case, it will update its claims to reflect any material price changes. The
4		adjustments for chemical expenses for all of the Company's water and wastewater
5		systems are summarized in Exhibit No. 3-A, and supporting workpapers are included in
6		Exhibit No. 3-B.
7		Waste Disposal Expense
8	Q.	Please explain the methodology used to forecast to waste disposal expenses.
9	А.	The Company's claims for waste disposal expenses are based on the HTY level of
10		expense, increased by the FTY (1.98%), Rate Year 1 (2.08%), and Rate Year 2 (2.00%)
11		inflation factors and adjusted to reflect the increased usage attributable to the new
12		acquisitions in 2019 of Steelton Water Operations, Exeter and Turbotville Wastewater
13		Operations. The waste disposal adjustments are summarized in Exhibit No. 3-A.
14		Supporting workpapers are included in Exhibit No. 3-B.
15		Change in Consumption
16	Q.	Please explain the adjustment necessary to account for changes in customer water
17		consumption.
18	А.	Exhibit No. 3-A, sets forth an adjustment to operating expenses to reflect changes in
19		power and chemical costs due to changes in pro forma water consumption, including the
20		decline in residential and commercial usage discussed in detail by Mr. Roach in PAWC
21		Statement No. 9. The adjustment was calculated by computing the ratio of HTY power
22		and chemical costs to actual HTY consumption. This ratio was then applied to the
23		projected change in consumption between the HTY and FTY, the FTY and Rate Year 1,

1		and Rate Year 1 and Rate Year 2. The adjustment was applied to both existing Water and
2		Wastewater operations. Supporting details are included in Exhibit No. 3-B.
3		Transportation Expense
4	Q.	Please explain the methodology used to forecast transportation expense.
5	А.	Transportation expense includes the fleet management cost per vehicle, costs for fuel
6		expense, titling and registration fees, maintenance expense, and reimbursement for
7		personal use of company vehicles. The forecast of the fleet management expense is based
8		on the number of vehicles claimed in FTY, Rate Year 1 and Rate Year 2. The changes in
9		the number of vehicles from the HTY level are reflected in the forecast of costs for fuel
10		expense, titling and registration fees, and maintenance expense. Additionally, these
11		costs, along with the reimbursement for personal use of Company vehicles, were adjusted
12		by the inflation factors for the FTY (1.98%), Rate Year 1 (2.08%), and Rate Year 2
13		(2.00%). A portion of the transportation costs is capitalized and, therefore, excluded
14		from O&M expense. The Company's adjustments to transportation expense are shown in
15		Exhibit No. 3-A. Detailed supporting calculations are provided in Exhibit No. 3-B.
16		Insurance Other Than Group
17	Q.	Please explain the methodology used to forecast insurance other than group
18		insurance.
19	А.	PAWC incurs costs related to several types of insurance, including Auto Liability,
20		General Liability, Excess Liability and Workers Compensation. The Company also has
21		other policy coverages such as Directors and Officers, Employment Practices and Cyber
22		Crime policies. The FTY expense represents an increase from the HTY based upon a
23		number of drivers. The HTY was adjusted using insurance premiums actually incurred,

1 and projected to occur, during the twelve months ending December 31, 2020, adjusted by 2 the five-year average of actual retroactive adjustments. Additionally, an adjustment was 3 made to property insurance expense because the Company's property insurance program 4 was at the end of a four-year rate guarantee during which premiums (using a set rate) 5 were not subject to change unless the insured values increased by more than 5%. On 6 January 1, 2020, the property insurance rates were adjusted to current market conditions and to reflect a readjustment of the insurable values. An equipment discount credited 7 8 against Insurance Other than Group expense in the HTY has been eliminated and is 9 reflected as a deduction from rate base, as discussed by PAWC witness Christina E. 10 Chard in PAWC Statement No. 5. The FTY expenses were then adjusted by the 2.08% 11 inflation factor to arrive at Rate Year 1 costs. The Rate Year 1 expenses were adjusted 12 by the 2.00% inflation factor to arrive at Rate Year 2 costs. Next, the new Worker's 13 Compensation premium costs were multiplied by the capitalization rate to eliminate the 14 portion of that cost not charged to operating expenses. The insurance other than group 15 expense for Rate Years 1 and 2 was allocated between water and wastewater operations 16 based on allocation Factor 4 (Depreciated Utility Plant in Service). The development of 17 the capitalization percentage and the factors used to allocate common costs between 18 water and wastewater operations is discussed in further detail by Company witness 19 Stacey Gress in PAWC Statement No. 6. The Company's adjustments to insurance other 20 than group expense are shown in Exhibit No. 3-A. Detailed supporting calculations are 21 provided in Exhibit No. 3-B.

1		<u>Rent Expense</u>
2	Q.	Please explain the Company's adjustment to rent expense.
3	A.	The Company's specific adjustments to rent expense reflect changes projected to occur in
4		the FTY, Rate Year 1 and Rate Year 2 in current lease agreements for Water Operations
5		Excluding Steelton and Wastewater CSS Scranton Operations. A portion of the rent
6		expense is capitalized and, therefore, was excluded from rent expense. The Company's
7		adjustment to rent expense is shown in Exhibit No. 3-A. Detailed supporting calculations
8		are provided in Exhibit No. 3-B.
9	Q.	Does this conclude your direct testimony at this time?

10 A. Yes, it does.

#### BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY	:
COMMISSION	:
	:
v.	:
	:
PENNSYLVANIA-AMERICAN	:
WATER COMPANY	:

DOCKET NOS. R-2020-3019369 (WATER) R-2020-3019371 (WASTEWATER)

#### VERIFICATION

I, Dominic J. DeGrazia, hereby state that the facts set forth in the pre-marked Statement No. 7 and accompanying exhibits, if any, are true and correct to the best of my knowledge, information and belief. I understand that this verification is made subject to the provisions and penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsifications to authorities).

Date: April 29, 2020

Sominic & Stalian Dominic J. DeGrazia

Statement No. 8 Grundusky

#### **PAWC STATEMENT NO. 8**

### DIRECT TESTIMONY OF BERNARD J. GRUNDUSKY, JR.

#### WITH REGARD TO PENNSYLVANIA-AMERICAN WATER COMPANY'S ACQUISITIONS, REGULATORY LAG IN SECTION 1329 ACQUISITIONS, AN ACQUISITION ADJUSTMENT AND A REGIONALIZATION AND CONSOLIDATION SURCHARGE UNDER ACT 58

#### DOCKET NOS. R-2020-3019369 (WATER) R-2020-3019371 (WASTEWATER)

DATE: April 29, 2020

### <u>PENNSYLVANIA-AMERICAN WATER COMPANY</u> <u>DIRECT TESTIMONY OF BERNARD J. GRUNDUSKY, JR.</u>

1		<b>INTRODUCTION</b>
2	Q.	PLEASE STATE YOUR NAME AND BUSINESS ADDRESS FOR THE RECORD.
3	А.	My name is Bernard J. Grundusky, Jr. and my business address is 852 Wesley Drive,
4		Mechanicsburg, Pennsylvania 17011.
5	Q.	BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?
6	А.	I am employed by Pennsylvania-American Water Company ("PAWC") as the Senior
7		Director of Business Development.
8	Q.	WHAT ARE YOUR RESPONSIBILITIES AS PAWC'S SENIOR DIRECTOR OF
9		BUSINESS DEVELOPMENT?
10	<b>A.</b>	I develop and maintain necessary contacts to stay abreast of new business opportunities.
11		In addition, I direct the business development team in the preparation of proposals, policies
12		and strategies for acquisitions, and other related business ventures. Finally, I participate in
13		developing PAWC's short- and long-range plans. These responsibilities necessitate that I
14		maintain a working knowledge of regulatory and technical developments, new
15		technologies and current trends as they affect the water and wastewater utility industries,
16		and that I be familiar with legislation, regulation and public policy affecting business
17		opportunities.

#### 1 Q. PLEASE DESCRIBE YOUR PROFESSIONAL EDUCATION AND EXPERIENCE.

2 A. I received a Bachelor of Science (B.S.) degree in Accounting from Pennsylvania State 3 University in August of 1990 and a Master of Business Administration degree (MBA) from 4 Lebanon Valley College in 1995. My experience in the waterworks industry began in 5 March 1991 when I was employed as a Rate Analyst in the Rates and Revenue Department 6 of the American Water Works Service Company. As a Rate Analyst, I was responsible for 7 preparing financial analyses and written testimony to support PAWC rate increase requests. 8 On July 1, 1995, I was promoted to Senior Rate Analyst. On October 16, 1996, I was 9 promoted to Financial Analyst in PAWC's Administration Department. My principal 10 duties in that capacity included the preparation and administration of the revenue, operating 11 and maintenance budgets and assistance in the preparation of the capital budgets; the 12 review of results of operations by budget categories; and, the annual review and refinement 13 of budgeting techniques. On July 1, 1997, I was promoted to Intermediate Financial 14 Analyst, and, on July 1, 1998, I was promoted to Senior Financial Analyst. On January 1, 15 1999, I transferred to PAWC's Business Development Department. On July 1, 2000, I was 16 promoted to Manager of Business Development. On April 1, 2009, I was promoted to the 17 position of Senior Manager of Business Development for PAWC. On September 30, 2013, 18 I was promoted to the position of Director of Business Development for PAWC. On May 19 21, 2018, I was promoted to Senior Director of Business Development. I have been in that 20 position since then and am currently the Senior Director of Business Development.

## 21 Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PENNSYLVANIA 22 PUBLIC UTILITY COMMISSION ("COMMISSION")?

1	A.	Yes. I have previously testified before the Commission as a company witness for several
2		rate cases in the early to mid-1990's, as a witness for PAWC in the complaint of the
3		Municipal Authority of the Township of Robinson against PAWC at Docket No. C-
4		20030092, and as a company witness for PAWC's 2013 and 2017 base rate case filings. I
5		also recently testified before the Commission as a company witness in PAWC's acquisition
6		of The Borough of New Cumberland wastewater system at Docket No. A-2016-2544151,
7		PAWC's acquisition of The Sewer Authority of the City of Scranton at Docket No. A-
8		2016-2537209, PAWC's acquisition of the Municipal Authority of the City of McKeesport
9		wastewater system at Docket No. A-2017-2606103 and PAWC's acquisition of the Exeter
10		Township wastewater system at Docket No. A-2018-3004933.

#### 11 Q. WHAT IS THE SCOPE OF YOUR TESTIMONY?

A. I will discuss the water and wastewater system acquisitions that PAWC has included in
this base rate case, its request for an acquisition adjustment pursuant to 66 Pa. C.S. § 1327
and the Commission's statement of policy at 52 Pa. Code § 69.711, and its request for a
"Regionalization and Consolidation Surcharge" pursuant to Act 58 of 2018, 66 Pa. C.S. §
1330.

#### 17

#### ACQUISITIONS INCLUDED IN THIS BASE RATE CASE

#### 18 Q. WHAT ACQUISITIONS ARE BEING INCLUDED FOR THE FIRST TIME IN A

- **BASE RATE CASE IN THIS BASE RATE CASE?**
- 20 A. PAWC has included the following acquisitions in this base rate case:
- 21 (1) Municipal Authority of the City of McKeesport ("MACM") (wastewater);

1	(2) Sadsbury Township ("Sadsbury") (wastewater);
2	(3) Municipal Authority of the Borough of Turbotville ("MABT") (water);
3	(4) Turbotville Borough ("Turbotville") (wastewater);
4	(5) Steelton Borough Water Authority ("SBWA") (water);
5	(6) Exeter Township ("Exeter") (wastewater);
6	(7) Kane Borough Authority ("KBA") (wastewater);
7	(8) Delaware Sewer Company ("DSC") (wastewater); and
8	(9) Winola Water Company ("WWC") (water).

9 Q.

#### PLEASE PROVIDE A DETAILED DESCRIPTION OF THESE ACQUISITIONS.

10 1. MACM – The MACM system was acquired by PAWC on December 18, 2018. 11 This system consists of a combined wastewater collection system and three wastewater 12 treatment plants ("WWTPs") that collect and treat wastewater from the City of 13 McKeesport, the City of Duquesne, the Borough of Dravosburg, the Borough of Port Vue 14 and a portion of the Borough of West Mifflin, Allegheny County, Pennsylvania. The 15 system also provides wastewater service through bulk service connections to White Oak 16 Borough, Lincoln Borough, Liberty Borough, East McKeesport Borough, Glassport 17 Borough, Versailles Borough, Elizabeth Township and the Municipal Authority of 18 Westmoreland County. The collection systems in Duquesne and Dravosburg transport 19 sewage from their respective communities to their own WWTPs and are not interconnected 20 to the other systems.

21 The MACM system is a combined sewer system, which conveys domestic sewage 22 and other wastewaters and stormwater in the same system of pipes. PAWC has experience

operating a combined sewer system because it owns and operates the Scranton wastewater
 system. PAWC also has experience operating a system that has substantial wet weather
 challenges due to high rates of infiltration and inflow.

PAWC owns and operates water and wastewater facilities near McKeesport in the
Pittsburgh Area and Southwestern Pennsylvania. The MACM system is located adjacent
to PAWC's MonValley/Elizabeth and Pittsburgh operations. PAWC provides water
service to MACM's Dravosburg Borough customers.

8 The public benefits of this acquisition include: the transaction promotes the 9 Commission's policy favoring regionalization and consolidation of water/wastewater 10 systems; the system is now subject to Commission regulation, giving customers access to 11 the Commission, the Office of Consumer Advocate ("OCA"), the Bureau of Investigation 12 and Enforcement ("I&E"), and the Office of Small Business Advocate ("OSBA"); PAWC 13 is making improvements to the system post-closing, addressing both service and 14 environmental issues; PAWC is providing enhanced customer service and customer 15 assistance programs; and PAWC has committed to provide cost of service studies as part 16 of its first base rate case that includes the system.

The Commission approved this acquisition by Order entered October 26, 2017.
Pursuant to 66 Pa. C.S. § 1329(c), the Commission approved a rate base addition of
\$158,000,000 associated with PAWC's acquisition of the MACM system.

Sadsbury – The Sadsbury wastewater collection system was acquired on February
 6, 2019. The Sadsbury system provides wastewater service in a portion of the Township
 of Sadsbury, Chester County, Pennsylvania. The system consists of a sewer collection

system with one pump station. It has approximately 90,000 ft. of 8-inch plastic sewer pipe,
 approximately 450 manholes, and a small portion of force main. It is a sanitary-only
 collection system.

4 The Sadsbury system is interconnected with PAWC's existing Coatesville 5 wastewater system, and all sewage collected by the Sadsbury system ultimately flows into 6 PAWC's Coatesville system for treatment and disposal. Sadsbury had been a bulk 7 wastewater customer of PAWC since PAWC's acquisition of the City of Coatesville 8 Authority's water and wastewater system assets in March 2001. As the Sadsbury system 9 is interconnected with PAWC's Coatesville wastewater system, the Sadsbury system is 10 operated and managed by PAWC's Coatesville operations utilizing existing PAWC 11 employees.

12 The public benefits of this transaction include: the transaction promotes the 13 Commission's policy favoring regionalization and consolidation of water/wastewater 14 systems; the system is now subject to Commission regulation, giving customers access to 15 the Commission, the OCA, I&E, and the OSBA; PAWC is providing enhanced customer 16 service and customer assistance programs; and PAWC has committed to provide cost of 17 service studies as part of its first base rate case that includes the system.

The Commission approved this acquisition by Order entered October 25, 2018.
Pursuant to 66 Pa. C.S. § 1329(c), the Commission approved a rate base addition of \$8,300,000
associated with PAWC's acquisition of the Sadsbury system.

3. MABT – This water system was acquired by PAWC on July 23, 2019 (the same
 date that PAWC acquired the Turbotville wastewater system). The MABT system provides

water service to the public in the majority of Turbotville Borough and portions of Lewis
 Township, Northumberland County, Pennsylvania. The water system includes a spring
 with water treatment facilities, two 298,000-gallon water storage tanks, 26 public fire
 hydrants, and 50,000 feet of mixed size and material piping.

5 The public benefits of this transaction include: the transaction promotes the 6 Commission's policy favoring regionalization and consolidation of water/wastewater 7 systems; the system will become subject to Commission regulation, giving customers 8 access to the Commission, the OCA, the I&E and the OSBA; PAWC will provide enhanced 9 customer service and customer assistance programs; and PAWC will make capital 10 improvements to the system after closing.

The Commission approved this acquisition pursuant to 66 Pa. C.S. § 1102 by Order entered January 17, 2019. The purchase price of the system was \$635,000. PAWC subsequently filed with the Commission an original cost study to determine the original cost and accumulated depreciation of MABT's plant-in-service. Since PAWC paid less than the depreciated original cost of the assets, PAWC is proposing to amortize the difference between what was paid and the cost of the assets.

Turbotville - The Turbotville wastewater system was also acquired on July 23,
 2019. The Turbotville system provides wastewater collection, treatment and disposal
 service to the public in a portion of the Borough of Turbotville, Northumberland County,
 Pennsylvania. The Turbotville wastewater system assets include a collection and
 conveyance system and an extended aeration WWTP. The majority of Turbotville's

wastewater flow is conveyed to the WWTP by a gravity collection system that includes 3.5 miles of six and eight-inch diameter mains, 88 manholes, laterals, land and easements.

2

The public benefits of this transaction include: the transaction promotes the Commission's policy favoring regionalization and consolidation of water/wastewater systems; the system is now subject to Commission regulation, giving customers access to the Commission, the OCA, the I&E and the OSBA; PAWC is providing enhanced customer service and customer assistance programs; and PAWC is making post-closing capital improvements to the system.

9 The Commission approved this acquisition pursuant to 66 Pa. C.S. § 1102 by Order 10 entered July 11, 2019. The purchase price of the system was \$365,000. PAWC subsequently 11 filed with the Commission an original cost study to determine the original cost and 12 accumulated depreciation of Turbotville's plant-in-service. Since PAWC paid less than the 13 depreciated original cost of the assets, PAWC is proposing to amortize the difference between 14 what was paid and the cost of the assets.

15 5. **SBWA** - The SBWA water system was acquired on October 9, 2019. This system 16 provides water service in the Borough of Steelton and a small portion of Swatara Township, 17 Dauphin County, Pennsylvania. The system has one conventional 3.0 mgd water treatment 18 plant. The distribution system consists of approximately 28 miles of pipe ranging in size 19 from 4-inch diameter to 20-inch diameter, one water booster station, and two 2,000,000 20 gallon finished water storage tanks. The primary water supply of the SBWA system is the 21 Susquehanna River, and the system also has a supplemental/emergency interconnection 22 with SUEZ Water Pennsylvania Inc. in Swatara Township.

1	The public benefits of this transaction include: the transaction promotes the
2	Commission's policy favoring regionalization and consolidation of water/wastewater
3	systems; the system is now subject to Commission regulation, giving customers access to
4	the Commission, the OCA, I&E and the OSBA; PAWC will take steps to ensure that low-
5	income customers are aware of PAWC's customer assistance programs; PAWC will
6	provide a report on potential alternatives to the construction of a new treatment plant; and
7	PAWC will provide cost of service studies as part of its first base rate case that includes
8	the system.
9	The Commission approved this acquisition by Order entered October 3, 2019.
10	Pursuant to 66 Pa. C.S. § 1329(c), the Commission approved a rate base addition of
11	\$20,500,000 associated with PAWC's acquisition of the SBWA system.
12	6. Exeter - The Exeter Township wastewater system was acquired on October 24,
13	2019. The system provides wastewater service in Exeter Township and a small portion of
14	Alsace Township and Lower Alsace Township in Berks County, Pennsylvania. It also
15	provides bulk wastewater service to Saint Lawrence Borough in Berks County,
16	Pennsylvania. The system consists of a WWTP and a collection system, with
17	approximately 126 miles of nine and six numping stations
	approximatery 120 miles of pipe and six pumping stations.
18	PAWC is the water provider within Exeter Township and Amity Township in Berks
18 19	PAWC is the water provider within Exeter Township and Amity Township in Berks County and the community of The Golden Oaks in Ruscombmanor Township, Berks
18 19 20	PAWC is the water provider within Exeter Township and Amity Township in Berks County and the community of The Golden Oaks in Ruscombmanor Township, Berks County. PAWC's Glen Alsace operations office is located less than one mile from the

1	The public benefits of this transaction include: the transaction promotes the
2	Commission's policy favoring regionalization and consolidation of water/wastewater
3	systems; the system is now subject to Commission regulation, giving customers access to
4	the Commission, the OCA, I&E and the OSBA; PAWC is making capital improvements
5	to the system to address service and environmental issues; the transaction helped to resolve
6	claims of extraterritorial service by Exeter; PAWC will conduct an inflow and infiltration
7	study of the system; and PAWC will provide cost of service studies as part of its first base
8	rate case that includes the system.
9	The Commission approved this acquisition by Order entered October 3, 2019.
10	Pursuant to 66 Pa. C.S. § 1329(c), the Commission approved a rate base addition of
11	\$92,000,000 associated with PAWC's acquisition of the Exeter system.
12	7. <b>KBA</b> – Currently pending before the Commission is PAWC's application to
13	acquire the KBA wastewater collection, conveyance and treatment system. The system is
14	a combined wastewater system (as described above) that provides service in the Borough
15	of Kane and a portion of Wetmore Township, McKean County, Pennsylvania. The system
16	is comprised of two wastewater collection systems and their associated two WWTPs, along
17	with approximately 130,000 feet of gravity lines and three combined sewer overflow
18	outfalls that collect and treat wastewater.
19	The Application seeks approval of the Commission pursuant to 66 Pa. C.S. § 1329.
20	The amount requested to be added to PAWC's rate base, as a result of the acquisition, is
21	the purchase price of \$17,560,000. PAWC filed its Application on December 2, 2019, and

finally accepted for filing on February 6, 2020, which means that the Commission must
 enter a final order on the Application on or before August 6, 2020. On April 17, a Joint
 Petition for Settlement of All Issues was filed with the Commission. PAWC plans to close
 on the transaction shortly after it receives Commission approval.

5 Public benefits of the transaction include: the transaction promotes the 6 Commission's policy favoring regionalization and consolidation of water/wastewater 7 systems; the system will become subject to Commission regulation, giving customers 8 access to the Commission, the OCA, the I&E and the OSBA; PAWC will provide enhanced 9 customer service and customer assistance programs to KBA's customers; and PAWC will 10 make capital improvements to the system to address service and environmental issues.

As discussed below, PAWC has included this acquisition in the instant base rate case because this proceeding is PAWC's "next" base rate case after closing on the acquisition. The Commission order approving the acquisition will establish the amount that PAWC is to include in its rate base in its "next" base rate case as a result of the acquisition. Additionally, it is prudent and fair for the Commission to integrate the KBA system into the larger PAWC system, and to address expenses associated with the operation and maintenance of the system, as soon as reasonably possible to avoid regulatory lag.

18 Section 1329 requires the Commission's decision in the KBA acquisition 19 proceeding to be entered within six months of the application's filing (i.e., by August 6, 20 2020). The record in this proceeding will undoubtedly still be open on that date. In fact, 21 PAWC expects the transaction to close while the record is still open in this proceeding. 22 Unless the acquisition is rejected by the Commission (which will be known by August 6, 23 2020), the transaction will most certainly close before the end of the fully projected future

test year. Including the KBA acquisition in the instant proceeding, rather than forcing PAWC to wait until the following base rate case, will significantly reduce regulatory lag, thereby mitigating one factor that hinders municipal acquisitions pursuant to Section 1329.

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8. DSC – On June 13, 2019, the Commission made final its Tentative Opinion and
Order that approved (as modified), a settlement agreement by which PAWC agreed to
purchase DSC. This proceeding was an investigation pursuant to 66 Pa. C.S. § 529
(relating to power of commission to order acquisition of small water and sewer utilities).
On June 28, 2019, the OCA filed a Petition for Reconsideration, which was denied by the
Commission in an Opinion and Order entered on March 26, 2020.

10 DSC is a public utility engaged in the collection, treatment and disposition of 11 wastewater in Delaware Township, Pike County, Pennsylvania. It serves approximately 12 39 homes in the Wild Acres Development, but is certificated to serve additional territory 13 in the development. The other homes in the development that have been constructed to 14 date are served by on-lot septic systems. Additional homes are expected to be constructed 15 in DSC's service territory, but DSC is currently subject to a moratorium prohibiting 16 additional connections to its system. In the Section 529 Investigation, the Commission 17 found that DSC is in violation of applicable statutory or regulatory standards, has not 18 complied within a reasonable period of time with an order of DEP or the PUC, and cannot 19 reasonably be expected to furnish and maintain adequate, efficient, safe and reasonable 20 service and facilities in the future.

Public benefits of the transaction include: the transaction will place ownership of
the system in the hands of a capable public utility that is financially, technically and legally

fit to own and operate the system; the Commission has approved a plan for improvements
 to address service and environmental issues; and PAWC (unlike DSC) has the financial
 wherewithal to make the improvements necessary to lift the moratorium and provide
 service throughout the utility's certificated service territory.

5 PAWC has included this acquisition in the instant base rate case because the 6 Commission approved the acquisition in 2019 and denied the OCA's Reconsideration 7 Petition in March 2020. Closing on the transaction is subject to the condition that PAWC 8 receive all necessary governmental approvals -- which are expected in mid-2020. Thus, it 9 is expected that closing on the transaction will occur while the record remains open in this 10 proceeding.

11 Furthermore, Section 529(j) states that "[t]he reasonably and prudently incurred 12 costs of each improvement [in the plan for improvements] *shall* be recoverable in rates 13 only after that improvement becomes used and useful in the public service" (emphasis 14 added). Therefore, the Commission's final order in this base rate case should approve the 15 reasonable and prudent costs that can be included in rates when the improvements are 16 placed in service. The alternative would be to force PAWC to wait until a future base rate 17 case to place these costs into rates. Such a prolonged regulatory lag would serve as a 18 significant disincentive to capable public utilities agreeing to acquire troubled systems in 19 Section 529 Investigations. The Commission should encourage capable public utilities to 20 take over troubled systems by reducing the regulatory lag that delays the recovery of the 21 costs of the acquisition and the improvements necessary to improve service.

Additionally, as discussed further below, the Commission approved the parties' agreement that PAWC could request an acquisition adjustment pursuant to 66 Pa. C.S.

§ 1327 (relating to acquisition of water and sewer utilities) and 52 Pa. Code § 69.711
 (statement of policy regarding small nonviable water and wastewater systems).
 Consequently, this case includes a request for such an acquisition adjustment.

- Likewise, PAWC should, under 52 Pa. Code § 69.711, be rewarded with additional
  rate of return basis points for acquiring DSC. DSC qualifies as a small non-viable
  wastewater system and PAWC actions have promoted the public interest.
- 9. WWC On November 29, 2018, the Commission ordered PAWC to serve as
  receiver of WWC during the pendency of a Section 529 Investigation into whether the
  Commission should order WWC to be sold to a capable public utility. In October 2019,
  the procedural schedule in that investigation was suspended so PAWC could negotiate an
  Asset Purchase Agreement with WWC. Upon execution of an Asset Purchase Agreement,
  the parties to the Section 529 Investigation will submit a settlement to the Administrative
  Law Judge requesting approval of the sale of WWC to PAWC.

WWC is a small Commission-regulated public utility providing water service in Overfield Township, Wyoming County, Pennsylvania. When PAWC was ordered to become receiver, WWC was subject to a DEP "Do Not Consume" Order. Since being named by the Commission as receiver, PAWC has undertaken improvements resulting in the "Do Not Consume" Order being lifted.

19 The public has clearly benefitted from PAWC's service as receiver. PAWC 20 provided customers of the system with bottled water while the "Do Not Consume" Order 21 was in effect, and has taken the steps necessary to have that order lifted. The public will 22 also benefit from PAWC's acquisition of the system because the transaction will place

1 ownership of the water system in the hands of a capable public utility that is financially, technically and legally fit to own and operate the system.

2

3 In addition to the transaction and closing costs of the acquisition, PAWC has 4 included a request for the recovery of costs incurred as receiver of the system. Receivers 5 of troubled public utilities frequently pay more to operate and improve the system than 6 they receive from the system's owner and customers. Public utilities are reluctant to serve 7 as the receiver of a troubled company, in part, because of the regulatory lag associated with 8 the recovery of any costs above and beyond what is paid by the troubled utility and its 9 customers. Utilities should be encouraged to provide this public service by being able to 10 recover these costs as quickly as possible.

11 As with DSC, PAWC should, under 52 Pa. Code § 69.711, be rewarded with 12 additional rate of return basis points for acquiring WWC. WWC qualifies as a small non-13 viable water system and PAWC actions have promoted the public interest.

#### **COMMISSION-APPROVED** 14 0. PLEASE DESCRIBE ANY SETTLEMENT 15 **COMMITMENTS FOR EACH OF THE ABOVE-REFERENCED ACQUISITIONS** THAT RELATE TO THE INSTANT BASE RATE FILING AND YOUR 16 17 UNDERSTANDING OF HOW THE FILING COMPLIES WITH THOSE 18 COMMITMENTS.

19 At the outset, it should be noted that, in the settled Section 1329 proceedings discussed A. 20 above (MACM, Sadsbury, SBWA and Exeter), PAWC, the statutory advocates, and the 21 other parties to the proceedings agreed that PAWC could include certain amounts in rate 22 base in this proceeding as a result of Section 1329 acquisitions. The Commission approved

those agreements. Additionally, customer notice was provided to the acquired customers
 and PAWC's legacy customers in the application proceedings. As a result, rate base issues
 related to the Section 1329 acquisitions should not be re-litigated in this proceeding. Rate
 base has already been finally set by the Commission.

5 On other issues resolved in the settled Section 1329 proceedings discussed above 6 (such as transaction and closing costs, accrual of Allowance for Funds Used During 7 Construction ("AFUDC") for post-acquisition improvements not recovered through the 8 DSIC for book and ratemaking purposes, and deferred depreciation related to post 9 acquisition improvements not recovered through the DSIC for book and ratemaking 10 purposes), PAWC, the statutory advocates and the other parties to the proceedings only 11 agreed that PAWC could include a claim for those expenses in this proceeding. On those 12 issues, the parties reserved their rights to litigate the reasonableness of those claimed 13 expenses. Nevertheless, I note that Section 1329 expressly permits the recovery of such 14 expenses.

Additionally, it should be noted at the outset that PAWC included claims in this proceeding relating to the acquisition of DSC, WWC and KBA. PAWC, at the time of filing of this rate case, provided notice of this rate case to customers of those entities, even though closing on those acquisitions has not yet occurred.

19 MACM – The instant base rate filing includes an additional base rate amount of 20 \$158,000,000 for this acquisition, as agreed-to by the parties and approved by the 21 Commission. The instant base rate filing includes a cost of service study that fully 22 separates the costs of providing the stormwater component of wastewater services in the McKeesport area. The instant base rate filing also includes a cost of service study that removes all costs and revenues associated with the operations of the MACM system, as well as a cost of service study for the MACM system. The plant in-service costs of the Port Vue Borough component of the system was separately identified in the cost of service studies. The instant base rate case also includes a request for transaction and closing costs related to the MACM acquisition.

7 In the settlement, PAWC agreed to establish a rate zone for McKeesport and to 8 increase the rates of the MACM System to an amount equal to the Zone 1 wastewater rates 9 of PAWC's wastewater division, unless such increase would be more than two times the 10 system-average increase for the wastewater division (calculated on a percentage increase 11 basis), but if the increase for the System would be more than two times the system-average 12 increase of the wastewater division, PAWC agreed to propose that the increase for the 13 System be capped at two times the system-average wastewater division increase. In this 14 case, PAWC has proposed rates equal to Zone 1 wastewater rates, which is an increase of 15 less than two times the system-average wastewater division increase. Please refer to 16 PAWC's witness Ashley Everette's direct testimony at Statement No. 4, for the proposed 17 increases.

Sadsbury – The instant base rate filing includes an \$8,300,000 addition to rate base as a result of this acquisition, as agreed-to by the parties and approved by the Commission. In addition, PAWC has prepared a cost of service study that removes all costs and revenues associated with the operations of the Sadsbury system and a separate cost of service study

2

for the Sadsbury system. The instant base rate filing also includes a request for the recovery of transaction and closing costs related to the Sadsbury acquisition.

Steelton – The instant base rate filing includes a \$20,500,000 addition to rate base as a result of this acquisition, as agreed-to by the parties and approved by the Commission. In addition, PAWC has prepared a cost of service study that removes all costs and revenues associated with the operations of the Steelton system and a separate cost of service study for the Steelton system. The instant base rate case also includes a request for the recovery of transaction and closing costs related to the Steelton acquisition.

9 In the settlement, PAWC agreed to propose to move the Steelton System to its cost
10 of service or 1.4 times the current Steelton rates, whichever is lower, provided that such
11 rates for Steelton customers do not exceed the proposed Zone 1 water rate. In this case,
12 PAWC has proposed an increase equal to 1.4 times the current Steelton rates.

Exeter – The base rate filings include a \$92,000,000 addition to rate base as a result of this acquisition, as agreed-to by the parties and approved by the Commission. In addition, PAWC has prepared a cost of service study that removes all costs and revenues associated with the operations of the Exeter system, as well as a separate cost of service study for the Exeter system. The instant base rate case also includes a request for the recovery of transaction and closing costs related to the Exeter acquisition.

PAWC agreed that it will propose to move Exeter wastewater rates to Exeter's cost
of service in the first base rate case that includes Exeter wastewater system assets unless
such increase is more than 1.8 times current rates; provided, however, that PAWC will not

be obligated to propose Exeter wastewater rates in excess of PAWC's proposed Rate Zone
 1 system-average rates. In this base rate case, PAWC has proposed rates for Exeter equal
 to Zone 1 wastewater rates, which equals an increase of 1.8 times the current Exeter rates.

4 **DSC** – As agreed-to by the parties, the instant rate request includes a proposal to include the purchase price of the assets of DSC (\$61,700) in rate base, and will treat the land 5 6 purchased from Forest City (\$420,000) as land held for future use because it is not currently 7 used and useful. As also agreed-to by the parties, PAWC has requested an acquisition 8 adjustment because DSC is a small, nonviable wastewater system as defined by 66 Pa. C.S. 9 § 1327(a) and 52 Pa. Code § 69.711. PAWC has also requested recovery of transaction 10 and transition expenses related to this acquisition. Additionally, PAWC has requested that 11 upgrades to DSC's System be included in PAWC's rate base. The Commission approved 12 the parties' request that a depreciated cost study not be required for this acquisition. 13 Consequently, no such study was prepared for the instant base rate case.

14

#### **REGIONALIZATION AND CONSOLIDATION SURCHARGE**

#### 15 Q. PLEASE DESCRIBE YOUR UNDERSTANDING OF PAWC'S PROPOSAL FOR

#### 16 A REGIONALIZATION AND CONSOLIDATION SURCHARGE ("RCS") IN

#### 17 THIS PROCEEDING?

A. The RCS is intended to address the shortfall in revenues that occurs between rate cases
 when PAWC acquires a municipal or authority water or wastewater system pursuant to
 Section 1329. There is often significant regulatory lag in recovery of the capital investment
 being made by PAWC in order to regionalize and consolidate its system through

acquisitions. Such investments produce a long-term benefit to PAWC's entire customer
 base through the broader sharing of expenses.

3 While Section 1330 (regarding alternative ratemaking) may preempt Section 1329, 4 Section 1329 otherwise requires PAWC to adopt the rates being charged by the selling 5 municipality at the time of the acquisition, but as a practical matter, those rates are 6 frequently (and sometimes substantially) below the cost of providing service to customers 7 of that system. PAWC incurs shortfalls each year, for every Section 1329 acquisition, from 8 the date of closing on the acquisition until the date the acquired utility is included in 9 PAWC's rate base. Additionally, the RCS will allow PAWC to mitigate the earnings 10 erosion caused by the significant capital outlays associated with these fair market value 11 acquisitions between rate cases.

12 These acquisitions are in the public interest, as demonstrated by the Commission's 13 approval of each individual acquisition. Namely, the acquisitions promote the 14 regionalization and consolidation of water and wastewater systems throughout the 15 Commonwealth – a public benefit that has been consistently recognized by the 16 Commission and the Pennsylvania Department of Environmental Protection for decades. 17 Regionalization and consolidation mitigates the long-term need for rate relief by sharing 18 expenses over a larger customer base. Likewise, regionalization and consolidation 19 promotes the improvement of the Commonwealth's environment by placing the systems 20 (which are often troubled) in the hands of a qualified system operator with the financial, 21 technical and legal fitness necessary to meet increasingly-stringent environmental 22 requirements – including requirements of the Safe Drinking Water Act, the Clean Water 23 Act and the Clean Streams Law and their associated regulations.

During the period between rate cases, the shortfall from all of these acquisitions combined can degrade PAWC's return on and of rate base to a significant degree. PAWC has no control over these shortfalls; they are largely a function of the rates set by the prior owner, which PAWC is legally required to adopt when acquiring each system. Moreover, PAWC cannot recover past shortfalls in a Section 1308 rate proceeding. Therefore, there is a need for a surcharge to address the shortfall that occurs between rate cases.

7 To rectify this situation, PAWC is proposing the RCS by which it will recover the 8 revenue shortfalls of all of the Section 1329 acquisitions that were completed during the 9 period since the effective date of the Company's then-existing base rates that are not 10 reflected in the Company's then-existing base rates. The revenue shortfall is the annual 11 difference between the Company's total post-acquisition cost of service for all of these 12 acquired water or wastewater systems and the revenue stream produced under the rates the 13 Company is authorized to charge the customers of those acquired systems. For details as 14 to how the shortfall will be calculated, please see the Direct Testimony of Rod P. 15 Nevirauskas, PAWC St. No.1. PAWC would submit the necessary data by January 31 of 16 each year between rate cases, together with a bill analysis that shows the revenues of the 17 acquired system and the calculation of the revenue requirement. The surcharge would go 18 into effect on April 1 and remain in effect for a twelve-month period. The surcharge would 19 revert to \$0 when PAWC files its next base rate case because the acquired systems would 20 now be included in PAWC's rates; there would be no duplicate recovery. In this respect, 21 the RCS would work like the DSIC.

22 To protect customers, the surcharge would be capped at 5% of total PAWC water 23 and wastewater revenues. The surcharge would apply equally to all water and wastewater

1 customers; provided, however, that it would not apply to customers of systems acquired 2 under Section 1329 where such systems have not yet been included in a base rate 3 proceeding -- due to Section 1329's restriction on immediately charging increased rates to 4 such customers. Further customer protections include the following: (1) the RCS will be 5 subject to audit at intervals determined by the Commission; (2) the RCS will be reset at 6 zero upon application of new base rates to customer billings that provide for prospective 7 recovery of the annual costs that had theretofore been recovered under the RCS; (3) the 8 RCS will also be reset at zero if, at the time of the annual update, the data filed with the 9 Commission in the Company's then most recent Annual or Quarterly Earnings reports show 10 that the Company will earn a rate of return that would exceed the allowable rate of return 11 used to calculate its revenue requirement deficiency under the RCS as described in the Pre-12 tax return section; (4) the Company will notify customers of changes in the RCS by 13 including appropriate information on the first bill they receive following any change, and 14 an explanatory bill insert shall also be included with the first billing. With these consumer 15 protections, I believe that the RCS will be an important tool in the continued regionalization 16 and consolidation of water and wastewater systems throughout the Commonwealth.

17

#### **SECTION 1329 OF THE CODE**

#### 18 Q. PLEASE EXPLAIN YOUR UNDERSTANDING OF THE PENNSYLVANIA

#### 19 LEGISLATURE'S INTENT IN ENACTING SECTION 1329 OF THE CODE.

A. The General Assembly supported and encouraged the sale of municipal water and
 wastewater systems at valuation levels higher than traditional original cost measures.
 Some communities desire to monetize their assets in order to address other public needs.

1 Due to the age of many municipal systems, however, traditional original cost measures 2 produced very low sales prices, discouraging many transactions. By enabling the sale of 3 municipal assets to public utilities at higher valuations, the General Assembly intended to 4 encourage these transactions. This result also promotes the regionalization and 5 consolidation of water and wastewater systems. The Legislature also intended to improve 6 the maintenance and replacement of public infrastructure, and to promote environmental 7 stewardship, by facilitating transfers to public utilities with extensive technical expertise 8 and financial resources.

## 9 Q. PLEASE EXPLAIN THE RATE-MAKING IMPLICATIONS OF A SECTION 1329 10 PROCEEDING.

11 In a Section 1329 proceeding, the Commission establishes the amount that the acquiring A. 12 public utility can put into rate base in its next base rate case as a result of the acquisition. 13 66 Pa. C.S. §§ 1329(c)(1)(i) and 1329(d)(3)(i). In addition, the acquiring utility can include 14 a claim for transaction and closing costs incurred as a result of the transaction in its next 15 base rate case. The acquiring utility may also accrue AFUDC for post-acquisition 16 improvements not recovered through the DSIC for book and ratemaking purposes and defer 17 depreciation related to post acquisition improvements not recovered through the DSIC for 18 book and ratemaking purposes. Finally, the selling utility's cost of service is to be 19 incorporated into the revenue requirement of the acquiring public utility during the 20 acquiring company's next base rate case.

# 1QWHAT IS YOUR UNDERSTANDING OF THE TERM "NEXT BASE RATE2CASE," AS USED IN SECTION 1329?

3 Section 1329(d)(5) states "The selling utility's cost of service shall be incorporated into the A. 4 revenue requirement of the acquiring public utility as part of the acquiring utility's next 5 base rate case proceeding." My understanding from PAWC counsel is that the statute should be construed using the ordinary definition of "next," which is "in the time, place or 6 7 order nearest or immediately succeeding." Webster's New Collegiate Dictionary 774 8 (1977). So, for example, for the MACM acquisition, which was approved by the 9 Commission on October 26, 2017 and closed on December 18, 2017, the instant base rate 10 case would be the "next" base rate case because PAWC's 2017 rate case was concluded on 11 December 7, 2017. Therefore, this is the first base rate case in which PAWC should include 12 MACM's assets.

Similarly, for the KBA acquisition, the Commission's order approving the acquisition will be entered no later than August 6, 2020, and closing will occur shortly thereafter. Since the instant proceeding will be on-going at that time, for the KBA acquisition, the "next" base rate case will be the instant rate proceeding – this proceeding is the rate proceeding immediately following the Commission's approval of the acquisition and the company's closing on the acquisition. Therefore, this is the first base rate case in which PAWC should include KBA's assets.

## 20Q.BASED ON YOUR EXPERIENCE WITH THE IMPLEMENTATION OF21SECTION 1329 AND PAWC'S COMPLETED AND PENDING SECTION 1329
### ACQUISITIONS, HAS PAWC INDENTIFIED ANY RATEMAKING-RELATED PROBLEM IN FURTHERING THE LEGISLATIVE INTENT?

3 A. There can be a considerable delay between the date a public utility closes on a Section 1329 4 acquisition (expending significant capital) and the date that the public utility is able to place 5 the Commission-approved rate base addition for that transaction into rate base. The monetary impact is significant, considering the large capital investments that public 6 7 utilities are not able to recover for years. This regulatory lag provides a disincentive for an 8 acquiring utility to enter into Section 1329 acquisitions, which undermines the Legislative 9 intent behind Section 1329. Section 1329 would be ineffective if willing sellers could not 10 find willing buyers, due to the lengthy delay between closing on a transaction and the 11 recovery of those costs. The intended public benefits of acquisitions of municipal water 12 and wastewater systems – including the monetization of municipal assets, regionalization 13 and consolidation of systems, and remediation of environmental problems – are being 14 impeded.

#### 15

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### DOES THE COMMISSION HAVE THE ABILITY TO ADDRESS THE PROBLEM

### 16 OF LAG IN RATE RECOVERY OF SECTION 1329 ACQUISITIONS?

## 17 A. Yes. There are at least two ways in which the Commission can reduce regulatory lag and 18 further promote the intent of Section 1329.

First, the Commission should use its authority under Act 58 to approve the RCS as
described above and in the Direct Testimony of PAWC witness Rod Nevirauskas. The
RCS would reduce lag by allowing PAWC to begin to recover on an acquisition that closes
between base rate cases.

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1		Second, the Commission should interpret Section 1329 to permit recovery for
2		Section 1329 acquisitions that close while a base rate case is pending. For example, with
3		respect to the KBA acquisition (as discussed above), the Commission should consider the
4		instant base rate proceeding to be the "next base rate case" under 66 Pa. C.S.
5		§ 1329(c)(1)(i)(regarding when rate base for acquired system can be incorporated into the
6		public utility's rate base).
7		If the Commission does not construe Section 1329 in a way that reduces regulatory
8		lag and does not permit public utilities to take the steps necessary to reduce regulatory lag,
9		public utilities may become less willing to engage in acquisitions or they may file base rate
10		cases more frequently. Neither result advances the public interest and the intent of the
11		Legislature in implementing Section 1329 would be impeded.
12		CONCLUSION
13	Q.	DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?
14	А.	Yes. However, I reserve the right to supplement my testimony as additional issues or facts
15		arise during the course of this proceeding.

#### BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

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PENNSYLVANIA PUBLIC UTILITY COMMISSION						
<b>v.</b>						
PENNSYLVANIA-AMERICAN WATER COMPANY						

DOCKET NOS. R-2020-3019369 (WATER) R-2020-3019371 (WASTEWATER)

#### **VERIFICATION**

I, Bernard J. Grundusky, Jr., hereby state that the facts set forth in the premarked Statement No. 8 and accompanying exhibits, if any, are true and correct to the best of my knowledge, information and belief. I understand that this verification is made subject to the provisions and penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsifications to authorities).

Date: April 29, 2020

Sundest

Bernard J. Grundusky, Jr.

# Statement No. 9 Roach

#### **PAWC STATEMENT NO. 9**

#### DIRECT TESTIMONY

#### OF

#### **GREGORY P. ROACH**

#### DESCRIBING PENNSYLVANIA-AMERICAN WATER COMPANY'S

#### **RESIDENTIAL CUSTOMER WATER CONSUMPTION TRENDS**

DOCKET NOS. R-2020-3019369 (WATER) R-2020-3019371 (WASTEWATER)

DATE: April 29, 2020

### PENNSYLVANIA-AMERICAN WATER COMPANY

#### **DIRECT TESTIMONY OF GREGORY P. ROACH**

#### 1 Q. What is your name and business address?

A. My name is Gregory P. Roach. My business address is 153 N. Emerson Ave,
Greenwood, Indiana 46143.

#### 4 Q. By whom are you employed and in what capacity?

A. I am employed by American Water Works Service Company (the "Service
Company") as Manager of Revenue Analytics. My responsibilities include leading
the Revenue Analytics group, whose main area of focus is the analysis and
forecasting of system delivery, customer usage and revenue for the Service
Company affiliates, including Pennsylvania-American Water Company ("PAWC"
or the "Company").

#### 11 Q. Please summarize your educational background and professional associations.

A. I graduated from Indiana University in 1980 with a Bachelor of Arts degree in
Economics and Political Science. I graduated from Butler University in 1982 with
a Master's Degree in Economics.I am a past member of the National Association
of Business Economists and the American Economic Association.

#### 16 Q. Please summarize your professional experience.

A. I have over 25 years of experience working in the electric, gas and water utility
sectors as both a consultant and utility employee. I began my career with Public
Service Indiana (now a part of Duke Energy) in January of 1980, continuing as an
economist for a large consulting firm and a regulatory consultant through my own
firm, and then joining the Service Company in 2011. In August 2017, I accepted

1		my current position of Senior Manager of Revenue Analytics. The details of my
2		professional experience are provided in Appendix A to this testimony.
3	Q.	What are your duties as Senior Manager of Revenue Analytics?
4	А.	I manage and direct a team of financial and regulatory analysts to analyze and
5		project customer water usage, system delivery, customer counts and water and
6		sewer sales revenues for each of the American Water affiliate companies. As such,
7		our group supports both the regulatory and financial functions of the affiliated
8		American Water companies.
9	Q.	Have you previously submitted testimony before the Pennsylvania Public
10		Utility Commission?
11	A.	Yes. I submitted testimony before the Pennsylvania Public Utility Commission (the
12		"Commission") in the Company's last base rate proceeding at Docket No. R-2017-
13		2595853. Additionally, I have provided testimony before the following regulatory
14		bodies: the Indiana Utility Regulatory Commission, the Missouri Public Service
15		Commission, the Illinois Commerce Commission, the Public Service Commission
16		of New York, the Public Utilities Commission of Ohio, the Iowa Utilities Board,
17		the Public Service Commission of West Virginia, the Public Service Commission
18		of Louisiana, the Council of the City of New Orleans, the Virginia State
19		Corporation Commission, the Public Utility Commission of Texas, the Arkansas
20		Public Service Commission, the Common Pleas Court of Ohio, the Illinois
21		Commerce Commission and the Federal Energy Regulatory Commission.
22	Q.	Please describe the scope of your testimony.

1 A. My direct testimony supports the direct testimony of Ashley E. Everette (PAWC 2 Statement No. 4) and Dominic J. DeGrazia (PAWC Statement No. 7) regarding 3 PAWC's forecast of revenue and expense. Specifically, I support Ms. Everette's 4 and Mr. DeGrazia's adjustments to reflect the declining trend for residential and 5 commercial usage reflected in PAWC Exhibit No. 3-A (Water Operations 6 Excluding Steelton) for revenue and purchased water expense at present rates at 7 December 31, 2020 ("Future Test Year"), December 31, 2021 ("Rate Year 1") and December 31, 2022 ("Rate Year 2") (collectively, "Future Test Years"). PAWC has 8 9 experienced residential and commercial declining usage per customer since 10 approximately the early 2000s, and my analysis indicates it will continue to 11 experience such declining usage per customer for the foreseeable future. My 12 testimony discusses the analyses we have performed that identify and define this 13 declining usage historically and demonstrates that the trend of declining usage will 14 continue through and beyond the forecasted period ending December 31, 2022. My 15 testimony also supports Ms. Everette's adjustment for a reduction of the annual 16 revenues from shale gas drillers to 50% of the per-book 2019 revenues, as shown 17 on PAWC Exhibit No. 3-A to reflect the decline in shale gas revenues in 2020.

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#### Q. Please summarize your testimony.

A. My testimony presents the normalized usage for residential and commercial
 customers, which is subsumed in the econometric models developed for those
 customer classes. The Industrial, Sale for Resale and Other Public Authority
 classes' water usage, however, is significantly more heterogeneous as compared to
 PAWC Residential and Commercial customer usage; hence, it is difficult to apply

1	statistical techniques to these classes as usage varies greatly from customer to
2	customer. Consequently, due to the heterogeneous customer mixtures of these
3	groups, we have chosen to use a 12-month average to forecast their future usage as
4	described by Ms. Everette. My testimony, therefore, focuses only on the forecasted
5	usage in the Residential and Commercial Classes. Ms. Everette also translates that
6	declining usage into a revenue forecast for the residential and commercial classes
7	based on forecasted numbers of customers in that class.
8	With respect to the models developed for the residential and commercial classes, in
9	addition to determining weather-normal levels of usage, the models also quantify
10	and estimate the potential term and impact of the declining usage trend of PAWC's
11	residential and commercial customers. My analysis concludes the following:
12	1. There is a continuing annual decline of residential water use across all PAWC
13	districts averaging 893 gallons per customer.
14	2. There is a continuing annual decline of commercial water use across all PAWC
15	districts averaging 2,171 gallons per customer.
16	3. The revised mandated efficiency standards for water fixtures will support the
17	existing trend of declining usage into the foreseeable future.
18	4. Similar water use trends as are seen with PAWC are occurring within affiliated
19	American Water systems.
20	5. Empirical analysis indicates that the PAWC declining use trend:
21	a. Is projected to continue for up to the next 34 years.
22	b. Is confirmed by the Joplin case study that illustrates that a significant
23	reduction in usage per household (-8.4%) can rapidly occur due to water

1		fixture replacement. This reduction is an amount equal to approximately an
2		entire month's level of water sales.
3		c. Is also confirmed by the permanent California residential water use
4		reductions that have endured following removal of mandatory state water
5		use restrictions during the drought of 2016-2017.
6	Q.	Have you prepared, or caused to be prepared, exhibits in support of the
7		Company's application to increase rates?
8	A.	Yes, I am sponsoring the following exhibits:
9		• Exhibit GPR-1: AW Residential Usage Trend 2010-2019;
10		• Exhibit GPR-2: US Water Fixture Specifications;
11 12		• Exhibit GPR-3: Reasonableness Test of PAWC Residential Consumption Decline;
13 14		• Exhibit GPR-4: State of Pennsylvania & Allegheny County - Housing Stock Vintage;
15		• Exhibit GPR-5: Effect of Tornado Rebuild on Water Usage; and
16		• Exhibit GPR-6: Authorized and Actual Revenue & Water Sales
17	Q.	What were the sources of the data used to prepare Exhibits GPR-1 through
18		GPR-6?
19	А.	The data used to prepare these exhibits was obtained from the Company's and
20		Service Company's records, the US Bureau of Economic Analysis, the US Bureau
21		of Labor Statistics, the US Bureau of the Census and the National Oceanic and
22		Atmospheric Administration.
23	Q.	Have you prepared a glossary of the technical and statistical terms used in
24		your testimony?

- A. Yes, a Glossary of Technical and Statistical Terms is provided as Appendix B to
   my testimony.
- 3 Normalized Usage and Forecasts
- 4 Q. Please describe the water use trend among PAWC's residential and
  5 commercial customers.
- A. As I noted above, the water use trend for the residential and commercial classes
  indicates a distinctly downward trend in usage from year to year. I will explain this
  further in my testimony.
- 9 Q. In addition to a continuing downward trend in usage, is there also a seasonality
  10 component to water usage for these classes?
- 11 A. Yes, generally, there is. Outdoor usage by most residential customers In the 12 residential customer class, outdoor usage during the summer season includes 13 discretionary usage including turf and landscape irrigation, car washing, swimming 14 pool fills, and similar such activities. Many commercial customers also exhibit 15 seasonal usage patterns similar to residential customers primarily attributable to turf 16 irrigation, although the class as a whole is somewhat less affected. Short-term 17 summer weather patterns will influence outdoor water use; for instance, turf 18 irrigation decreases during a rainy period and increases during a dry period. These 19 weather-related fluctuations in usage can mask underlying trends that occur on a 20 monthly and annual basis that require a weather normalization approach to 21 residential or commercial customer usage modeling and forecasting to identify and 22 capture long-term customer usage trends.
- Q. Did you make a discrete weather normalization in this case to account for such
  seasonal weather adjustments?

1 Α No. As I explain in the succeeding sections concerning the regression analysis, due 2 to the addition of weather variable(s) to the regression models, we capture the 3 effects of weather and need not make a separate adjustment to normalize revenue 4 for weather, such as was made in the last case. 5 6 **Residential Usage Regression Analysis** 7 **Q**. Please describe the analytical methodology you employed related to PAWC 8 residential usage trends? 9 Our analysis examined the annual average of monthly per customer consumption A. 10 by PAWC's residential customers over the past ten years. Presented in Figure 11 GPR-1 is the residential usage per customer data that formed the basis of the 12 analysis. To this data, we applied standardized statistically linear regression 13 analysis a) to estimate the residential customer usage trend over time and b) to

14 normalize the residential customer usage data for the potential impact of weather.

15 Generally, we analyzed the impact of time, cooling degree-days (CDD), days with

16 90 degree maximums, and precipitation (precip) as independent explanatory

17 variables for the trend of residential usage per customer over the time series

analyzed. Figure GPR 1 illustrates the residential average usage per customer

2 trend over that same time frame.



#### 3 4

1

#### Q. What are the results of your analysis?

A. The results of our linear regression analysis based on the explanatory variables
time, precipitation and cooling degree days (July – Sept) indicate that residential
usage per customer is declining at a rate of approximately 2.18% or 893 gallons per
customer per year, which is equivalent to 2.45 gpcd. Figure GPR-2 graphically
illustrates that residential average usage trend.



2 Our analysis employed the use of numerous regression models exploring varying combinations of potential explanatory variables including time and various weather 3 variables. Table GPR-1 below summarizes the types of models that we evaluated 4 5 and their relative statistical merits. As delineated in Table GPR-1, all of the models resulted in a reasonable R-Square, meaning that each of the models explains in 6 7 excess of 95% of the variance in PAWC residential usage per customer over the 8 period of 2010-2019. Two of the weather variables – cooling degree days, and 9 days with temperature Maximums in excess of 90 degrees Fahrenheit were 10 statistically significant or resulted in logically relevant explanatory variables for 11 PAWC residential average usage as delineated by the t-statistic results. I choose 12 not to include the variable temperature Maximums in excess of 90 degrees as it was 13 only marginally significant, increased the standard error of the model and was a 14 weaker explanatory variable as compared to CDD. For each of the other weather

1

1 variables, the regression coefficients could not be estimated with anything less than 2 a + -50% error or resulted in an illogical relationship with residential average usage 3 (such as increases in precipitation illogically producing additional residential 4 average usage when common knowledge would predict that water usage increases 5 during periods of relatively lower precipitation). Hence variables with a positive coefficient related to precipitation and usage are both illogical from anecdotal 6 7 experience and are statistically unsupportable. As a result, inclusion of these 8 weather variables in the final model was statistically unsupportable. Table GPR-1 9 illustrates the relevant statistical results of a sample of the models evaluated.

In summary, I have chosen to rely on the PAWC residential average use model defined by the statistically significant explanatory variables time and the weather explanatory variable cooling degree days during the period July through September due to this model's highest R-Square and F-Statistic acceptable Durbin-Watson score with minimizing the error of the estimate as compared to all the other residential model evaluated.

Table GPR-1														
Pennsykvania American Water														
Residential Usage Per Customer Model Summaries														
				_					T-Statisti	c				
Model	Period Ending	R-2	F-Statistic	Durbin-Watson	Day	CDD	JLSCDD	MSCDD	JLSRain	DX90	TMAX	TAVG	Lag	Custs
2017 Case - Base Usage														
Time	Dec	0.986			-23.75									601k
Time, Binary	Dec	0.988			-23.24								1.06	601k
2020 Case - Total Usage														
Day, JLSCDD	June	0.985	235.059	1.988	-21.483		2.528							613k
Day, MSCDD	June	0.985	233.065	1.776	-20.668			1.705						613k
Day, JLSRain	June	0.979	163.798	1.276	-15.559				0.085					
Day, CDD	June	0.985	228.680	1.806	-20.866	1.651								613k
Day, DX90	June	0.987	260.749	1.661	-15.585					2.017				613k
Day, TMAX	June	0.980	173.587	1.137	-18.632						0.645			613k
Day, TAVG	June	0.980	175.289	1.195	-18.724							0.699		613k

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17 Q. Does your model rely on the mere passage of time as the major driver of
18 declining use per customer?

1 A. No. Time simply captures the range of conservation effects, such as the installation 2 of more water efficient fixtures and appliances that occur over time. Of course 3 time, itself, is of no consequence, but it is a powerful variable because it is the 4 medium for capturing the conservation effect. Further, as the models indicate, time 5 is a very powerful statistical explanatory variable, as indicated by the high R-6 squared values. With the addition of the cooling degree day variable in the final 7 model, we were able to normalize residential average usage per customer for weather variations that occur from year to year. Later in my testimony, I will 8 9 describe some of the reasons for the declining usage per customer, explain how 10 they affect consumption and show that this trend will not diminish any time soon. 11 Suffice it to say at this point that, since approximately the early 2000s, residential 12 usage has declined on a per-customer basis in the PAWC service territory and the 13 slope, or change rate, of residential decline has accelerated since the passage of 14 more stringent water fixture and appliance usage regulations in the 2000s. The 15 decline is attributable to several key factors, including but not limited to the following: increasing prevalence of low flow (water efficient) plumbing fixtures 16 17 and appliances in residential households; customers' conservation efforts; 18 conservation programs implemented by the federal government, state government, 19 PAWC and other entities. Accordingly, this trend of declining use per residential 20 customer should be employed to forecast residential usage though the end of 21 PAWC's forecasted Test Year adjustment period.

Q. How does the residential usage modeling you are sponsoring in this case
compare to the analysis you sponsored in PAWC'S prior rate case?

1 A. The analyses in the two cases are similar in terms of methodology. The principle 2 difference is that in the prior case, we separately normalized for weather based on 3 a 10-year average. In this case, by the addition of the weather-related variables to 4 the regression analyses, (i.e., cooling degree days) we no longer have to normalize 5 for weather separately. The 2020 analysis continues to demonstrate that time is 6 the main statistically significant explanatory variable but is also influenced by 7 weather indices. I found one modification to the 2017 analysis was warranted, 8 however: due to billing and timing differences, using the bifurcated approach was 9 complicated by billing data or events that may bleed into or outside of the "base 10 period." Further, my previous analysis was complicated by the impact of the Polar 11 Vortex influence during the winter of 2014. So, I determined that it was appropriate 12 not to bifurcate the residential usage data into base (non-discretionary non-weather 13 sensitive usage) and non-base (discretionary weather sensitive usage) water usage 14 components in order to eliminate the possible impact of timing in billing, better 15 simulate the impact of weather conditions on usage, and rely on annual average 16 usage for the analysis used in this case.

17 Q. How did the decision not to use a bifurcated analytical approach compare to
18 PAWC's 2017 rate case analysis?

A. Table GPR-2 illustrates the difference in results from the residential trend analytics
 I am sponsoring in this proceeding as compared to the approach used in the previous
 2017 PAWC rate case. To summarize that table, the change in analytical approach
 results in an annual -.03% or 27 gpcy difference in usage per residential customer
 as compared to the approach and period analyzed for the 2017 PAWC rate case.

1 The differences in the results of this analysis from those filed in the 2017 case are 2 due mainly to incorporating and modeling the influence of weather factors, 3 particularly the impact of the 2014 data point, to our previously modeling results.

Model	Period Analyzed	Period Ending	Gal/Cust/Yr	% Annum	Custs
2017 Case - Base Usage					
PAWC System	2007-2016	Dec	-920	-2.15%	601k
2020 Case - All Usage					
Day, JLSCDD	2010-2019	June	-893	-2.18%	613K

4

5 Q. Setting aside the weather normalization analysis you have performed for 6 residential usage in this case and focusing on the actual PAWC average 7 residential usage per customer per month since 2016, what has been the trend 8 of that usage?

9 A. Table GPR-3 shows that even with the influence of weather fluctuations impacting
10 the actual data, residential average usage per month has been declining by 58 gpcm
11 (-696 gpcy) or -1.6% per annum over that time period.

Table GPR-3										
PAWC Residential Customers										
Average Usage Per Month										
	2016-2019									
	Res Usage Difference									
Year	gpcm	Gallons	%							
		Canonio	70							
2016	3,627									
2016 2017	3,627 3,560	-67	-1.8%							
2016 2017 2018	3,627 3,560 3,508	-67 -52	-1.8% -1.5%							
2016 2017 2018 2019	3,627 3,560 3,508 3,453	-67 -52 -55	-1.8% -1.5% -1.6%							

12

#### 1 Commercial Usage Regression Analysis

#### 2 Q. Have you performed a similar analysis of commercial usage for PAWC?

A. Yes, we have. Using the same regression type analysis described above to forecast
 PAWC system-wide residential customer usage per customer, we have performed
 an analysis of the trend for commercial usage per customer inclusive of all PAWC
 commercial customers.

#### 7 Q. Please describe the water use trend among PAWC's commercial customers.

8 A. Similar to the residential class, since the early 2000s, commercial usage has 9 declined on a per-customer basis in the PAWC service territory. The slope, or 10 change rate, of commercial decline has accelerated since the passage of more 11 stringent water fixture and appliance usage regulations in the 2000s. As with the 12 residential class, the decline is attributable to several key factors, including but not 13 limited to the following: increasing prevalence of low flow (water efficient) 14 plumbing fixtures and appliances in commercial establishments; customers' 15 conservation efforts; conservation programs implemented by the federal 16 government, state government, PAWC and other entities; and price elasticity. The

- 1 trend of this decline in commercial usage per customer is illustrated in Figure GPR-
- 2 3 below.
- 3



#### 4

#### 5 Q. Do seasonal factors affect commercial usage of PAWC customers?

A. Unlike several other AW affiliated companies commercial class customers,
seasonal factors do not seem to impact PAWC commercial usage at any statistically
significant manner. Compared to the PAWC residential class that had a moderate,
but statistically significant relationship with weather changes, PAWC's
commercial class does not exhibit a statistically significant relationship with any of
the weather factors that we explored.

#### 12 Q. What are the statistical and forecast results of your analysis?

A. As graphically illustrated in Figure GPR-4 below, the results of our linear
 regression analysis indicate that commercial usage per customer is declining at a

rate of approximately -0.78% or -2,171 gallons per customer per year, which is
 equivalent to -5.95 gallons gpcd. Figure GPR-4 graphically illustrates that
 residential average usage trend.



4 5 As with the residential analysis, I employed the use of numerous regression models exploring varying combinations of potential explanatory variables including time 6 and various weather variables. Table GPR-4, below, summarizes the types of 7 8 models that we evaluated and their relative statistical merits. As delineated in Table 9 GPR-4, all of the models resulted in a reasonable R-Square, meaning that each of 10 the models explains in excess of 70% of the variance in PAWC commercial usage 11 per customer over the period of 2010-2019. Unlike the residential modeling, none of the weather variables - cooling degree days, precipitation and all temperature 12 13 variables were statistically insignificant or resulted in illogically explanatory

1 variables for PAWC commercial average usage as delineated by the t-statistic 2 results. For each of the weather variables, the regression coefficients could not be estimated with anything less than a +/- 50% error or resulted in an illogical 3 4 relationship with commercial average usage (such as increases in precipitation 5 illogically producing additional commercial average usage when common knowledge would predict that water usage increases during periods of relatively 6 7 lower precipitation). Hence variables with a positive coefficient related to 8 precipitation and usage are both illogical from anecdotal experience and are 9 statistically unsupportable. As a result, inclusion of any of these weather variables 10 singularly or in combination within the final model was statistically unsupportable. 11 Table GPR-4 illustrates the relevant statistical results of the models we evaluated.

In summary, I chose to rely on the PAWC commercial average use model defined
 by the single statistically significant explanatory variable time due to this model's
 highest R-Square and F-Statistic with minimizing the error of the estimate as
 compared to all the other commercial models evaluated.

Table GPR-4														
Pennsylvania American Water														
Residential Usage Per Customer Model Summaries														
T-Statistic														
Model	Period Ending	R-2	F-Statistic	Durbin-Watson	Day	CDD	JLSCDD	JSCDD	MSCDD	JLSRain	DX90	TMAX	TAVG	Custs
2020 Case - Total Usage														
Day	June	0.705	19.123	1.904	-4.373									45k
Day, JLSCDD	June	0.705	8.380	1.879	-4.082		0.090							45k
Day, JSCDD	June	0.708	8.495	1.832	-3.990			0.275						45k
Day, MSCDD	June	0.718	8.924	1.693	-3.968				1.693					45k
Day, JLSRain	June	0.722	9.082	2.227	-3.276					-0.651				45k
Day, CDD	June	0.709	8.537	1.768	-4.032	0.317								45k
Day, DX90	June	0.707	8.441	2.043	-3.195						-0.210			45k
Day, TMAX	June	0.728	9.369	1.765	-4.285							0.769		45k
Day, TAVG	June	0.713	8.715	1.801	-4.164								0.453	45k

17

12

Q. Setting aside the normalization analysis you have performed for commercial
usage in this case and focusing on the actual PAWC average commercial usage
per customer per month since 2016, what has been the trend of that usage?
A. Table GPR-5 shows that even without normalizing the time series for 10 years of
variance, commercial average usage per month has been declining by 345 gpcm (4,144 gpcy) or -1.5% per annum over that time period.

Table GPR-5 PAWC Commercial Customers Average Usage Per Month 2016-2019								
	Res Usage Difference							
Year	gpcm	Gallons	%					
2016	24,031							
2017	23,592	-439	-1.8%					
2018	23,514	-78	-0.3%					
2019	22,995	-519	-2.2%					
Average		-345	-1.5%					

7 8

#### **Declining Water Consumption**

9 Q. You mentioned that the declining usage per customer experience of PAWC is
10 not unique among the companies of the American Water system. Have you
11 studied water consumption trends for other American Water subsidiaries?
12 A. Yes, I have.

Q. Are the results of your analysis of PAWC residential customers' usage
consistent with the results of your analyses in other states?

A. Yes, they are consistent. I have studied the residential consumption patterns for
 PAWC's affiliate water systems located in climates and geographies similar to
 Pennsylvania. The trend experienced by PAWC is very similar to the trends

1 experienced by PAWC affiliates in other states including New Jersey, Indiana, 2 Illinois and Missouri. The results of my analysis are shown on Exhibit GPR-1, which illustrates that states in the American Water footprint have experienced a 3 decline in residential consumption per customer averaging approximately -2.0% 4 5 per year over the last 10 years. The estimated PAWC system-wide reduction in 6 residential customer usage per year of -2.18% falls close to the mean, appears 7 reasonable, and is well within the bounds of the comparable rates of decline 8 experienced by similar states in the American Water footprint.

9 Q. Is this trend being observed across the industry, beyond PAWC and other
10 American Water companies?

A. Yes. According to the 2010 Water Research Foundation ("WRF") report, "many
water utilities across the United States and elsewhere are experiencing declining
water sales among households."<sup>1</sup> The report further states: "A pervasive decline
in household consumption has been determined at the national and regional levels.<sup>2</sup>

15 Q. What is causing the decline in residential customers' usage?

A. Several factors drive the decline in residential customers' usage. These factors
 include the incremental introduction of low-flow fixtures and appliances, new
 regulations that lead to further reductions in fixture flow-rates, conservation
 programs and public initiatives that have led to greater consumer water
 conservation awareness.

<sup>1</sup> Coomes, Paul et al., North America Residential Water Usage Trends Since 1992 – Project #4031, page 1 (Water Research Foundation, 2010). 2 Id., at xxviii.

## Q. Please explain what you mean by the introduction of low-flow fixtures and appliances?

3 A. Plumbing fixtures such as toilets, showerheads, and faucets available to consumers 4 today are more water-efficient than were those fixtures manufactured in the past. 5 Similarly, appliances such as dishwashers and washing machines are also more 6 water-efficient. When a customer replaces an older toilet, washing machine, or 7 dishwasher with a new unit, the new unit will almost certainly use less water than Similarly, construction of new homes or business 8 the one it replaced. 9 establishments result in the installation of water efficient fixtures meeting new, 10 more efficient, regulatory standards. Further, every time a customer remodels or 11 installs new appliances in his or her kitchen, bathroom or laundry room, he or she 12 will consume less water in the future.

#### 13 Q. How much water do the new fixtures and appliances save?

14 The Energy Policy and Conservation Acts of 1992 and 2005 ("EPAct92" and A. 15 "EPAct05," respectively) mandated the manufacture of water-efficient toilets, 16 showerheads and faucet fixtures. For example, a toilet manufactured after 1994 17 must use no more than 1.6 gallons per flush, compared to a pre-1994 toilet, which 18 typically used from 3.5 to 7 gallons per flush. In fact, toilets using only 1.28 gallons per flush or less are becoming more prevalent in the marketplace. Replacing an old 19 20 toilet with a new one, therefore, can save from 2 to nearly 6 gallons per flush. The 21 United States Environmental Protection Agency ("USEPA") estimates that there 22 are more than 220 million toilets in the United States, and that approximately 10 23 million new toilets are sold each year for installation in new homes and businesses 1 or replacement of aging fixtures in existing homes and businesses.

2 The Energy Independence & Security Act of 2007 ("EISA"), which established 3 stringent efficiency standards for dishwashers and washing machines has further reduced indoor water consumption. Dishwashers manufactured after 2009 and 4 5 washing machines manufactured after 2010 must use 54% and 30% less water, 6 respectively. All other factors being equal, a typical residential household in a new 7 home constructed in 2015, with water efficient toilets, washing machines, dishwashers and other fixtures, uses approximately 35% less water for indoor 8 9 purposes than a non-retrofitted home built prior to 1994. Exhibit GPR-2, pages 1-10 3 provides additional detail about the expected impact of water efficiency measures 11 on residential water consumption.

## 12 Q. Please elaborate on other factors contributing to the continued decline in 13 residential water consumption patterns.

14 Programs to raise customer awareness and interest in the benefits of conserving A. 15 water and energy continue to increase. For example, WaterSense is a USEPA 16 voluntary partnership program that seeks to protect the future of our water supply 17 by offering people a simple way to use less water with water-efficient products, 18 new homes, and services. Exhibit GPR-2, pages 4-12 detail these program's 19 specifications as well as others. This listing is a reproduction of the Alliance for 20 Water Efficiency Water Products Standard Matrix, which was last updated in 21 March 2010.

As awareness of water and energy efficiency increases, customers may decide to replace a fixture or appliance even before it has broken. Additionally, customers

1		may further reduce consumption by changing their household water use habits in
2		other various ways. Our analysis of residential declining usage per customer
3		indicates that the Company's residential customers will continue to reduce their
4		usage by approximately 2.2 gallons per customer per day on average. A 2.2 gallon
5		per day decrease can be achieved by subtle changes in customer behavior. For
6		instance, here are some ways a customer can reduce 2.2 gallons per day:
7		1. Taking a shower that is 1 minute shorter;
8		2. Flushing a low-flow toilet fixture instead of an older toilet just once per day;
9		3. Running the dishwasher 5 times per week instead of 7; or
10		4. Turning off the water for approximately 1 minute while brushing their teeth.
11	Q.	Do you expect the PAWC customer declining usage trend to continue in the
11 12	Q.	Do you expect the PAWC customer declining usage trend to continue in the future?
11 12 13	Q. A.	Do you expect the PAWC customer declining usage trend to continue in the future? Yes. Water efficient fixtures and other drivers such as conservation education and
<ol> <li>11</li> <li>12</li> <li>13</li> <li>14</li> </ol>	Q. A.	Do you expect the PAWC customer declining usage trend to continue in the future? Yes. Water efficient fixtures and other drivers such as conservation education and government-mandated standards will continue to drive further efficiency into
<ol> <li>11</li> <li>12</li> <li>13</li> <li>14</li> <li>15</li> </ol>	Q. A.	Do you expect the PAWC customer declining usage trend to continue in the future? Yes. Water efficient fixtures and other drivers such as conservation education and government-mandated standards will continue to drive further efficiency into residential and commercial usage per customer. In fact, the trend is well established
<ol> <li>11</li> <li>12</li> <li>13</li> <li>14</li> <li>15</li> <li>16</li> </ol>	Q. A.	Do you expect the PAWC customer declining usage trend to continue in the future? Yes. Water efficient fixtures and other drivers such as conservation education and government-mandated standards will continue to drive further efficiency into residential and commercial usage per customer. In fact, the trend is well established and continues to affect water usage on the PAWC system as well as most water
<ol> <li>11</li> <li>12</li> <li>13</li> <li>14</li> <li>15</li> <li>16</li> <li>17</li> </ol>	Q.	Do you expect the PAWC customer declining usage trend to continue in the future? Yes. Water efficient fixtures and other drivers such as conservation education and government-mandated standards will continue to drive further efficiency into residential and commercial usage per customer. In fact, the trend is well established and continues to affect water usage on the PAWC system as well as most water utilities across the United States. The rate of the continued trend is dependent on
<ol> <li>11</li> <li>12</li> <li>13</li> <li>14</li> <li>15</li> <li>16</li> <li>17</li> <li>18</li> </ol>	Q. A.	Do you expect the PAWC customer declining usage trend to continue in the future? Yes. Water efficient fixtures and other drivers such as conservation education and government-mandated standards will continue to drive further efficiency into residential and commercial usage per customer. In fact, the trend is well established and continues to affect water usage on the PAWC system as well as most water utilities across the United States. The rate of the continued trend is dependent on the pace of fixture replacement within the PAWC service footprint as well as the
<ol> <li>11</li> <li>12</li> <li>13</li> <li>14</li> <li>15</li> <li>16</li> <li>17</li> <li>18</li> <li>19</li> </ol>	Q.	Do you expect the PAWC customer declining usage trend to continue in the future? Yes. Water efficient fixtures and other drivers such as conservation education and government-mandated standards will continue to drive further efficiency into residential and commercial usage per customer. In fact, the trend is well established and continues to affect water usage on the PAWC system as well as most water utilities across the United States. The rate of the continued trend is dependent on the pace of fixture replacement within the PAWC service footprint as well as the broadening acceptance of a conservation ethic through raised customer and
<ol> <li>11</li> <li>12</li> <li>13</li> <li>14</li> <li>15</li> <li>16</li> <li>17</li> <li>18</li> <li>19</li> <li>20</li> </ol>	Q.	Do you expect the PAWC customer declining usage trend to continue in the future? Yes. Water efficient fixtures and other drivers such as conservation education and government-mandated standards will continue to drive further efficiency into residential and commercial usage per customer. In fact, the trend is well established and continues to affect water usage on the PAWC system as well as most water utilities across the United States. The rate of the continued trend is dependent on the pace of fixture replacement within the PAWC service footprint as well as the broadening acceptance of a conservation ethic through raised customer and business awareness programs, government conservation policy, and similar
<ol> <li>11</li> <li>12</li> <li>13</li> <li>14</li> <li>15</li> <li>16</li> <li>17</li> <li>18</li> <li>19</li> <li>20</li> <li>21</li> </ol>	Q. A.	Do you expect the PAWC customer declining usage trend to continue in the future? Yes. Water efficient fixtures and other drivers such as conservation education and government-mandated standards will continue to drive further efficiency into residential and commercial usage per customer. In fact, the trend is well established and continues to affect water usage on the PAWC system as well as most water utilities across the United States. The rate of the continued trend is dependent on the pace of fixture replacement within the PAWC service footprint as well as the broadening acceptance of a conservation ethic through raised customer and business awareness programs, government conservation policy, and similar behavior modification related programs.

As I will explain further below, many of the homes in Pennsylvania are older housing stock, built prior to 2000. These homes were constructed with toilets, washing machines, and dishwashers that are more water-intensive than newer
fixtures and appliances now on the market. As turnover of household fixtures and
appliances continues to occur over time, residential usage will continue to decline
accordingly. The regulations mandating water efficient washing machines and
dishwashers also are relatively new. Given the life expectancy of appliances, it is
likely that the replacement of existing appliances, and the corresponding reduction
in water used, will continue to occur over time for the indefinite future.

8 According to an American Water Works Association ("AWWA") Journal article 9 dated February 2012, technology is now available for newer, more water efficient 10 products that further improve on Energy Policy Act levels, and there is now a 11 growing movement to codify these more stringent specifications. The introduction of progressive code modifications-such as the International Code Council's 12 13 ("ICC's") International Green Construction Code ("IGCC") and the International 14 Association of Plumbing and Mechanical Officials ("IAPMO") Green Plumbing 15 and Mechanical Code Supplement (2011) support uniform implementation of increased water efficiency standards.<sup>3</sup> AWWA research also indicates that this 16 17 decline in water consumption will continue. An article in the June 2012 issue of 18 the AWWA Journal entitled "Insights into declining single-family residential water 19 demands" states: "[r]educed residential demand is a cornerstone of future urban

<sup>3</sup> Hoecker, Jay and Bracciano, David. Tampa Bay Water. "Passive Conservation: Codifying the use of Water-Efficiency Technologies" February 2012, Journal AWWA. 104:2.

water resource management. Great progress has been made in the last 15 years and
 the industry appears poised to realize further demand reductions in the future."<sup>4</sup>

As I stated, the regulations mandating water efficient washing machines and dishwashers also are relatively new. Based solely on the life expectancy of appliances, it is likely that the replacement of existing appliances, and the corresponding reduction in water used, will continue to occur for at least the next 11 years or more (from compliance date for appliance manufactures to meet the new flow rates) if all appliances were replaced in their average life cycles.<sup>5</sup>

9

Q. Is the decline in residential water consumption showing any signs of reaching

- 10 equilibrium?
- 11 A. No. New water efficiency technology and regulations are expected to continue to

12 drive water use downward in the future. As explained by the American Council for

13 Energy Efficiency:

14 Home appliance manufacturers and energy efficiency advocates 15 have recently agreed to improved efficiency standards and tax policies for refrigerators, freezers, clothes washers, clothes dryers, 16 17 dishwashers, and room air conditioners. This agreement could save 18 enough energy to meet the total energy needs of 40 percent of 19 American homes for one year and the amount of water necessary to 20 meet the current water needs of every customer in the City of Los Angeles for 25 years.<sup>6</sup> 21

6 American Council for Energy Efficiency, Major Home Appliance Efficiency Gains to Deliver Huge National Energy and Water Savings and Help to Jump Start the Smart Grid, available at

<sup>4</sup> DeOreo, William and Mayer, Peter. American Water Works Association Journal. Vol. 104. Issue 6. http://apps.awwa.org/WaterLibrary/showabstract.aspx?an=JAW\_0076117. June 2012

<sup>5</sup> The average life expectancy of a new dishwasher, clothes washer and gas water heater is 11 years. An electric water heater has an average life one year longer. http://www.statista.com/statistics/220020/average-life-expectancy-of-major-household-appliances/ Consequently, it should be obvious that the trend of declining use due to appliance replacement will continue for years to come.

http://aceee.org/press/2010/08/major-home-appliance-efficiency-gains-deliver-huge-natio. Date Accessed: 8/7/2012.

1 These higher-efficiency dishwasher and washing machine standards include tax 2 incentives for consumer purchases that became effective in January 2013 and 3 January 2015, respectively.

4

5

### Q. Have you researched and identified recent water conservation studies with similar conclusions to those cited in your testimony?

6 A. Yes, I have. The following studies reach similar conclusions as those cited above: 7 Residential End Uses of Water, Version 2 by the Water Research Foundation dated April 2016; Study: Efficient Fixtures Cut US Indoor Water Use by Circle of Blue 8 9 dated April 25, 2016; and Why Overall Water Use Is Declining in US Despite 10 Population Growth, Environmental Leader dated January 2, 2019. The results of 11 these contemporary studies affirm and support the original findings I have cited in 12 detail. That is, there is a water industry-wide recognized trend of residential water 13 usage reductions due to conservation effects from fixture/appliance regulation, 14 consumer conservation behavior and the age of housing stock which influences the 15 installation of water conserving devices throughout the United States. Further, 16 these studies affirm that these trends are expected to continue into the foreseeable 17 future. These contemporary studies provide further evidence illustrating a trend of 18 residential customer water usage reductions going forward.

### 19 Q. Have you performed an analysis of the likely future of the declining use trend 20 for PAWC?

A. Yes, I have developed estimates of the usage impact of the WaterSense/Energy Star
usage specifications for a family of four. The results of that analysis are depicted
on Exhibit GPR-3. Generally, the model multiplies the typical usage per capita by

1 the estimated reduction for specific appliance usage from the pre-regulatory 2 standard in place until 1994 to the WaterSense/Energy Star usage specifications in effect since 2010/2011, respectively, by the number of users in a proto-typical 3 4 household (4 in this example), annualized. I then summed the various usage 5 reductions for the sample four users across all fixtures that could be replaced to get 6 an average total usage reduction. My analysis indicates that a set of four random 7 users would see a reduction of approximately 48,178 annual gallons over the course of a year, due to fixture and appliance replacement at the Water Sense/Energy Star 8 9 specification levels.

10 The estimated reduction in usage analysis of the sample household of four allows 11 for the estimation of the length of time over which all appliances in the PAWC 12 service territory will be converted to meet the Water Sense/Energy Star 13 specifications. Dividing the total estimated annual residential usage decline for 14 PAWC of 545 million gallons by the estimated annual usage decline for the sample 15 household of four of 48,178 gallons, reveals that 11,313 residential customers, or 16 1.85% of the 2019 year-ending average of 610,361 residential customers, would 17 need to make these fixture changes to account for the estimated total annual 18 residential declining usage. Further, taking the reciprocal of the 1.85% of 19 residential customers needed to account for the annual usage decline reveals a 20 theoretical term of 54 years to fully convert the installed fixture base to the Water 21 Sense/Energy Star usage specifications, all other factors remaining equal. New 22 water efficiency technology and regulations are expected to continue to drive water 23 use downward.

Q. Haven't new federal regulations related to efficiency standards for water using fixtures and appliances already had their full impact on PAWC
 residential customer usage?

4 A. No, not at all. Due to the age of the Pennsylvania residential housing stock, these 5 water efficiency standards have only just begun to have an impact on residential usage. The potential impact of replacing these fixtures is significant as, according 6 7 to the 2017 American Housing Survey, 89.6% of the homes in Pennsylvania were 8 built prior to the year 2000 (80% of homes prior to 1990). Exhibit GPR-6 details 9 this data, which is summarized in Table GPR-6, below. This data illustrates that 10 80% or more of the Pennsylvania housing stock was constructed with toilets, 11 washing machines, and dishwashers that are much more water-intensive than newer 12 fixtures and appliances now on the market that will eventually replace the existing 13 fixture and appliance stock.

14

Table GPR-6									
Pen	nys	Ivania Americ	an Water Co	omp	bany				
		Housing Sto	ck Vintage						
State	State of Pennsylvania & Allegheny County								
		State of Per	nslyvania		Allegheny	County			
Year Structure Built		Units	% Total		Units	% Total			
Built 2014 or later		26,178	0.46%		2,322	0.39%			
Built 2010 to 2013		79,075	1.40%		6,494	1.09%			
Built 2000 to 2009		480,189	8.49%		29,345	4.92%			
Built 1990 to 1999		541,278	9.57%		33,309	5.58%			
Built 1980 to 1989		539,607	9.54%		39,861	6.68%			
Built 1970 to 1979		701,178	12.40%		65,172	10.93%			
Built 1960 to 1969		578,607	10.23%		72,045	12.08%			
Built 1950 to 1959		774,515	13.70%		112,077	18.79%			
Built 1940 to 1949		438,325	7.75%		58,476	9.80%			
Built 1939 or earlier		1,494,647	26.44%		177,403	29.74%			
Total housing units		5,653,599	100.00%		596,504	100.00%			
Percentage Prior to 00			89.64%			93.60%			

Q. The forecasted test year for Rate Year 2 in this case ends December 31, 2022.
 Given that the declining use trend has been progressing for over two decades,
 won't the majority of non-efficient fixtures and appliances already be replaced
 by the end of that period?

5 No, as illustrated above, the steady replacement of older fixtures due to remodel or A. 6 failure as well as new construction will result in many years to achieve complete 7 implementation and saturation of fixtures and appliances consistent with the current efficiency standards. This occurs over a very long period of time as housing stocks 8 9 are remodeled and appliances and fixtures wear out, break or become obsolete. 10 Further, as explained above in my testimony, the decline in usage for the theoretical 11 four user analysis indicates an approximate 54-year term to reach total 12 implementation of the current fixture standards and realize the total impact in 13 reduced water usage. As mentioned earlier in my testimony, to date, we have 14 observed an ongoing trend of declining residential usage on the PAWC system for 15 approximately 20 years, leaving another 34 years for further reductions.

# Q You have explained the laws and programs that drive the water conservation trend. Can you identify a "real world" example of how these laws and programs actually affect usage per customer?

- A. Yes, As a matter of fact, there was a situation in the American Water footprint that
   demonstrates this phenomenon in a rather dramatic fashion.
  - Q Please describe it.
- A. This phenomenon is illustrated by analyzing usage per customer in the Missouri American Water Company ("MAWC") Joplin district, before and after the

devastating EF5 tornado of May 22, 2011 ("Joplin Tornado"). Although this
 tornado affected the MAWC service area, the results of my analysis show the real
 world effects of the more rapid replacement of fixtures and appliances due to the
 rebuilding that occurred following the tornado and are, thus applicable to
 Pennsylvania and PAWC.

### Q. Please describe your analysis of the pre- and post-2011 Joplin, MO Tornado residential customer usage.

A. I developed and compared the results of two regression models: the first estimates
the trend in base residential usage per Joplin customer for the 10 years leading up
to and including 2011; the second model estimates the trend in base residential
usage per Joplin customer for the period 2012-2015. By comparing the results of
those two regression models, we can see the impact on average residential customer
usage due to the rebuilding of housing stock in Joplin to the enhanced water use
standards.

### 15 Q. Please describe the statistical results of your analysis of the pre- and post-2011

- 16 Joplin tornado residential customer usage?
- 17 A. The results of the analysis are provided in Table GPR-7, below:

## Table GPR-7Joplin Declining Use AnalysisUsage Trend Pre / Post-2011 Tornado

Prior	
to	Post
2011	2011
0.820	0.974
-1.74%	-2.77%
	Prior to 2011 0.820 -1.74%

1 Table GPR-7 illustrates the results of the regression analysis of average usage per 2 customer both before and after the Joplin Tornado. It is clear from the statistical 3 results of that regression analysis that the Joplin district's declining usage per customer trend has accelerated because residential customers have rebuilt using 4 5 water use fixtures that meet or exceed the contemporary water efficiency standards 6 and have replaced older, less efficient fixtures as part of the rebuilding process. 7 The results show that the decline in the base residential usage per customer has increased from an annual rate of approximately -1.7% to approximately -2.8% due 8 9 to the reconstruction of approximately 2,500 (13.8% of that system) residential 10 dwellings since May 2011 in the Joplin district. This is an approximate 59% 11 acceleration of the rate of decline in Joplin post May 2011. PAWC Exhibit GPR-12 5 graphically illustrates the acceleration of the trend.

# Q. What do the results of the analysis of pre- and post-2011 Joplin tornado usage trends reveal about residential customers usage and what does the data imply about future water usage declines?

16 The statistical results of the Joplin Tornado analysis, when combined with the A. 17 results of the four-user energy star analysis detailed in Schedule GPR-3, offer 18 compelling empirical evidence as to the potential scope and duration of continued 19 reductions in customer water use patterns. First, as discussed, the rebuilding of 20 homes in the Joplin district resulted in a 59% acceleration of the annual usage per 21 customer reduction from approximately -1.7% to approximately -2.8%. Second, 22 those 2,500 rebuilt customer dwellings experienced an annual usage reduction of 23 approximately 3,200 gallons, or roughly an 8.4% reduction in usage, from their

2011 pre-Joplin tornado levels. That 3,200-gallon annual average residential usage
 reduction by the rebuilt customers is nearly equal to the loss of an entire month's
 worth of water sales to a typical Joplin residential customer (based on average usage
 in Joplin post-2011).

5 Q. Mr. Roach, are there other American Water affiliated companies that have 6 experienced extraordinary reductions in residential water usage resulting in 7 lasting modifications to customer water consumption behavior?

8 Yes. The trend of California-American Water ("Cal-AM") residential customer A. 9 usage since 2013 both during and post removal of drought related state mandated 10 usage restrictions is one instance in particular that must be noted. In summary, in 11 response to state mandatory 25% water reductions established in June 2015, Cal-12 AM residential usage per customer fell 26% from 2013 annual average levels to 13 2015 annual average levels. Following removal of the state mandated 25% water 14 usage reductions on April 1, 2017, Cal-AM residential usage per customer remains 15 21% lower than the annual average 2013 levels. Hence, 20 months following 16 removal of state mandated water usage reductions, Cal-AM's residential customers 17 have incorporated water conservation behavior such that their water usage remains 18 21% lower than it was in 2013 at the end of 2018. This reflects a real and significant 19 and apparently permanent incorporation of water conservation behavior by Cal-AM




**A.** Typically, households replace appliances and fixtures on a sporadic basis, as they

Table GPR-8								
California American Water								
Re	esidential	Annual Ave	erage Usag	e Per Custor	ner			
	G	allons Per C	Customer N	lonth				
		Annual	%	Reduction				
	Year	Avg. Usage	of 2013	From 2013				
	2013	10,443						
	2014	9,468	90.7%	-9.3%				
	2015	7,751	74.2%	-25.8%				
	2016	7,685	73.6%	-26.4%				
	2017	8,070	77.3%	-22.7%				
	2018	8,237	78.9%	-21.1%				

8

7

break or become obsolete. As they are installed over time, the replacement

1 appliances and fixtures being more efficient then the originals, result in reductions 2 in usage due to increased efficiency that are spread out over time making it difficult 3 to isolate the impact of any increase in the efficiency of a single appliance or fixture 4 on overall water usage. In contrast, households affected by the Joplin Tornado 5 replaced all of their appliances and fixtures at a single point in time. Therefore, by 6 analyzing the decline in usage in Joplin after the tornado, we can assess the total 7 impact that installation of the most recent, efficient, available technology will have on usage over time. In other words, as PAWC customers replace their appliances 8 9 and fixtures, usage on the PAWC system is likely to decline at the rate I have 10 estimated and potentially up to the rate of usage decline in Joplin following the 11 tornado rebuild. On this basis, and in conjunction with the results of the energy star 12 four user analysis (see Exhibit GPR-3), I conclude that residential water use 13 reductions will continue to be significant well into the near future for the PAWC 14 system. Lastly, the steady year-to-year water use decline attributed to federally 15 mandated water using appliance and fixture usage reductions detailed herein 16 notwithstanding, the permanent effect of state mandated water usage restrictions on 17 Cal-AM residential customers water usage illustrate the potential for significant and 18 dramatic water use reductions in response to state regulated water use restrictions 19 on any of the American Water affiliated systems going forward.

20

#### Authorized Revenue And Declining Consumption

Q. Are there reasons why a water company's actual revenue could deviate
significantly from the level of revenue upon which its rates are based
("Authorized Revenue")?

1 A. Yes. Water utility revenue forecasts are properly based on normal weather. 2 Weather, however, is seldom normal. Therefore, there is an equal chance that the 3 utility will exceed the forecast due to abnormally warm and dry weather or fall short 4 of the revenue forecast due to cooler and wetter summer weather. Usage per 5 customer results that capture several years of abnormally hot and dry weather will 6 represent usage per customer that simply cannot be achieved in a year of normal 7 weather. In addition, the failure of a forecast to capture the full effect of a trend of reduced usage per customer will result in the adoption of a faulty forecast that 8 9 improperly captures a usage trend.

10 This variability in customer usage patterns and weather can have a substantial effect 11 on a water company's actual revenues. Changes in customer usage patterns can 12 reflect seasonal variation in usage as well long term water use trends (for example 13 as a result of sustained water efficiency and conservation efforts). This is true for 14 PAWC as well as other water utilities across the country. Although the effect of 15 weather can be random and work either in favor of or against the Company from a 16 financial standpoint, the declining use per customer is another factor, altogether, 17 because customers are using less water every year.

18 Q. Have you analyzed the impact of water usage on PAWC's actual water sales
19 and revenues, as compared to levels authorized for the Company since 2008?

1	<b>A</b> .	Yes, I have. PAWC Exhibit GPR-6, page 1 of 2 and Table GPR-9 below, illustrates
2		that PAWC has collected total water sales revenue that is less than the revenue
3		levels used to set revenue requirements in rate cases since 2010 for each post-case
4		year of those proceedings from 2010 to 2019 as visually illustrated on Exhibit GPR-
5		6, page 2 of 2. Clearly, therefore, actual revenue can deviate significantly from
6		Authorized Revenue. Specifically, for the period of 2010 through 2019, PAWC
7		realized actual revenues that combined were approximately \$84.618 million less
8		than those revenue used to establish rates. Similarly, for that same period, PAWC
9		realized total water sales that were approximately 8.387 billion gallons less than
10		used to establish rates. There is direct linkage between the inability of PAWC to
11		collect this revenue level over the period of 2010-2019 and water usage reductions
12		attributed to the 8.387 billion-gallon short fall in total sales levels utilized in the
13		PAWC cases over the period of 2010 through 2019

Pennsylvania American Water Company Actual Revenue/Water Sales Compared to Authorized (2010-2019)											
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total 2010-2019
PAWC Total Billed Annual Revenue*	481,723,983	476,218,514	530,779,399	519,267,968	580,339,362	576,844,163	567,841,132	564,367,670	657,562,816	654,064,974	\$5,609,009,98
Total Authorized Revenue**	486,521,372	494,111,014	540,839,399	540,839,399	580,184,165	580,184,165	580,184,165	580,184,165	655,290,420	655,290,420	\$5,693,628,68
Revenue Recovery to Authorized (Under)/Over	(4,797,389)	(17,892,500)	(10,060,000)	(21,571,431)	155,197	(3,340,002)	(12,343,033)	(15,816,495)	2,272,396	(1,225,446)	(\$84,618,70
	-0.99%	-3.62%	-1.86%	-3.99%	0.03%	-0.58%	-2.13%	-2.73%	0.35%	-0.19%	
PAWC Total Annual Water Sales (000 Gallons)	50,087,184	48,691,795	48,785,279	46,947,471	47,794,020	47,548,740	45,976,272	45,678,847	45,598,481	44,551,099	471,659,18
Total Authorized Water Sales*	50,406,525	50,299,128	49,637,898	49,637,898	47,431,611	47,431,611	47,431,611	47,431,611	45,169,449	45,169,449	480,046,79
Water Sales to Authorized (Under)/Over	(319,341)	(1,607,333)	(852,619)	(2,690,427)	362,409	117,129	(1,455,339)	(1,752,764)	429,032	(618,350)	(8,387,60
	-0.63%	-3.20%	-1.72%	-5.42%	0.76%	0.25%	-3.07%	-3.70%	0.95%	-1.37%	

- 14
- Q. Has PAWC factored the observed trend of declining residential and
   commercial customer usage into its pro-forma revenues in this case?

A. Yes. Company witness Ashley Everette addresses the development of PAWC's
revenue requirement and pro-forma revenues at present rates, including

1 adjustments to Future Test Year, Rate Year 1 and Rae Year 2 data to reflect the 2 observed trend of declining usage for residential and commercial customers. Moreover, as I explained, this trend is not going to abate for many years and so it 3 4 will continue throughout Rate Year 2 and beyond. This is important as the trend of 5 residential usage reduction must be captured and reflected in test year data to ensure 6 that the Company continues to collect its authorized revenue, the Company will not 7 have to file a rate case simply to recover the revenue shortfall due to the trend of 8 declining use per customer

9 Q. Are there other benefits to using projections of residential and commercial
10 usage reductions in developing pro forma revenue and expense claims for the
11 Future Test Year, Rate Year 1 and Rate Year 2 aside from maintaining the
12 level of revenue authorized by the Commission?

A. Yes, by capturing the future effects of residential and commercial usage reductions
 due to conservation impacts, the Company avoids the so-called "conservation
 conundrum" wherein it is punished for lower sales. This allows the Company to
 embrace fully the wise use of water and to support federal and state conservation
 programs.

# 18 Q. Have the Company's customers received any benefits from their reduced 19 water usage?

A. Yes. Our customers share in various environmental and operational benefits from
 lower water usage. For example, reduced usage helps maintain source water
 supplies, lessening diversions from supply sources, leaving more water for passing
 flows or drought reserve. Reductions in power consumption, chemical usage, and

1 waste disposal not only reduce water utility operating costs, but also provide 2 environmental benefits such as reduced carbon footprint from lower power usage 3 for treatment and pumping and reduced waste streams. Reduced water usage by 4 customers also reduces energy consumption within the customer's home, for 5 instance, through lower hot water heating needs. In addition, on a case-specific 6 basis, reduced water usage has the potential to enable the utility to delay or 7 downsize a capacity addition. In systems where demand is approaching the capacity of water supplies or treatment facilities, the water saved through efficient 8 9 usage by customers can be a preferred alternative to a supply-side expansion, with 10 a resulting lower cost to customers. Over the long term, reduced usage per 11 residential and commercial customer has helped lower operating costs, and has 12 helped avoid some capacity-related needs. These savings and avoided costs have 13 benefitted customers through the ratemaking process.

# 14 **Q.** Ca

15

# Can declining usage and water conservation activities result in certain avoided capital costs?

A. Yes. Reductions in water usage can avoid the need to build supply, treatment, and
 transmission facilities to meet those now avoided additional usage demands. The
 impact of reduced usage per customer on supply and large transmission investment
 notwithstanding, the ongoing decline of usage per customer does not delay nor
 mitigate the on-going need for PAWC to continue replacing its aging distribution
 infrastructure in order to continue providing its customers with reliable and safe
 drinking water.;

Q. Please summarize why accounting for usage reductions and weather
 fluctuations into the Future Test Years is important for PAWC and its
 customers.

4 A. As the data analyzed herein indicate, the Company's revenue is affected by two 5 distinct matters. First, the variability of weather and, second, the trend of declining 6 use per customer. By normalizing for the unpredictability of weather from one 7 period to the next in conjunction with capturing and forecasting the trend of declining use per residential customer when estimating Future Test Years billing 8 9 determinants, PAWC will be provided a higher probability opportunity to collect 10 its authorized revenue in those Future Test Years and is more likely to not be forced 11 to file for base rate relief solely to recover the revenue shortfall due to the residential 12 declining use trend. For all those reasons, accounting for weather variability and 13 declining residential and commercial usage in future test year data is in the best 14 interest of all stakeholders, the Company, its customers and the Commonwealth of 15 Pennsylvania.

16

#### **Pro-Forma Revenue Adjustment to Shale Gas Volumes and Revenue**

17 Q. Are you also projecting of usage reductions related to reduced drilling activity
18 among shale gas customers?

A. Yes, PAWC is proposing a 50% reduction of Shale Gas related sales volumes and
 revenues compared to the three-year 2017-2019 average in this case identified by
 PAWC witness Ashley Everette. At the present time, low fossil fuel market/pricing
 conditions do not support the continued production out of existing wells at anything

approaching past production levels or drilling of new wells by shale oil/gas
 producers.

# Q. When evaluating the impact on Shale Gas production of market conditions what element of that production is important to understand?

5 A. When evaluating the market conditions on production and well drilling of Shale 6 Gas producers it is important to understand that such decision is based more on the 7 market price for crude oil as the production of natural gas is often a byproduct of 8 Shale hydraulic fracking for crude oil. Hence if the market price for crude oil does 9 not support additional production or new well drilling, that decision to not produce 10 crude oil directly impacts the production of shale gas derived from hydraulic 11 fracking wells.

# 12 Q. Would you please expand on the impact of those crude oil market conditions 13 that impact PAWC Shale gas customers?

14 Yes, presented in Table GPR-10 below is an analysis of PAWC shale gas A. 15 customers' sales volumes and revenues along with natural gas and crude oil pricing for the years 2017 through April 24, 2020. That table illustrates that the current 16 17 West Texas Intermediate closing price for crude oil on April 24, 2020 is well below 18 the extreme lower end of the breakeven market price for ongoing operations of 19 existing Shale Oil wells and such price would not support new well drilling. 20 Further, prior to the dual pricing shocks of the Saudi/Russia production quota wars 21 and reduced international crude oil demand due to COVID-19 related reductions in 22 general economic activity, there was an existing slump in the price of natural gas 23 and crude oil beginning in 2018 through the present. In response to those market

conditions, PAWC's shale gas customers have significantly decreased their water
 usage in the face of crude oil market pricing that barely supports production from
 existing Shale wells and is approximately \$10/bbl below the price necessary to
 support new well drilling.

5 Based on these contemporary market conditions and without clear visibility to the 6 long term impact of the Saudi/Russian crude oil production/pricing war, the 7 slowdown of international crude oil demand due to the COVID-19 pandemic and 8 world storage capacity reaching exhaustion<sup>7</sup>, we have chosen to take the three year 9 average of Shale gas consumption and reduce those volumes by 50%. This is a 10 conservative adjustment setting future test year volumes at a level between the two 11 extremes of either reducing these sales volumes to near zero (see 2020 YTD) or 12 using the three year average unadjusted. Given the paucity of any clear indications 13 of future market pricing conditions impacting these customer's decisions to resume 14 production or drill for new wells, the proposed 50% adjustment is a compromise 15 between the two extremes I have listed above. To that end, I contend that the 50% 16 adjustment necessary and reasonable to protect both PAWC and the rate payer 17 going forward.

18

19

<sup>7</sup> https://finance.yahoo.com/news/coronavirus-covid-19-oil-price-crude-us-april-20-21-year-low-074803744.html

Table GPR-10 Pennsylvania American Water Company Pro Forma Adjustment Support Shale Gas Customer Sales & Revenue										
Avg Ann Close Price										
			Natural Gas	Crude Oil						
			HH Spot Mkt	WTI						
	Consumption	Revenue	\$/MM/Btu	\$/bbl						
2017	6,202,965	\$5,101,100	\$2.99	\$50.84						
2018	6,852,963	\$6,107,629	\$3.15	\$64.90						
2019	3,645,445	\$3,197,649	\$2.57	\$57.05						
2020*	39,835	\$367,645	\$1.86	\$40.69						
4/24/2020**			\$1.75	\$16.94						
Breakeven - New Wells ***				\$48 - \$54						
Breakeven - Old Wells ***				\$27 - \$37						
3 Yr Avg (2017-2019)	5,567,124	\$4,802,126	\$2.90	\$57.60						
Adjustment (50% 2019)	-1,822,723	-\$1,668,338								
2021 levels	1,822,722	\$1,529,311								
2020 Annualized	159,340	\$1,470,581								

\* AMW Data Month End 3/2020, YTD Natural Gas and Crude Oil Average Ending 4/24/2020 - Source: Macrotrends.net - https://www.macrotrends.net/2516/wti-crude-oilprices-10-year-daily-chart

\*\* Price @ US Close 4/24/2020 For June Delivers Nymex - Bloomberg: https://www.bloomberg.com/markets/commodities

\*\*\* Dallas Federal Reserve Bank: https://www.dallasfed.org/-/media/Documents/research/energy/energycharts.pdf?la=en

1

#### 2 Q. Does this conclude your direct testimony at this time?

3 A. Yes, it does.

1 PENNSYLVANIA-AMERICAN WATER COMPANY, INC. 2 Appendix A 3 4 **Professional Experience of Gregory P. Roach** 5 I have over 25 years of experience working in the electric, gas and water utility 6 sectors as both a consultant and utility employee, beginning with Public Service 7 Indiana (now Duke Energy) in January 1980, where my responsibilities were focused on transforming PSI's load forecasting processes from time series to 8 9 econometric based models. In May 1982, I accepted the position of Senior 10 Economist with the management-consulting firm of R. W. Beck and Associates 11 ("Beck") (now part of Science Applications International Corporation, "SAIC"). I 12 received numerous promotions through my career with Beck to the eventual 13 position of Principal Economist. During my career at Beck, I was responsible for 14 the management of all rates/regulatory, load forecasting and financing feasibility 15 client engagements managed by the Indianapolis office. As such, I delivered 16 testimony on behalf of agency, municipal and co-op clients throughout the United 17 States related to cost of service, rate design, load forecasting, system planning, 18 electric and gas production plant economic feasibility, revenue requirement pro-19 forma adjustments, production cost optimization and cost of capital to state 20 regulatory commissions and the Federal Energy Regulatory Commission.

In May 1991 I took the position of Principal Economist with the regulatory management consulting firm of SVBK Consulting Group ("SVBK") (now part of Alliant Energy Integrated Services, "Alliant"). In that position, I was responsible for all consulting engagements executed from the Indianapolis regional office on behalf of SVBK's national utility clients. In addition to the regulatory matters that
 I testified to while at SVBK, I offered testimony related to merger & acquisition
 cost reductions/synergies, large power pool generation and transmission dispatch
 strategies, power pool generation/transmission pricing schemes, price elasticity
 sales adjustments and retail rate impact of specific power/transmission pooling cost
 minimization arrangements and payments.

In July 1993, I became owner and president of a retail operations holding company
with three franchise store outlets. In that position, I was responsible for all
management, operation, sales and financial functions of the firm.

10 In November 1998, I sold the retail holding company to begin operations of the 11 Roach Consulting Group, Ltd as Principal Consultant. In that position I advised 12 industrial and utility clients related to business intelligence systems, 13 enterprise/manufacturing resource planning systems, customer information 14 systems as well as general accounting systems. I also appeared as an expert witness 15 providing testimony related to economic and punitive damages in personal injury 16 and wrongful death legal proceedings. In July 2011, I joined the Service Company 17 as Manager of Rates and Regulation, supporting Indiana-American and Michigan-18 American Water Company. In August 2014, I accepted the position of Manager of 19 Revenue Analytics with the Service Company. In November 2017, I was promoted 20 to the position of Senior Manager of Revenue Analytics with the Service Company.

 1
 PENNSYLVANIA-AMERICAN WATER COMPANY, INC.

 2
 3

 3
 Appendix B

 4
 Glossary of Technical and Statistical Terms

5 Autocorrelation - Autocorrelation is a characteristic of data in which the correlation 6 between the values of the same variables is based on related objects. Informally, it is the 7 similarity between observations as a function of the time lag between them. In regression 8 modeling, the estimate errors follow a pattern, showing that something is wrong with the 9 regression model. ... If this assumption is violated and the error term observations are 10 correlated, autocorrelation is present.

- 11 **Cooling Degree Day** ("CDD") A cooling degree day (CDD) is a measurement designed 12 to quantify the demand for energy needed to cool a building. It is the number of degrees 13 that a day's average temperature is above 65° Fahrenheit (18° Celsius), which is the 14 temperature above which buildings need to be cooled. Annual CDD would be the sum of 15 all CDD occurring in a calendar year.
- 16 **Durbin-Watson Statistic** The Durbin Watson statistic is a number that tests for 17 autocorrelation in the residuals from a statistical regression analysis. The Durbin-Watson 18 statistic is always between 0 and 4. A value of 2 means that there is no autocorrelation in 19 the sample.
- F-Statistic The F value is the ratio of the mean regression sum of squares divided by the
   mean error sum of squares. Its value will range from zero to an arbitrarily large number.
   The value of Probability (F) is the probability that the null hypothesis for the full model is
   true (i.e., that all of the regression coefficients are zero). The higher the F value, the
   greatest confidence that the null hypothesis can be rejected.
- Heating Degree Day ("HDD") A heating degree day (HDD) is a measurement designed
  to quantify the demand for energy needed to heat a building. It is the number of degrees
  that a day's average temperature is below 65 ° Fahrenheit (18 ° Celsius), which is the
  temperature below which buildings need to be heated. Annual HDD would be the sum of
  all HDD occurring in a calendar year.
- **R-Squared** In statistics, the coefficient of determination, denoted R2 or r2 and
   pronounced "R squared", is the proportion of the variance in the dependent variable that is
   predictable from the independent variable(s).
- T- Statistic The t statistic is the coefficient divided by its standard error. The standard error is an estimate of the standard deviation of the coefficient, the amount it varies across cases. It can be thought of as a measure of the precision with which the regression coefficient is measured. The higher the t statistic, the greater probability is that the regression coefficient has been estimated precisely.

#### BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

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PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

#### PENNSYLVANIA-AMERICAN WATER COMPANY

DOCKET NOS. R-2020-3019369 (WATER) R-2020-3019371 (WASTEWATER)

### VERIFICATION

I, **Gregory P. Roach**, hereby state that the facts set forth in the pre-marked Statement No. 9 and accompanying exhibits, if any, are true and correct to the best of my knowledge, information and belief. I understand that this verification is made subject to the provisions and penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsifications to authorities).

Date: April 29, 2020

Gregory P. Roach

### American Water Works Company Residential Water Usage Forecasts Based on 10 year history Based on Weather Normalized Trends except where noted below

	Annual Decline (GPCY)	Rate of Decline (%)	
State	10-year (2010-2019)	10-year (2010-2019)	
Illinois	-1,311	-2	.7%
Indiana	-884	-1.	.8%
Iowa	-894	-2	.0%
Kentucky	-761	-1.	.6%
Maryland	-797	-1.	.9%
Missouri	-1,580	-2	.2%
New Jersey*	-1,203	-1.	.8%
Pennsylvania	-893	-2	.2%
Tennessee	-613	-1.	.3%
Virginia	-656	-1.	.2%
West Virginia	-585	-1.	.6%
Weighted Average	-1,079	-2	.0%

Notes:

California & Michigan used three year average per customer

New York is aligned to Revenue Stabilization Mechanism

New Jersey based on 10 years ending June, 2019

Weighted average based on 2019 average residential customer connections

The following regulations are listed in the "*Energy Independence* & *Security Act of 2007,*" Public Law 110–140 – Dec. 19, 2007:

- 1. A top-loading or front-loading standard-size residential clothes washers manufactured on or after January 1, 2011 shall have a water factor of not more than 9.5. (water factor is equal to gallons/cycle/cubic feet)
- 2. Dishwashers manufactured on or after January 1, 2010, shall
  - a. for standard size dishwashers (≥ 8 place settings + six serving pieces) not exceed **6.5 gallon per cycle**; and
  - b. for compact size dishwashers (< 8 place settings + six serving pieces) not exceed **4.5 gallons per cycle**.

	21	• •			
Type of Use	Pre- Regulatory Flow*	New Standard (maximum)	Federal Standard	Year Effective	WaterSense / ENERGY STAR Current Specification+ (maximum)
Toilets	3.5 gpf	1.6 gpf	U.S. Energy Policy Act	1994	1.28 gpf
Clothes washers**	41 gpl (14.6 WF)	Estimated 26.6 gpl (9.5 WF)	Energy Independence & Security Act of 2007	2011	Estimated 16.8 gpl (6.0 WF)
Showers	2.75 gpm	2.5 gpm	U.S. Energy Policy Act	1994	2.0 gpm
Faucets***	2.75 gpm	2.5 gpm (1.5 gpm)	U.S. Energy Policy Act	1994	1.5 gpm at 60 psi
Dishwashers	14.0 gpc	6.5 gpc for standard; 4.5 gpc for compact	Energy Independence & Security Act of 2007	2010	4.25 gpc for standard; 3.5 gpc for compact
Commercial Pre Rinse Spray Valves	1.8 to 6 gpm	1.6 gpm	U.S. Energy Policy Act of 2005	2006	1.28 gpm

 TABLE 1

 Flow rates from typical fixtures and appliances before and after Federal Standards

\* Source: Handbook of Water Use and Conservation, Amy Vickers, May 2001

\*\* Average estimated gallons per load and water factor (see calculations)

\*\*\* Regulation maximum of 2.5 gpm at 80 psi, but lavatory faucets available at 1.5 gpm maximum (see calculations)

+Source: http://www.epa.gov/watersense/ and http://www.energystar.gov websites

ABBREVIATIONS USED				
gpcd	gallons per capita per day			
gpf	gallons per flush			
gpl	gallons per load			
gpm	gallons per minute			
gpc	gallons per cycle			
WF	water factor, or gallons per cycle per cubic feet capacity of the washer (the			
	smaller the water factor, the more water efficient the clothes washer)			

#### TABLE 2

# Daily indoor per capita water use from various fixtures and appliances in a typical single family home before and after Federal Regulations

	Pre- Regulatory Standards Amount**	Post- Regulatory Standards Amount**		Water Sense/ Energy Star Amount**	
Type of Use	(gpcd)	(gpcd)	Savings from Pre- Reg	(gpcd)	Additional Savings from Post-Reg
Toilets	17.9	8.2	54%	6.5	21%
Clothes washers*	15	9.8	35%	6.2	37%
Showers	9.7	8.8	9%	7.1	19%
Faucets	14.9	10.8	28%	8.1	25%
Dishwashers*	1.4	0.65	54%	0.43	34%
Total Indoor Water Use	58.9	38.3	35%	28.3	26%

Note: List only includes common household fixtures and appliances and excludes leaks and "other domestic uses" in order to be conservative.

\*Regulatory Standards effective in 2010 and 2011. For calculations of amount in gpcd, refer to the calculation below.

\*\*Source: Handbook of Water Use and Conservation, Amy Vickers, May 2001

#### CALCULATIONS

Clothes washer (pre-regulatory): Number of times clothes washer used everyday * Clothes washer water use rate range * Average water use rate Water usage per capita Water factor (WF) as gallons/cycle/cu. ft	<ul> <li>= 0.37 loads per day</li> <li>= 39 gpl to 43 gpl</li> <li>= 41 gpl</li> <li>= 41 gpl * 0.37 loads/day</li> <li>= 15 gpcd</li> <li>= 41 gpl / 2.8 cu. ft (assuming capacity of an average washer to be 2.8 cu. ft, most washers range between 2.7 – 2.9 cu. ft)</li> <li>= 14.6</li> </ul>
Clothes washer (new standard):	= 0.37 loads per day
Number of times clothes washer used everyday *	= <b>9.5 WF</b>
New regulatory standard	= 9.5 gallons/per cycle/cubic feet

	<ul> <li>= 26.6 gpl (Assuming capacity of an average washer to be 2.8 cu. ft, most washers range between 2.7 – 2.9 cu. ft)</li> </ul>
Therefore, new usage per capita	= 26.6 gpl ^ 0.37 loads/day = <b>9.8 gpcd</b>
Clothes washer (WaterSense/Energy Star): Number of times clothes washer used everyday * New regulatory standard	<ul> <li>= 0.37 loads per day</li> <li>= 6 WF</li> <li>= 6 gallons/per cycle/cubic feet</li> <li>= 26.6 gpl (Assuming capacity of an average washer to be 2.8 cu. ft, most washers range between 2.7</li> </ul>
Therefore, new usage per capita	– 2.9 cu. ft) = 16.8 gpl * 0.37 loads/day = <b>6.2 gpcd</b>
Dishwasher:	
Number of times dishwasher used everyday* New regulatory standard	= 0.10 times = <b>6.5 gallons/per cycle</b> (for standard dishwashers only)
Therefore, new usage per capita	= 6.5 gallons/per cycle * 0.1 = <b>0.65 gpcd</b>
Dishwasher (WaterSense/Energy Star):	
Number of times dishwasher used everyday* New regulatory standard	<ul> <li>= 0.10 times</li> <li>= 4.25 gallons/per cycle (for standard dishwashers only)</li> </ul>
Therefore, new usage per capita	= 4.25 gallons/per cycle * 0.1 = <b>0.43 gpcd</b>
Faucet: Actual faucet flow during use* Rated flow* Frequency of faucet use* Range of usage per capita Assume average of range for estimated gpcd	<ul> <li>= 67% rated flow</li> <li>= 1.5 gpm to 2.5 gpm</li> <li>= 8.1 min/day</li> <li>= 8.1 gpcd to 13.5 gpcd</li> <li>= 10.8 gpcd</li> </ul>
Faucet (WaterSense/Energy Star): Actual faucet flow during use* Rated flow* Frequency of faucet use* Usage per capita Assume average of range for estimated gpcd	= 67% rated flow = <b>1.5 gpm</b> = 8.1 min/day = 8.1 gpcd = <b>8.1 gpcd</b>

\*Source: Handbook of Water Use and Conservation, Amy Vickers, May, 2001

Fixtures and	EPAct 1992, EPAct 2005, "Energy Independence and Security Act of 2007" (or backlog NAECA updates)		WaterSense <sup>®</sup>	or Energy Star <sup>®</sup>	Consortium for Energy Efficiency	
Appliances	Current Standard	Proposed/Future Standard	Current Specification	Proposed/Future Specification	Current Specification	Proposed/Future Specification
Residential Toilets	1.6 gpf <sup>1</sup>	1.28 gpf/ 4.8 Lpf proposed by efficiency advocates for tank-type only	Tank-type toilets: WaterSense = 1.28 gpf (4.8L) with at least 350 gram waste removal + LA Spec.		No specification	
Residential Lavatory (Bathroom) Faucets	2.2 gpm at 60 psi <sup>2</sup>	1.5 gpm/ 5.7 Lpm proposed by efficiency advocates	WaterSense = 1.5 gpm maximum & 0.8 gpm minimum at 20 psi		No specification	
Residential Kitchen Faucets				None proposed at this time	No specification	
Residential Showerheads	2.5 gpm at 80 psi		WaterSense = 2.0 gpm		No specification	
Residential Clothes Washers	MEF ≥ 1.26 ft <sup>3</sup> /kWh/cycle *No specified water use factor Note: MEF measures energy consumption of the total laundry cycle (wash + dry). The higher the number, the greater the energy efficiency	Energy Independence and Security Act of 2007 specified effective in 2011: MEF $\geq$ 1.26 ft <sup>3</sup> /kWh/cycle WF $\leq$ 9.5 gal/cycle/ft <sup>3</sup> Also specified: DOE shall publish final rule by Dec 31, 2011, determining if standards will change effective 1/1/2015.	Energy Star (DOE) effective July 1, 2009: MEF ≥ 1.8 ft <sup>3</sup> /kWh/cycle WF ≤ 7.5 gal/cycle/ ft <sup>3</sup>	Energy Star (DOE) To be effective Jan 1, 2011: MEF ≥ 2.0 WF ≤ 6.0 gal/cycle/ft <sup>3</sup>	Tier 1: MEF ≥ 1.80 ft <sup>3</sup> /kWh/cycle; WF ≤ 7.5 gal/cycle/ft <sup>3</sup> Tier 2: MEF ≥ 2.00 ft <sup>3</sup> /kWh/cycle; WF ≤ 6.0 gal/cycle/ft <sup>3</sup> Tier 3: MEF ≥ 2.20 ft <sup>3</sup> /kWh/cycle; WF ≤ 4.5 gal/cycle/ft <sup>3</sup>	

Adapted from information provided by the U.S. EPA Office of Water, the Alliance for Water Efficiency, and other sources)

- DOE: Department of Energy EPA: Environmental Protection Agency EPAct 1992: Energy Policy Act of 1992 EPAct 2005: Energy Policy Act of 2005
- EF: energy factor ft<sup>3</sup>: cubic feet gal: gallons gpm: gallons per minute

gpf: gallons per flush kWh: kilowatt hour MEF: modified energy factor MaP: maximum performance



<sup>&</sup>lt;sup>1</sup> EPAct 1992 standard for toilets applies to both commercial and residential models.

<sup>&</sup>lt;sup>2</sup> EPAct 1992 standard for faucets applies to both commercial and residential models.

Fixtures and	EPAct 1992, EPAct 2005, "Energy Independence and Security Act of 2007" (or backlog NAECA updates)		WaterSense <sup>®</sup>	or Energy Star <sup>®</sup>	Consortium for Energy Efficiency	
Appnances	Current Standard	Proposed/Future Standard	Current Specification	Proposed/Future Specification	Current Specification	Proposed/Future Specification
Standard Size and Compact Residential Dishwashers <sup>3</sup>	Standard models: Energy Independence and Security Act of 2007 specified: effective 1/1/2010: Standard Size: 355 KWh/year (.62 EF + 1 watt standby) WF $\leq$ 6.5 gallons/cycle Compact Size: 260 kWh WF $\leq$ 4.5 gallons/cycle EF is the number of cycles the machine can run for each kWh of electricity	Also specified by the Act: DOE shall publish final rule by 1/1/2015 determining if dishwasher standards will change effective 1/1/2018.	Energy Star (DOE) Effective since July 1, 2009 Standard Size: 324 kWh/year WF ≤ 5.8 gallons/cycle Compact Size: 234 kWh/year WF ≤ 4.0 gallons/cycle kWH/yr is replacing EF since it includes the cycles the machine can run for each kWh, but also includes up to 8 kWh/yr of standby power (when the machine isn't cycling)	Energy Star effective July 1, 2011: Standard Size: 307 kWh/yr 5.0 gallons per cycle Compact Size: 222 kWh/yr 3.5 gallons per cycle	Effective Aug. 11, 2009: Standard models: EF; maximum kWh/year Tier 1: EF ≥ 0.72 cycles/kWh; and 307 max kWh/year; 5.0 gallons per cycle Tier 2: EF ≥ 0.75 cycles/kWh; 295 max kWh/year; 4.25 gallons per cycle Compact models: Tier 1: EF ≥ 1.0 cycles/kWh; 222 max kWh/year; 3.5 gallons per cycle	Could adjust Tiers after July 1, 2011 when new Energy Star becomes effective

DOE: Department of Energy EPA: Environmental Protection Agency EPAct 1992: Energy Policy Act of 1992 EPAct 2005: Energy Policy Act of 2005 EF: energy factor ft<sup>3</sup>: cubic feet gal: gallons gpm: gallons per minute gpf: gallons per flush kWh: kilowatt hour MEF: modified energy factor MaP: maximum performance



<sup>&</sup>lt;sup>3</sup> Standard models: capacity is greater than or equal to eight place settings and six serving pieces; Compact models: capacity is less than eight place settings and six serving pieces

Fixtures and	EPAct 1992, EPAct 2005 (or backlog NAECA updates)		WaterSense	Consortium for Energy Efficiency		
Appliances	Current Standard	Proposed/ Future Standard	Current Specification	Proposed/Future Specification	Current Specification	Proposed /Future Specification
Commercial Toilets	1.6 gpf <sup>4</sup> /6.0 Lpf Except blow-out fixtures: 3.5-gpf/13 Lpf Note: Some states prohibit blow-out at 3.5 gpf	1.28 gpf/ 4.8 Lpf proposed by efficiency advocates for tank-type only	<u>Tank-type only</u> : WaterSense at 1.28 gpf (4.8L) with at least 350 gram waste removal + LA Spec.	<u>Flushometer valve/ bowl</u> <u>combinations</u> : WaterSense specification in development. No release date promised.	No specification	
Commercial Urinals	1.0 gpf	0.5 gpf/ 1.9 Lpf proposed by efficiency advocates	WaterSense = 0.5 gpf/1.9Lpf (flushing urinals only)		No specification	
Commercial Faucets	Private faucets: 2.2 gpm at 60 psi <sup>5</sup> Public Restroom faucets: 0.5 gpm at 60 psi <sup>5</sup> Metering (auto shut of) faucets: 0.25 gallons per cycle <sup>6</sup>			WaterSense draft specification now under consideration	No specification	

<sup>6</sup> Metering faucets not subject to flow rate maximum

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gpf: gallons per flush kWh: kilowatt hour MEF: modified energy factor MaP: maximum performance

<sup>&</sup>lt;sup>4</sup> EPAct 1992 standard for toilets applies to both commercial and residential models.

<sup>&</sup>lt;sup>5</sup> In addition to EPAct requirements, the American Society of Mechanical Engineers standard for public lavatory faucets is 0.5 gpm at 60 psi (ASME A112.18.1-2005). This maximum has been incorporated into the national Uniform Plumbing Code and the International Plumbing Code for all except private applications, private being defined as residential, hotel guest rooms, and health care patient rooms. All other applications subject to the 0.5 gpm/1.9 Lpm flow rate maximum.

Fixtures and	EPAct 1992, E (or backlog NAE	rt 1992, EPAct 2005 Sklog NAECA updates) WaterSense <sup>®</sup> or Energy Star <sup>®</sup> Consortium for Energy		WaterSense <sup>®</sup> or Energy Star <sup>®</sup>		Energy Efficiency
Appliances	Current Standard	Proposed/ Future Standard	Current Specification	Proposed/Future Specification	Current Specification	Proposed /Future Specification
Commercial Clothes Washers (Family-sized)	MEF ≥ 1.26 ft <sup>3</sup> /kWh; WF ≤ 9.5 gal/cycle/ft <sup>3</sup>	New standards under development: DOE scheduled final action: January 2010; Rulemaking process postponed by DOE in 2008; began again in Dec. 2009.	Energy Star (DOE) MEF ≥ 1.72 ft <sup>3</sup> /kWh/cycle; WF ≤ 8.0 gal/cycle/ft <sup>3</sup>		Adopted Jan 1, 2007 (Note: this spec covers only normal capacity family washers, NOT large capacity commercial washers) Tier 1: 1.80 MEF 7.5 gal/cycle/ft <sup>3</sup> Tier 2: 2.00 MEF 6.0 gal/cycle/ft <sup>3</sup> Tier 3: 2.20 MEF 4.5 gal/cycle/ft <sup>3</sup>	

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Alliance

Fixtures and	EPAct 1992, EPAct 2005 (or backlog NAECA updates)		WaterSense	Consortium for Energy Efficiency		
Appliances	Current Standard	Proposed/ Future Standard	Current Specification	Proposed/Future Specification	Current Specification	Proposed /Future Specification
Commercial Dishwashers	No standard		Energy Star (EPA) using NSF/ANSI standards for water use and ASTM standards for energy use Effective <b>10/11/2007</b> <i>Under counter</i> : Hi Temp: 1.0 gal/rack; <= 0.90 kW; Lo Temp 1.70 gal/rack <= 0.5 kW <i>Stationary Single Tank Door</i> : Hi Temp: 0.95 gal/rack; <= 1.0 kW Lo Temp: 1.18 gal/rack; <= 0.6 kW <i>Single Tank Conveyor</i> : Hi Temp: 0.70 gal/rack; <= 2.0 kW; Lo Temp: 0.79 gal/rack; <= 1.6 kW <i>Multiple Tank Conveyor</i> : Hi Temp: 0.54 gal/rack; <= 2.6 kW		No specification	
			Lo Temp: 0.54 gal/rack; <= 2.0 kW			

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Page 5

Fixtures and	EPAct 1992, E (or backlog NAE	PAct 2005 CA updates)	WaterSense <sup>®</sup> or Energy Star <sup>®</sup>		ct 2005 <i>updates)</i> WaterSense <sup>®</sup> or Energy Star <sup>®</sup> Consortium for Energy Effici		Energy Efficiency
Appliances	Current Standard	Proposed/ Future Standard	Current Specification	Proposed/Future Specification	Current Specification	Proposed /Future Specification	
Automatic Commercial Ice Makers <sup>7</sup>	Effective 1/1/2010: Energy and condenser water efficiency standards vary by equipment type on a sliding scale depending upon harvest rate and type of cooling (see link to additional information at end of this table)		Energy Star (EPA) Energy and water efficiency standards vary by equipment type on a sliding scale depending upon harvest rate and type of cooling (see link to additional information at end of this table). <u>Water</u> <u>cooled machines excluded</u> from Energy Star		Energy and water (potable and condenser) standards are tiered and vary by equipment type on a sliding scale depending upon harvest rate and type of cooling (see link to additional information at end of this table)		
Commercial Pre-rinse Spray Valves (for food service appli- cations)	Flow rate ≤ 1.6 gpm (no pressure specified; no performance requirement)		No specification	Proposed Energy Star specification abandoned after standard established in EPAct 2005; WaterSense specification in development in conjunction with Energy Star	No specification (program guidance recommends 1.6 gpm at 60 psi and a cleanability requirement)		

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gpf: gallons per flush kWh: kilowatt hour MEF: modified energy factor MaP: maximum performance



<sup>&</sup>lt;sup>7</sup> Optional standards for other types of automatic ice makers are also authorized under EPAct 2005.

Appliances         Current Standard         Proposed/ Future Standard         Current Specification         Proposed/Future Specification         Current Specification	Consortium for Energy Efficiency	
	Proposed /Future on Specification	
Commercial       No standard       Energy star (EPA)       Electric: 50% cooking energy         Steam Cookers <sup>®</sup> Electric: 50% cooking energy       efficiency; idle rate 400–800       Watts         Gas: 38% cooking energy       efficiency; idle rate 6,250–       Gas: 38%       Cooking energy         12,500 British thermal       units/hour       rate 6,250       rate 6,250         12,500 British thermal       units/hour       rate 6,250       rate 6,250         Water Use       factor       12,500 British thermal       units/hour         *No specified water use       factor       12,500 British thermal       units/hour         *Internal       Units/hour       Tate 6,250       Tate 6,250       Tate 6,250         12,500 British thermal       units/hour       rate 6,250       Tate 6,250         12,500 British thermal       units/hour       Tate 6,250       Tate 6,250         12,500 British thermal       units/hour       Water Use       Factor (for electric an models):         Tier 1A:       ≤ 15 gal/hi       Tier 1B:       ≤ 4 gal/hr	gy le h oth gas	

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<sup>&</sup>lt;sup>8</sup> Idle rate standards vary for 3-, 4-, 5-, and 6-pan commercial steam cooker models.

#### Information/materials on EPAct 2005/NAECA standards:

Schedule for development of appliance and commercial equipment efficiency standards: <u>http://www.eere.energy.gov/buildings/appliance\_standards/2006\_schedule\_setting.html</u>

Commercial Clothes Washers and Dishwashers (agenda/presentations at 4/27/06 DOE public meeting on rulemaking): <a href="http://www.eere.energy.gov/buildings/appliance\_standards/residential/home\_appl\_mtg.html">http://www.eere.energy.gov/buildings/appliance\_standards/residential/home\_appl\_mtg.html</a>

Automatic Commercial Ice Maker Standards: http://www.eere.energy.gov/buildings/appliance\_standards/pdfs/epact2005\_appliance\_stds.pdf (Page 18)

Pre-rinse Spray Valves http://www.eere.energy.gov/buildings/appliance\_standards/pdfs/epact2005\_appliance\_stds.pdf (Page 10)

#### Information/materials on WaterSense specifications:

Toilets http://www.epa.gov/watersense/products/toilets.html

Urinals http://www.epa.gov/watersense/products/urinals.html

Bathroom Lavatory Faucets http://www.epa.gov/watersense/products/bathroom\_sink\_faucets.html

#### Information/materials on Energy Star specifications:

Residential Clothes Washers http://www.energystar.gov/index.cfm?c=clotheswash.pr crit clothes washers

Commercial Clothes Washers http://www.energystar.gov/index.cfm?fuseaction=clotheswash.display\_commercial\_cw

Residential Dishwashers http://www.energystar.gov/index.cfm?c=dishwash.pr\_dishwashers\_

Commercial Dishwashers http://www.energystar.gov/index.cfm?c=new\_specs.comm\_dishwashers\_

Automatic Commercial Ice Makers http://www.energystar.gov/index.cfm?c=new\_specs.ice\_machines

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### National Efficiency Standards and Specifications for Residential and Commercial Water-Using Fixtures and Appliances

Adapted from information provided by the U.S. EPA Office of Water, the Alliance for Water Efficiency, and other sources)

Commercial Steam Cookers http://www.energystar.gov/index.cfm?c=steamcookers.pr\_steamcookers

#### Information/materials on CEE specifications:

Residential Clothes Washers http://www.cee1.org/resid/seha/rwsh/rwsh-main.php3

Residential Dishwashers http://www.cee1.org/resid/seha/dishw/dishw-main.php3

Commercial, Family-Sized Clothes Washers http://www.cee1.org/com/cwsh/cwsh-main.php3

Commercial Ice-Makers http://www.cee1.org/com/com-ref/ice-main.php3; Spec Table: <u>http://www.cee1.org/com/com-kit/ice-specs.pdf</u>

Pre-rinse Spray Valves http://www.cee1.org/com/com-kit/prv-guides.pdf

Commercial Steam Cookers http://www.cee1.org/com/com-kit/sc-hc-specs.pdf

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#### Pennsylvania American Water Co. Reasonableness of Residential Consumption Decline Calculation 893 Gallons Per Customer Per Year

Illustrating: Replacement of Clothes Washing, Toilet, Fixtures and Dishwashers Based Typical Customer Washer: 24.20 Old: Usage per load - gallons 41 Average Use Reduction Per Load (g/load) New: Usage per load - gallons 17 Average Loads per week 5 24 Usage decline Savings per week 121 Savings per year - Gallons 6,292 Toilet: Old: Usage per flush - gallons 3.5 Flush per person per day 5 New: Usage per flush - gallons 1.3 Household number 4 22 Usage decline Flush per day per household 20 7,300 Flush per year per household Savings per year - Gallons 16,206 Fixtures (Showers): Old: Gallons/min flow 2.75 Flow Minutes Per Person Day 8 New: Gallons/min flow 2.00 Household Number 4 Usage Decline 0.75 Total Flow Minutes Per Day 32 **Total Flow Savings Per Day** 24 Savings per year - Gallons 8,870 Fixtures (Faucets): Old: Gallons/min flow 2.75 Flow Minutes Per Person Day 8 New: Gallons/min flow 1.50 Household Number 4 Usage Decline 1.25 Total Flow Minutes Per Day 32 **Total Flow Savings Per Day** 41 Savings per year - Gallons 14,783 **Dish Washer:** Old: Gallons/cycle 14 Average Use Reduction Per Load (g/load) 9.75 New: Gallons/cycle 4 Average Loads per week 4 Usage decline 10 Savings per week 39 Savings per year - Gallons 2,028 **Total Impact of All Appliances:** Average Number of Residential Customers (2019) 610.361 Forecasted Decline in Usage Per Residential Customer (gpcy) 893 **Total Estimated Annual Residential Decrease in Usage** 545,052,373 Divided by: Total Estimate Water Usage Savings For Typical Customer (Gallons) 48,178 Equals: Implied Number of Toilet, Clothes Washer, Fixture and Dish Washer Changes Necessary For Residential Annual Usage Reduction (Total # of Custs) 11,313 Maximum number of Resdientail customers per annum contributing to decline 1.85% Implied Years For Complete Impact of Appliance Replacement @ 2007 Standards 54

\*1 Source: Handbook of Water Use and Conservation, Amy Vickers, May, 2001

\*2 Source: www.home-water-works.org, A project of the Alliance for Water Efficency, 2011.

# U.S. Census Bureau



#### DP04

#### SELECTED HOUSING CHARACTERISTICS

2013-2017 American Community Survey 5-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Technical Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns and estimates of housing units for states and counties.

A processing error was found in the Year Structure Built estimates since data year 2008. For more information, please see the errata note #110.

Subject		Allegheny County, Pennsylvania			
	Estimate	Margin of Error	Percent	Percent Margin of Error	Estimate
HOUSING OCCUPANCY					
Total housing units	5,653,599	+/-882	5,653,599	(X)	596,504
Occupied housing units	5,007,442	+/-10,133	88.6%	+/-0.2	536,439
Vacant housing units	646,157	+/-9,505	11.4%	+/-0.2	60,065
Homeowner vacancy rate	1.7	+/-0.1	(X)	(X)	1.5
Rental vacancy rate	5.9	+/-0.2	(X)	(X)	4.8
UNITS IN STRUCTURE					
Total housing units	5,653,599	+/-882	5,653,599	(X)	596,504
1-unit, detached	3,227,474	+/-8,223	57.1%	+/-0.1	371,526
1-unit, attached	1,053,333	+/-5,202	18.6%	+/-0.1	62,950
2 units	253,055	+/-3,739	4.5%	+/-0.1	29,893
3 or 4 units	230,566	+/-3,314	4.1%	+/-0.1	24,476
5 to 9 units	183,983	+/-2,676	3.3%	+/-0.1	26,284
10 to 19 units	142,532	+/-2,301	2.5%	+/-0.1	23,440
20 or more units	335,212	+/-2,972	5.9%	+/-0.1	53,574
Mobile home	225,893	+/-2,605	4.0%	+/-0.1	4,357
Boat, RV, van, etc.	1,551	+/-225	0.0%	+/-0.1	4
YEAR STRUCTURE BUILT					
Total housing units	5.653.599	+/-882	5.653.599	(X)	596.504
Built 2014 or later	26,178	+/-1,087	0.5%	+/-0.1	2,322
Built 2010 to 2013	79,075	+/-1,759	1.4%	+/-0.1	6,494
Built 2000 to 2009	480,189	+/-3,222	8.5%	+/-0.1	29,345
Built 1990 to 1999	541,278	+/-5,021	9.6%	+/-0.1	33,309
Built 1980 to 1989	539,607	+/-4,717	9.5%	+/-0.1	39,861
Built 1970 to 1979	701,178	+/-4,792	12.4%	+/-0.1	65,172
Built 1960 to 1969	578,607	+/-4,394	10.2%	+/-0.1	72,045

Exhibit GPR-4 Page 1 of 8

Subject	Pennsylvania				Exhibit GPR-4
	Estimate	Margin of Error	Percent	Percent Margin of	Estimate
Built 1950 to 1959	774,515	+/-4,668	13.7%	+/-0.1	112,077
Built 1940 to 1949	438,325	+/-3,775	7.8%	+/-0.1	58,476
Built 1939 or earlier	1,494,647	+/-6,849	26.4%	+/-0.1	177,403
ROOMS					
Total housing units	5.653.599	+/-882	5.653.599	(X)	596.504
1 room	107.992	+/-2.504	1.9%	+/-0.1	11.641
2 rooms	108.322	+/-2.101	1.9%	+/-0.1	13.219
3 rooms	404.046	+/-3.547	7.1%	+/-0.1	52.542
4 rooms	690.691	+/-4.842	12.2%	+/-0.1	79.765
5 rooms	913.554	+/-6.025	16.2%	+/-0.1	99.426
6 rooms	1.214.936	+/-6.847	21.5%	+/-0.1	128.457
7 rooms	827,483	+/-4.924	14.6%	+/-0.1	83.362
8 rooms	612.359	+/-5.354	10.8%	+/-0.1	59.072
9 rooms or more	774.216	+/-6.434	13.7%	+/-0.1	69.020
Median rooms	6.0	+/-0.1	(X)	(X)	5.8
REDROOMS					
Total housing units	E 050 500	./ 000			F00 F04
No bodroom	5,653,599	+/-882	5,653,599	(X)	596,504
1 bodroom	118,400	+/-2,424	2.1%	+/-0.1	13,267
2 bedrooms	577,644	+/-4,034	10.2%	+/-0.1	80,368
2 bedrooms	1,291,630	+/-6,629	22.8%	+/-0.1	163,054
3 bedrooms	2,448,747	+/-7,692	43.3%	+/-0.1	227,883
5 or more bedrooms	975,592	+/-5,559	4.3%	+/-0.1	90,697
	241,000	17 2,100	4.070	17 0.1	21,200
HOUSING TENURE					
Occupied housing units	5,007,442	+/-10,133	5,007,442	(X)	536,439
Owner-occupied	3,456,360	+/-15,409	69.0%	+/-0.2	348,012
Renter-occupied	1,551,082	+/-8,294	31.0%	+/-0.2	188,427
Average household size of owner-occupied unit	2.58	+/-0.01	(X)	(X)	2.40
Average household size of renter-occupied unit	2.22	+/-0.01	(X)	(X)	1.91
	E 007 442	./ 10 122	E 007 440	(Y)	E26 420
Moved in 2015 or later	5,007,442	+/-10,133	5,007,442	(^)	536,439
Moved in 2010 to 2014	423,915	+/-4,410	6.5% 26.4%	+/-0.1	50,154
Moved in 2010 to 2019	1,300,390	+/-3,198	20.1%	+/-0.1	120,307
Moved in 1990 to 1999	766.026	+/-7,400	20.3%	+/-0.1	72 454
Moved in 1980 to 1989	100,030	+/-3,471	10.3%	+/-0.1	13,434
Moved in 1979 and earlier	635,825	+/-3,720	12.7%	+/-0.1	75,171
Occupied nousing units	5,007,442	+/-10,133	5,007,442	(X)	536,439
	553,867	+/-4,400	11.1%	+/-0.1	70,367
	1,705,602	+/-6,525	34.1%	+/-0.1	208,743
2 vehicles available	1,825,041	+/-8,541	36.4%	+/-0.1	189,501
3 or more vehicles available	922,932	+/-5,872	18.4%	+/-0.1	67,828
HOUSE HEATING FUEL					
Occupied housing units	5,007,442	+/-10,133	5,007,442	(X)	536,439
Utility gas	2,572,824	+/-8,639	51.4%	+/-0.1	445,216
Bottled, tank, or LP gas	209,004	+/-3,197	4.2%	+/-0.1	5,582
Electricity	1,120,667	+/-5,659	22.4%	+/-0.1	71,522
Fuel oil, kerosene, etc.	843,106	+/-4,864	16.8%	+/-0.1	7,988
Coal or coke	63,149	+/-1,239	1.3%	+/-0.1	363
Wood	141 440	+/-1 688	2.8%	±/-0 1	1 747

Subject		Exhibit GPR-4 CRage 3 of 8 Pennsylvania			
	Estimate	Margin of Error	Percent	Percent Margin of Error	Estimate
Solar energy	1,769	+/-250	0.0%	+/-0.1	47
Other fuel	36.382	+/-1.083	0.7%	+/-0.1	2.063
No fuel used	19,101	+/-738	0.4%	+/-0.1	1,911
SELECTED CHARACTERISTICS					
Occupied housing units	5,007,442	+/-10,133	5,007,442	(X)	536,439
Lacking complete plumbing facilities	19,534	+/-859	0.4%	+/-0.1	1,679
Lacking complete kitchen facilities	47,786	+/-1,421	1.0%	+/-0.1	6,086
No telephone service available	96,240	+/-1,718	1.9%	+/-0.1	8,702
	E 007 440	/ 10 100	E 007 440	()()	500.400
	5,007,442	+/-10,133	5,007,442	(X)	536,439
1.00 01 less	4,938,083	+/-10,768	98.6%	+/-0.1	531,948
1.01 IO 1.50	48,576	+/-1,655	1.0%	+/-0.1	2,995
1.51 01 11016	20,783	+/-1,074	0.4%	+/-0.1	1,496
VALUE					
Owner-occupied units	3,456,360	+/-15,409	3,456,360	(X)	348,012
Less than \$50,000	291,419	+/-3,105	8.4%	+/-0.1	33,271
\$50,000 to \$99,999	562,071	+/-4,013	16.3%	+/-0.1	81,287
\$100,000 to \$149,999	583,407	+/-4,674	16.9%	+/-0.1	72,266
\$150,000 to \$199,999	604,254	+/-5,103	17.5%	+/-0.1	59,140
\$200,000 to \$299,999	707,840	+/-5,276	20.5%	+/-0.1	53,042
\$300,000 to \$499,999	501,474	+/-3,946	14.5%	+/-0.1	34,948
\$500,000 to \$999,999	172,580	+/-2,061	5.0%	+/-0.1	11,981
\$1,000,000 or more	33,315	+/-938	1.0%	+/-0.1	2,077
Median (dollars)	170,500	+/-301	(X)	(X)	140,600
	0.450.000		0.450.000	()()	0.40.040
Housing units with a mortgage	3,456,360	+/-15,409	3,456,360	(X)	348,012
Housing units with a mortgage	2,097,646	+/-10,943	60.7%	+/-0.1	210,707
Tousing units without a mongage	1,358,714	+/-7,293	39.3%	+/-0.1	137,305
SELECTED MONTHLY OWNER COSTS (SMOC)					
Housing units with a mortgage	2,097,646	+/-10.943	2,097,646	(X)	210,707
Less than \$500	33,257	+/-947	1.6%	+/-0.1	4,225
\$500 to \$999	438,883	+/-4.145	20.9%	+/-0.2	53,821
\$1,000 to \$1,499	642,966	+/-4.617	30.7%	+/-0.2	69.595
\$1,500 to \$1,999	447,737	+/-4.748	21.3%	+/-0.2	40,609
\$2,000 to \$2,499	249.960	+/-3.232	11.9%	+/-0.1	19,965
\$2,500 to \$2,999	131.856	+/-2.531	6.3%	+/-0.1	9,959
\$3,000 or more	152.987	+/-2.287	7.3%	+/-0.1	12.533
Median (dollars)	1,446	+/-4	(X)	(X)	1,326
Housing units without a mortgage	1,358,714	+/-7,293	1,358,714	(X)	137,305
	99,807	+/-1,602	7.3%	+/-0.1	10,347
\$250 to \$399	299,549	+/-3,263	22.0%	+/-0.2	27,971
\$400 to \$599	464,688	+/-4,140	34.2%	+/-0.2	49,493
\$600 to \$799	264,525	+/-2,807	19.5%	+/-0.2	26,996
\$800 to \$999	120,337	+/-2,065	8.9%	+/-0.1	11,424
\$1,000 or more	109,808	+/-1,991	8.1%	+/-0.1	11,074
Median (dollars)	515	+/-2	(X)	(X)	521
SELECTED MONTHLY OWNER COSTS AS A					
PERCENTAGE OF HOUSEHOLD INCOME (SMOCAPI)					
Housing units with a mortgage (excluding units where SMOCAPI cannot be computed)	2,088,316	+/-11,013	2,088,316	(X)	209,680
Less than 20.0 percent	968.460	+/-7.474	46.4%	+/-0.2	114.641
20.0 to 24.9 percent	336,560	+/-3,952	16.1%	+/-0.2	30,810

Subject	Pennsylvania				Exhibit GPR-4 Allegheny CRASE 4 of 8 Pennsylvania
	Estimate	Margin of Error	Percent	Percent Margin of Error	Estimate
25.0 to 29.9 percent	221,734	+/-2,854	10.6%	+/-0.1	19,100
30.0 to 34.9 percent	143,426	+/-2,381	6.9%	+/-0.1	12,181
35.0 percent or more	418,136	+/-4,223	20.0%	+/-0.2	32,948
Not computed	9,330	+/-580	(X)	(X)	1,027
Housing unit without a mortgage (excluding units where SMOCAPI cannot be computed)	1,342,466	+/-7,236	1,342,466	(X)	135,601
Less than 10.0 percent	513,469	+/-4,571	38.2%	+/-0.2	54,841
10.0 to 14.9 percent	272,842	+/-2,749	20.3%	+/-0.2	27,482
15.0 to 19.9 percent	167,246	+/-2,398	12.5%	+/-0.2	16,119
20.0 to 24.9 percent	107,189	+/-1,790	8.0%	+/-0.1	10,906
25.0 to 29.9 percent	71,420	+/-1,343	5.3%	+/-0.1	6,921
30.0 to 34.9 percent	48,505	+/-1,391	3.6%	+/-0.1	4,541
35.0 percent or more	161,795	+/-2,530	12.1%	+/-0.2	14,791
Not computed	16,248	+/-871	(X)	(X)	1,704
GROSS RENT					
Occupied units paying rent	1,458,373	+/-7,865	1,458,373	(X)	180,335
Less than \$500	198,495	+/-3,090	13.6%	+/-0.2	26,618
\$500 to \$999	699,388	+/-5,634	48.0%	+/-0.3	95,632
\$1,000 to \$1,499	394,015	+/-4,111	27.0%	+/-0.2	41,231
\$1,500 to \$1,999	108,460	+/-2,452	7.4%	+/-0.2	10,978
\$2,000 to \$2,499	34,129	+/-1,456	2.3%	+/-0.1	3,445
\$2,500 to \$2,999	11,863	+/-781	0.8%	+/-0.1	1,154
\$3,000 or more	12,023	+/-733	0.8%	+/-0.1	1,277
Median (dollars)	885	+/-3	(X)	(X)	835
No rent paid	92,709	+/-1,887	(X)	(X)	8,092
GROSS RENT AS A PERCENTAGE OF HOUSEHOLD					
Occupied units paying rent (excluding units where GRAPI cannot be computed)	1,417,333	+/-7,609	1,417,333	(X)	176,497
Less than 15.0 percent	199,050	+/-3,270	14.0%	+/-0.2	27,811
15.0 to 19.9 percent	185,273	+/-3,147	13.1%	+/-0.2	24,494
20.0 to 24.9 percent	175,695	+/-2,989	12.4%	+/-0.2	23,138
25.0 to 29.9 percent	162,018	+/-2,336	11.4%	+/-0.2	20,251
30.0 to 34.9 percent	123,995	+/-2,770	8.7%	+/-0.2	13,800
35.0 percent or more	571,302	+/-5,233	40.3%	+/-0.3	67,003
Not computed	133,749	+/-2,391	(X)	(X)	11,930

Allegheny County, Pennsylvania Subject Percent Margin of Margin of Error Percent Error HOUSING OCCUPANCY Total housing units +/-586 596,504 (X) Occupied housing units +/-2,259 89.9% +/-0.3 Vacant housing units +/-2,024 10.1% +/-0.3 Homeowner vacancy rate +/-0.2 (X) (X) Rental vacancy rate +/-0.4 (X) (X) UNITS IN STRUCTURE Total housing units 596,504 +/-586 (X) 1-unit, detached +/-1,942 62.3% +/-0.3 1-unit, attached +/-0.2 +/-1,339 10.6% 2 units +/-1,023 5.0% +/-0.2 3 or 4 units +/-1,159 4.1% +/-0.2 5 to 9 units 4.4% +/-1,072 +/-0.2 10 to 19 units +/-956 3.9% +/-0.2 20 or more units +/-1,111 9.0% +/-0.2 Mobile home +/-459 0.7% +/-0.1 Boat, RV, van, etc. +/-6 0.0% +/-0.1 YEAR STRUCTURE BUILT Total housing units +/-586 596,504 (X) Built 2014 or later +/-262 0.4% +/-0.1 Built 2010 to 2013 +/-543 1.1% +/-0.1 Built 2000 to 2009 +/-902 4.9% +/-0.2 Built 1990 to 1999 +/-0.2 +/-1,161 5.6% Built 1980 to 1989 +/-1,026 6.7% +/-0.2 Built 1970 to 1979 +/-0.3 +/-1,587 10.9% Built 1960 to 1969 +/-1,445 12.1% +/-0.2 Built 1950 to 1959 +/-1,689 18.8% +/-0.3 Built 1940 to 1949 +/-1,425 9.8% +/-0.2 Built 1939 or earlier +/-0.3 +/-1,959 29.7% ROOMS Total housing units +/-586 596,504 (X) 1 room +/-769 2.0% +/-0.1 2 rooms +/-760 2.2% +/-0.1 3 rooms +/-1,445 8.8% +/-0.2 4 rooms +/-1,581 13.4% +/-0.3 5 rooms +/-0.3 +/-1,802 16.7% 6 rooms +/-1,953 21.5% +/-0.3 7 rooms +/-1,637 14.0% +/-0.3 8 rooms +/-0.2 +/-1,261 9.9% 9 rooms or more +/-1,415 11.6% +/-0.2 Median rooms +/-0.1 (X) (X) BEDROOMS Total housing units +/-586 596,504 (X) No bedroom +/-790 2.2% +/-0.1 1 bedroom +/-1,323 13.5% +/-0.2 2 bedrooms +/-1,981 27.3% +/-0.3 3 bedrooms +/-2,048 38.2% +/-0.3 4 bedrooms +/-1,663 15.2% +/-0.3 5 or more bedrooms +/-764 3.6% +/-0.1 HOUSING TENURE Occupied housing units +/-2,259 536,439 (X) Owner-occupied +/-2,388 64.9% +/-0.4 Renter-occupied +/-2,285 35.1% +/-0.4

#### Exhibit GPR-4 Page 5 of 8

Subject	Allegheny County, Pennsylvania				
	Margin of Error	Percent	Percent Margin of Error		
Average household size of owner occupied unit			()()		
Average household size of renter-occupied unit	+/-0.01	(X)	(X)		
	17-0.02	(//)			
YEAR HOUSEHOLDER MOVED INTO UNIT					
Occupied housing units	+/-2,259	536,439	(X)		
Moved in 2015 or later	+/-1,350	9.3%	+/-0.2		
Moved in 2010 to 2014	+/-2,415	28.0%	+/-0.4		
Moved in 2000 to 2009	+/-2,146	26.0%	+/-0.4		
Moved in 1990 to 1999	+/-1,384	13.7%	+/-0.3		
Moved in 1980 to 1989	+/-1,117	8.9%	+/-0.2		
Moved in 1979 and earlier	+/-1,158	14.0%	+/-0.2		
VEHICLES AVAILABLE					
Occupied housing units	+/-2 259	536 439	(X)		
No vehicles available	+/-1 570	13.1%	+/-0.3		
1 vehicle available	+/-2.250	38.9%	+/-0.4		
2 vehicles available	+/-2.107	35.3%	+/-0.4		
3 or more vehicles available	+/-1,589	12.6%	+/-0.3		
HOUSE HEATING FUEL					
Occupied housing units	+/-2,259	536,439	(X)		
Utility gas	+/-2,388	83.0%	+/-0.3		
Bottled, tank, or LP gas	+/-455	1.0%	+/-0.1		
Electricity	+/-1,795	13.3%	+/-0.3		
	+/-553	1.5%	+/-0.1		
Wood	+/-134	0.1%	+/-0.1		
Solar epergy	+/-285	0.3%	+/-0.1		
Other fuel	+/-40	0.0%	+/-0.1		
No fuel used	+/-207	0.4%	+/-0.1		
SELECTED CHARACTERISTICS					
Occupied housing units	+/-2,259	536,439	(X)		
Lacking complete plumbing facilities	+/-292	0.3%	+/-0.1		
Lacking complete kitchen facilities	+/-434	1.1%	+/-0.1		
No telephone service available	+/-638	1.6%	+/-0.1		
OCCUPANTS PER ROOM					
Occupied housing units	+/-2,259	536,439	(X)		
1.00 or less	+/-2.337	99.2%	+/-0.1		
1.01 to 1.50	+/-413	0.6%	+/-0.1		
1.51 or more	+/-227	0.3%	+/-0.1		
VALUE					
VALUE					
Owner-occupied units	+/-2,388	348,012	(X)		
\$50,000 to \$00,000	+/-937	9.6%	+/-0.3		
\$100 000 to \$149 999	+/-1,268	23.4%	+/-0.3		
\$100,000 to \$149,999	+/-1,577	20.8%	+/-0.4		
\$200 000 to \$299 999	+/-1,309	17.0%	+/-0.3		
\$300,000 to \$499,999	+/-1,315	15.2%	+/-0.4		
\$500,000 to \$999,999	+/-1,0/4	10.0%	+/-0.3		
\$1.000.000 or more	+/-044	0.6%	+/-0.2		
Median (dollars)	+/-208	(X)	(X)		
MORTGAGE STATUS					
Owner-occupied units	+/-2,388	348,012	(X)		
Housing units with a mortgage	+/-2,409	60.5%	+/-0.5		

Exhibit GPR-4 Page 6 of 8

Subject	Allegheny County, Pennsylvania				
	Margin of Error	Percent	Percent Margin of		
Housing units without a mortgage	+/-1,688	39.5%	+/-0.5		
SELECTED MONTHLY OWNER COSTS (SMOC)					
Housing units with a mortgage	1/2/00	210 707	(Y)		
Less than \$500	+/-2,409	210,707	(^)		
\$500 to \$999	+/-1 330	2.0 %	+/-0.2		
\$1.000 to \$1.499	+/-1,559	33.0%	+/-0.0		
\$1.500 to \$1.999	+/-1 402	19.3%	+/-0.6		
\$2,000 to \$2,499	+/-835	9.5%	+/-0.4		
\$2,500 to \$2,999	+/-553	4.7%	+/-0.3		
\$3,000 or more	+/-808	5.9%	+/-0.4		
Median (dollars)	+/-10	(X)	(X)		
Housing units without a mortgage	1/1699	127 205	(X)		
Less than \$250	+/-1,000	7.5%	(/)		
\$250 to \$399	+/-302	20.4%	+/-0.3		
\$400 to \$599	+/-1 155	20.4 %	+/-0.0		
\$600 to \$799	+/-1,133	10.7%	+/-0.7		
\$800 to \$999	+/-534	8.3%	+/-0.0		
\$1,000 or more	+/-530	8.1%	+/-0.4		
Median (dollars)	+/-330	(X)	+/-0.4 (X)		
SELECTED MONTHLY OWNER COSTS AS A PERCENTAGE OF HOUSEHOLD INCOME (SMOCAPI) Housing units with a mortgage (excluding units where	+/-2,417	209,680	(X)		
SMOCAPI cannot be computed)	./ 1 702	E 4 70/			
20.0 to 24.9 percent	+/-1,792	04.7%	+/-0.0		
25.0 to 29.9 percent	+/-944	14.7%	+/-0.4		
30.0 to 34.9 percent	+/-034	5.00/	+/-0.4		
35.0 percent or more	+/-1 094	15.7%	+/-0.5		
	17-1,034	10.770	17-0.5		
Not computed	+/-225	(X)	(X)		
Housing unit without a mortgage (excluding units where SMOCAPI cannot be computed)	+/-1,622	135,601	(X)		
	+/-1,177	40.4%	+/-0.8		
10.0 to 14.9 percent	+/-902	20.3%	+/-0.6		
20.0 to 24.0 percent	+/-710	11.9%	+/-0.5		
25.0 to 29.9 percent	+/-603	8.0%	+/-0.4		
30.0 to 34.9 percent	+/-429	5.1%	+/-0.3		
35.0 percent or more	+/-394	3.3%	+/-0.3		
	+/-620	10.9%	+/-0.5		
Not computed	+/-254	(X)	(X)		
BROSS RENT					
Occupied units paying rent	+/-2,269	180,335	(X)		
Less than \$500	+/-1,013	14.8%	+/-0.6		
\$500 to \$999	+/-1,777	53.0%	+/-0.8		
\$1,000 to \$1,499	+/-1,415	22.9%	+/-0.7		
\$1,500 to \$1,999	+/-697	6.1%	+/-0.4		
\$2,000 to \$2,499	+/-390	1.9%	+/-0.2		
\$2,500 to \$2,999	+/-253	0.6%	+/-0.1		
\$3,000 or more	+/-234	0.7%	+/-0.1		
Median (dollars)	+/-6	(X)	(X)		
No rent paid	1/ 552	(X)	(X)		

Exhibit GPR-4 Page 7 of 8

Subject	Allegheny County, Pennsylvania				
	Margin of Error	Percent	Percent Margin of Error		
Occupied units paying rent (excluding units where GRAPI cannot be computed)	+/-2,274	176,497	(X)		
Less than 15.0 percent	+/-1,009	15.8%	+/-0.6		
15.0 to 19.9 percent	+/-1,050	13.9%	+/-0.5		
20.0 to 24.9 percent	+/-946	13.1%	+/-0.5		
25.0 to 29.9 percent	+/-1,025	11.5%	+/-0.6		
30.0 to 34.9 percent	+/-866	7.8%	+/-0.5		
35.0 percent or more	+/-1,513	38.0%	+/-0.7		
Not computed	+/-712	(X)	(X)		

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

Households not paying cash rent are excluded from the calculation of median gross rent.

Telephone service data are not available for certain geographic areas due to problems with data collection of this question that occurred in 2015 and 2016. Both ACS 1-year and ACS 5-year files were affected. It may take several years in the ACS 5-year files until the estimates are available for the geographic areas affected.

While the 2013-2017 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural populations, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

#### Explanation of Symbols:

1. An '\*\*' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.

2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.

3. An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.

4. An '+' following a median estimate means the median falls in the upper interval of an open-ended distribution.

5. An '\*\*\*' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.

An '\*\*\*\*\*' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
 An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.

8. An '(X)' means that the estimate is not applicable or not available.


### Pennsylvania American Water Company Actual Revenue/Water Sales Compared to Authorized (2010-2019)

											Total
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2010-2019
PAWC Total Billed Annual Revenue*	481,723,983	476,218,514	530,779,399	519,267,968	580,339,362	576,844,163	567,841,132	564,367,670	657,562,816	654,064,974	\$5,609,009,980
Total Authorized Revenue**	486,521,372	494,111,014	540,839,399	540,839,399	580,184,165	580,184,165	580,184,165	580,184,165	655,290,420	655,290,420	\$5,693,628,684
Revenue Recovery to Authorized (Under)/Over	(4,797,389)	(17,892,500)	(10,060,000)	(21,571,431)	155,197	(3,340,002)	(12,343,033)	(15,816,495)	2,272,396	(1,225,446)	(\$84,618,704)
	-0.99%	-3.62%	-1.86%	-3.99%	0.03%	-0.58%	-2.13%	-2.73%	0.35%	-0.19%	
PAWC Total Annual Water Sales (000 Gallons)	50,087,184	48,691,795	48,785,279	46,947,471	47,794,020	47,548,740	45,976,272	45,678,847	45,598,481	44,551,099	471,659,187
Total Authorized Water Sales*	50,406,525	50,299,128	49,637,898	49,637,898	47,431,611	47,431,611	47,431,611	47,431,611	45,169,449	45,169,449	480,046,791
Water Sales to Authorized (Under)/Over	(319,341)	(1,607,333)	(852,619)	(2,690,427)	362,409	117,129	(1,455,339)	(1,752,764)	429,032	(618,350)	(8,387,604)
	-0.63%	-3.20%	-1.72%	-5.42%	0.76%	0.25%	-3.07%	-3.70%	0.95%	-1.37%	

\* Exclusive of DSIC and STAS and Other Water Revenue

\*\*Per Commission Orders Exclusive of Other Water Revenue

Pennsylvania American Water Company Exhibit GPR-6 Page 1 of 1

# Statement No. 10 Wilde

### **PAWC STATEMENT NO. 10**

### **DIRECT TESTIMONY**

### OF

### JOHN R. WILDE

### WITH REGARD TO

### PENNSYLVANIA-AMERICAN WATER COMPANY'S

### INCOME TAXES, EXCESS ACCUMULATED DEFERRED INCOME TAX, AND EFFECT OF POWERTAX IMPLEMENTATION ON INCOME TAX CALCULATION AND TRANSITIONAL REGULATORY LIABILITY

### DOCKET NOS. R-2020-3019369 (WATER) R-2020-3019371 (WASTEWATER)

DATE: April 29, 2020

### PENNSYLVANIA-AMERICAN WATER COMPANY

### **DIRECT TESTIMONY OF JOHN R. WILDE**

### 1 Q. What is your name and business address?

A. My name is John R. Wilde and my business address is 131 Woodcrest Road, Cherry Hill,
New Jersey 08003.

### 4 Q. By whom are you employed and in what capacity?

A. I am employed by American Water Works Service Company, Inc. ("AWWSC"). My title
is Vice President – Tax Strategy and Compliance, and I oversee the tax function for
American Water Works Company, Inc. ("American Water" or "AWW") and its
subsidiaries.

### 9 Q. Please summarize your educational background and professional experience.

10 A. I graduated from Saint Norbert College, De Pere, Wisconsin in 1984 with a Bachelor of 11 Business Administration Degree in Accounting. I have a graduate certificate in state and 12 local taxation, as well as a Master of Science Degree in Taxation from the University of Wisconsin-Milwaukee. I have over 30 years of experience as a tax and accounting 13 14 professional serving utilities with regulated operations in multiple states. For the fifteen 15 years before my employment with AWWSC, I was the head of the tax function for WEC Energy Group, Inc., formerly Integrys Energy Group, Inc., which included six utilities with 16 17 operations in four states.

### 18 Q. What are your duties as Vice President – Tax Strategy and Compliance?

A. My duties include management and oversight of the corporate tax function for AWW and
 its consolidated subsidiaries including Pennsylvania-American Water Company ("PAWC"
 or the "Company").

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### Q. Have you previously testified before any regulatory agencies?

A. Yes. I have previously testified before the Federal Energy Regulatory Commission (the
"FERC"), the California Public Utilities Commission, the Illinois Commerce Commission,
the Indiana Utility Regulatory Commission, the Kentucky Public Service Commission, the
Michigan Public Service Commission, the Missouri Public Service Commission, the
Minnesota Public Utilities Commission, the Pennsylvania Public Utility Commission (the
"PUC" or the "Commission"), the Virginia State Corporation Commission, the Public
Service Commission of West Virginia, and the Public Service Commission of Wisconsin.

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### Q. What is the purpose of your testimony?

13 A. First, my testimony addresses the Company's computation of income tax expense in 14 compliance with Act 40 of 2016 ("Act 40"), which added Section 1301.1 to the Pennsylvania Public Utility Code. Second, I address how the Company reflected in its rate 15 16 case certain expenditures that are capitalized for book purposes but deducted as a 17 maintenance expense for federal and state income tax purposes, which I will refer to as Tax 18 Repairs Deductions. Third, I address the Company's proposed amortization of excess 19 accumulated deferred income tax resulting from the rate change occasioned by the Tax 20 Cuts and Jobs Act of 2017 (the "TCJA"). Fourth I address the reduction to rate base for 21 accumulated deferred income taxes ("ADIT"). Fifth, I address the effect of our use of 22 PowerTax on flow-through accounting and income tax calculations in this case.

2

#### **Act 40**

What changes were made by Act 40? **Q**.

3 A. Act 40 became law on June 12, 2016 and became effective on August 11, 2016. Section 4 1301.1(a) specifies how the Commission is to compute income tax expense for ratemaking 5 Section 1301.1(b) states how any incremental internally-generated funds purposes. 6 produced by the application of Section 1301.1(a) should be used by an affected utility 7 pending the December 31, 2025 "sunset" of Section 1301.1(b).

8

9

**Q**.

### What does Section 1301.1 direct the Commission to do in calculating income tax expenses for ratemaking purposes?

- 10 A. In summary, Section 1301.1(a) provides that current and deferred income taxes of a 11 Pennsylvania utility are to be calculated for ratemaking purposes based only on the income. 12 deductions and credits of the utility itself. Therefore, the Commission may not calculate a 13 utility's current and deferred income taxes for ratemaking purposes by taking into account 14 income, deductions (including taxable losses) or credits of the utility's parent or affiliated 15 companies with which it joins in filing a consolidated Federal income tax return. This is 16 generally referred to as a "stand-alone" computation of income tax expense because it reflects income tax expense of the utility "standing alone" and without regard to the taxable 17 18 income, deductions or credits of other companies in the same consolidated group.
- 19

#### Q. How does Section 1301.1(a) change prior Commission practice?

20 Section 1301.1(a) terminates the practice of making a "consolidated tax adjustment" A. 21 ("CTA") when calculating a utility's Federal income taxes for ratemaking purposes in

1		Pennsylvania. As directed by prior decisions of Pennsylvania appellate courts, <sup>1</sup> the
2		Commission, until Act 40 became effective, was required to calculate CTAs employing the
3		"Modified Effective Tax Rate Method," which the Commission described as follows:
4		[U]nder the Modified Effective Tax Rate Method, which was approved
5		under Barasch II, supra, the consolidated tax savings generated by the non-
6 7		regulated companies of a corporate group are allocated to the regulated and
/ 8		non-regulated members of the group having positive taxable incomes. <sup>2</sup>
9		As calculated under the Modified Effective Tax Rate Method, a CTA captured a portion of
10		the tax benefits of deductions – including taxable losses – of unregulated affiliates of public
11		utilities and gave those benefits to the utilities' customers (as lower income tax expense
12		than the utilities would have on a "stand-alone" basis), even though the utilities' customers
13		did not pay the expenses that gave rise to those tax benefits. With the enactment of Act
14		40, Pennsylvania joined the vast majority of other jurisdictions, including the FERC, that
15		do not make CTAs for ratemaking purposes.
16	Q.	What does Section 1301.1(b) provide?
17	A.	Section 1301.1(b) states as follows:
18		If a differential accrues to a public utility resulting from applying
19		the ratemaking methods employed by the commission prior to the
20		effective date of subsection (a) for ratemaking purposes, the
21		differential shall be used as follows:
22		(1) fifty percent to support reliability or infrastructure
23		related to the rate-base eligible capital investment as determined by
24		the commission; and
25		(2) fifty percent for general corporate purposes.

 <sup>&</sup>lt;sup>1</sup> Barasch v. Pa. P.U.C., 493 A.2d 653 (Pa. 1985) ("Barasch I"); Barasch v. Pa. P.U.C., 548 A.2d 1310 (Pa. Cmwlth 1988) ("Barasch II").
 <sup>2</sup> Pa. P.U.C. v. Philadelphia Suburban Water Co., Docket No. R-00016750 et al, 2002 Pa PUC LEXIS 55, \*90-91

<sup>&</sup>lt;sup>2</sup> *Pa. P.U.C. v. Philadelphia Suburban Water Co.*, Docket No. R-00016750 et al, 2002 Pa PUC LEXIS 55, \*90-91 (July 18, 2002).

As I previously noted, Section 1301.1(c)(1) provides that Section 1301.1(b) will no longer
 apply after December 31, 2025.

3 Q. Have you calculated the "differential" in income taxes referenced in Section
4 1301.1(b)?

- A. Yes, the confidential response to Filing Requirement (FR) IV.14 sets forth the computation
  of a CTA using the Modified Effective Tax Rate Method and data for tax years 2014
  through 2018, which are the most recent five years for which tax returns have been filed.
  The second page of the calculation shows the "differential" in an amount of \$3.1 million
  corresponding to the CTA calculated in the manner I described above. PAWC witness Rod
  P. Nevirauskas (PAWC Statement No. 1) addresses the Company's investment of 50% of
  the differential in a manner that complies with Section 1301.1(b)(1).
- 12

#### **Tax Repairs Deductions**

### 13 Q. How is the Company reflecting Tax Repairs Deductions in this case?

14 The Company has normalized the income tax effects of its Tax Repairs Deductions in this A. 15 case, just as it had done in prior water and wastewater base rate cases since 2008. As in its 16 last case, the Company has not reduced its ADIT balance associated with normalizing Tax Repairs Deductions for a "FIN-48 reserve." FIN-48 refers to the Financial Accounting 17 Standards Board's ("FASB") Interpretation 48, Accounting for Uncertainty in Income 18 19 *Taxes*, which requires companies to assess the likelihood that the Internal Revenue Service 20 ("IRS") would approve their tax deductions. To the extent any Tax Repairs Deductions 21 were considered uncertain, FIN-48 would require the Company to create a reserve against 22 the possibility that the IRS would disallow those deductions in a subsequent audit. The

Company has not reduced its ADIT balance for a FIN-48 reserve and, therefore, the entire
 amount of ADIT related to Tax Repairs Deductions has been reflected as reduction to rate
 base in PAWC Exhibit No. 3-A.

4

### **Excess Accumulated Deferred Income Taxes**

### 5 Q. Please discuss the concept of ADIT.

6 A. Generally speaking, ADIT reflects the temporary timing differences between when income 7 taxes are recognized on a company's books and collected from customers in rates and when the company pays those taxes in cash to the IRS. ADIT, as a balance measured as of any 8 9 date, is related to the book to tax basis difference that has accumulated for asset and liability 10 balances as of that date. ADIT is classified as either deferred income tax liabilities or 11 deferred income tax assets. A deferred tax liability ("DTL"), *i.e.*, a future tax liability, 12 occurs when PAWC realizes the tax benefit before it is recognized on its books. When this 13 happens, the Company generally reduces rate base because the funds are not investor-14 supplied. It is important to note that while the funds made available by DTLs are not 15 investor-supplied, neither are they customer-supplied. They are in fact provided by the 16 government – in concept like an interest-free loan – by deferral of tax collection. 17 Conversely, a deferred tax asset ("DTA"), i.e. a future tax benefit, occurs when PAWC 18 realizes the tax benefit after it recognizes the item on its books. DTAs are usually used to 19 offset deferred tax liabilities. All deferred tax balances, whether they are assets or 20 liabilities, reverse over time and converge to zero over the life of the underlying item giving 21 rise to the deferred tax balance. Most utilities, including the Company, carry a net deferred

1 tax liability.

### 2 Q. Did the corporate income tax reduction enacted by the TCJA affect PAWC's ADIT 3 balances?

4 A. Yes. At December 31, 2017, PAWC had a net liability balance produced by the Company 5 and its customers having temporarily benefitted from accelerated deductions of income 6 subject to a federal corporate income tax rate of 35%. The TCJA reduced that tax rate to 7 21% effective January 1, 2018. As a result, while approximately 60% (21%/35%) of the 8 ADIT liability balance continues to be a temporary tax benefit that will ultimately be repaid 9 to the federal government, approximately 40% (14%/35%) of the ADIT liability balance 10 has become a permanent tax benefit that will be realized over the life of the underlying 11 property. The ADIT balance that is no longer expected to be payable to the federal 12 government due to enactment of the TCJA is referred to as excess ADIT or "EADIT." The 13 reduction in the tax rate has no impact on the accumulated book to tax difference that exists, 14 so the EADIT balance is only a permanent benefit to the extent the federal tax rate remains 15 at 21% for the entire period over which the accumulated book tax difference will reverse.

### Q. Has the Company determined the estimated EADIT reserve balance that resulted from the TCJA's reduction of the federal corporate income tax rate?

A. Yes. The EADIT reserve balance that resulted from the TCJA's reduction of the federal
tax rate is now estimated to be \$315,859,913, of which \$316,877,477 is attributable to
utility plant investments (plant related), and (\$1,017,564) is attributable to other aspects of
utility operations (non-plant related). These EADIT balances are shown on Exhibit JRW1
attached to this testimony.

### Q. Could these estimates change?

Yes. While these estimates are based on actual tax positions taken on tax returns for tax 2 A. 3 years before the date the legislation was enacted, the IRS may issue guidance that would 4 cause PAWC to propose adjustments affecting the amount of EADIT accrued prior to the 5 date of enactment. Similarly, the IRS may audit returns for those years and propose 6 adjustments that would change the amount of accrued EADIT. Therefore, the underlying 7 tax positions and EADIT balances are subject to change through the statute of limitations 8 period, which is three years after the date the Company files its income tax return. In 9 addition, Congress could enact another change in the tax rate during the life of the 10 underlying property. This is in part why I state above the EADIT will be realized over the 11 life of the underlying property.

### 12 Q. Will the excess ADIT reserve be returned to customers?

13 A. Yes, The EADIT will be returned to customers through rates over time. It is important to 14 note, however, that the EADIT is not ready cash that is sitting in a bank account. These 15 moneys are already invested in plant, and customers see the benefit of those deferred taxes 16 through the deduction of the net ADIT balance from rate base. To flow EADIT back to 17 customers will require cash from some other source – perhaps a combination of internally 18 generated funds, debt issuance or equity infusions or issuances. In any event, the flowback 19 of EADIT will put strains on cash flow and, depending on the rate of the flowback, could 20 raise the cost of capital for the Company.

### Q. Does the TCJA place any restrictions on the rate that the EADIT reserve is flowed back to customers?

1 A. Yes. The TCJA requires that EADIT generally associated with property, and specifically 2 connected to the accelerated depreciation of property, be amortized into customer rates in 3 a precisely-prescribed manner designed to match the amortization period with the 4 remaining life of the underlying assets—a process referred to as "normalization." The 5 portion of the EADIT reserve subject to the normalization rules is sometimes known as 6 "protected" EADIT. Under the TCJA's normalization requirement, protected EADIT may 7 be amortized by a corresponding reduction in the revenue that the utility collects from 8 customers *no more rapidly* than the reserve would be reduced using the average rate 9 assumption method ("ARAM") to compute depreciation.<sup>1</sup> "Unprotected" EADIT – that is, 10 excess ADIT that is not subject to the IRS normalization rules – may be amortized over 11 any reasonable period selected by the governing state commission.

### Q. Has the IRS indicated that it will issue additional guidance with respect to normalization requirements for excess ADIT?

A. Yes. On May 7, 2019, the IRS released its Notice 2019-33, announcing its intention to
issue guidance under section 168 of the Internal Revenue Code to clarify the normalization
requirements for excess tax reserves resulting from the TCJA's corporate tax rate decrease.
The Notice set forth the general normalization requirements for the reserves mandated by
the TCJA and also requested comment on the need for, or desirability of, the issuance of
specific guidance on a variety of situations.

<sup>&</sup>lt;sup>1</sup> The TCJA recognizes that utilities that compute depreciation using composite methods may not have the records necessary to compute depreciation using ARAM. If qualified, those utilities may refund the EADIT using an alternate method commonly referred to as the reverse South Georgia method ("RSGM") to compute depreciation. PAWC has the ability to use ARAM due to modifications of American Water's PowerTax and PowerPlant systems completed in 2019.

### Q. Has PAWC broken down its balances into so-called "protected" and "unprotected" EADIT?

3 Yes. Subject to certain limitations due to lack of specific IRS tax guidance, the information A. 4 has been provided. Exhibit JRW-1 contains a column that provides this information. 5 Based on available tax guidance, the inventory indicates which of the EADIT balances 6 should be treated as protected for tax purposes (that is, subject to tax normalization), and 7 which should be treated as unprotected for tax purposes. "Protected" line items are 8 identified as "Protected"; "Unprotected" line items are identified as such; and line items 9 for which additional guidance is needed and expected to be issued in the future are labeled 10 "Uncertain."

11 The balance labeled "Method / Life" is the EADIT related to differences generated 12 by applying book depreciation methods and lives versus tax depreciation methods and 13 lives. IRS guidance is clear that this balance is to be treated as subject to tax normalization, 14 and the Company accordingly has coded it as "Protected."

The balance labeled "Cost of Removal" is the EADIT related to the difference between how cost of removal is accounted for book purposes versus tax purposes. There is conflicting IRS guidance with respect to whether this item should be treated as "protected" or "unprotected," and various commenters have requested guidance with respect to its treatment in response to IRS Notice 2019-33. The Company has indicated the need for additional guidance with the notation "Uncertain."

The balance labeled Repairs is the EADIT related to a book/tax difference arising from the Company's repair method of accounting for Tax Repairs Deductions. The IRS has indicated that applicable provisions of the Internal Revenue Code do not require

1	normalization of this EADIT, and, therefore, it has been labeled "Unprotected" in Exhibit
2	JRW-1. However, as I previously explained, in PAWC's water and wastewater rate cases
3	filed and adjudicated since 2008, including its last base rate case, the parties, with the
4	approval of the Commission, agreed that the Company's Tax Repairs Deductions should
5	be treated as a normalized tax-timing difference for ratemaking purposes.
6	The negative balance labeled "Taxable CIAC" is the EADIT related to the taxes
7	paid by the Company on contributions in aid of construction ("CIAC"). This balance is
8	subject to normalization and thus is labeled "Protected."
9	With respect to the negative balance labeled "All Other Federal," further guidance
10	is required as to whether these items are subject to normalization. Therefore, this balance
11	has been designated "Uncertain."
12	The negative balance labeled "Federal Benefit of State" is the state tax deduction
13	taken in the federal tax calculation. This balance is not subject to normalization and thus
14	has been coded "Unprotected."
15	The negative balance labeled "Net Operating Loss Carryover" is related to the net
16	operating loss carryforward as of December 31, 2017, and while the IRS has consistently
17	indicated that a taxpayer subject to the tax normalization rules must determine what portion
18	of that balance is related to having claimed protected items and thus is also protected,
19	PAWC is unaware of IRS guidance specific to a rate change like what occurred in the
20	context of the TCJA, and various commenters have requested guidance with respect to its
21	treatment in response to IRS Notice 2019-33. Therefore, the Company coded this balance
22	as "Uncertain" to indicate that more guidance is needed.
23	All other plant-related balances (Plant Customer Advances, Plant CWIP, CIAC

1 WIP, Plant 481, and CAC Reserve) are not subject to the normalization requirements and 2 thus are designated "Unprotected."

3

Finally, the negative balance for non-plant related EADIT is not subject to 4 normalization and therefore is designated "Unprotected."

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### How does the Company propose to flow its EADIT reserves to customers?

6 A. The Company proposes to use ARAM to determine the amortization and normalization 7 period for all federal EADIT related to plant-in-service ("Protected," "Unprotected," and 8 "Uncertain") as of the date of the enactment of the TCJA. The Company proposes a 20 9 year period to amortize the EADIT related to non-plant items items (the "Non-Plant Other" 10 regulatory asset balance on Exhibit JRW-1). In both cases, the normalization/amortization 11 was computed beginning January 1, 2018, the effective date of the TCJA. For the three-12 year period from January 1, 2018 until the start of the credit on January 1, 2021 (the 13 "catchup" period), the normalization/amortization was treated as deferred. The Company 14 proposes to amortize and flow through the deferred "catchup" period EADIT amortization 15 over a similar three-year period, from January 1, 2021 through December 31, 2023. As 16 shown on Exhibit JRW-1, the ongoing normalization/amortization will produce a credit of 17 \$6,380,020 and \$6,301,843 for Rate Years 1 (2021) and 2 (2022), respectively, and the 18 amortization of the catchup period balance will produce an annual credit of \$5,963,487 for 19 2021, 2022 and 2023.

#### 20 Q. Why does PAWC propose to use ARAM to normalize all EADIT related to plant in 21 service (Unprotected and Uncertain as well as Protected), when the IRS 22 normalization rules only require ARAM to be used for Protected EADIT?

1 A. Initially, as I previously explained, PAWC has filed and completed a number of water and 2 wastewater rate cases since it changed its method of tax accounting to recognize Tax 3 Repairs Deductions. In all of those cases, the Commission adopted and approved the 4 parties' agreement that Tax Repairs Deductions would be treated for ratemaking purposes 5 as a fully normalized tax-timing difference. Consequently, the normalization of Tax 6 Repairs Deductions approved in prior rate cases should continue to apply to the EADIT 7 associated with the very same Tax Repairs Deductions that gave rise to the underlying 8 ADIT in the first instance. Consistency with prior, approved ratemaking methods as well 9 as fundamental fairness support that approach. Additionally, PAWC believes it is the long-10 term best interest of its customers to use ARAM to normalize both "protected" and 11 "unprotected" plant-related EADIT, for several important reasons. First, using ARAM to 12 normalize all EADIT related to plant in service promotes inter-generational equity. All of 13 the plant-related EADIT are permanent tax benefits that accrued as a result of the Company 14 making investments in plant in service and claiming tax deductions in excess of book at a 15 time when the federal corporate income tax rate was 35%. Now, however, as a result of 16 the TCJA, the tax benefits will reverse as book depreciation is recovered as a cost from 17 customers when the tax rate will be 21%. The Company believes these permanent benefits, 18 which relate to the deduction of costs not yet recovered in rates from customers, should be 19 returned ratably to those same customers who will be required to pay the costs of the plant 20 to which the benefits relate. The use of ARAM closely aligns the normalization of these 21 benefits to the investments that gave rise to the benefits, and thus to the customers who 22 will bear the costs of those investments over their lives. Second, the use of ARAM reduces the total cost of capital recovered from customers over the underlying useful life of the 23

1 plant in service investment. Third, the use of ARAM also will add to the stability of cost 2 of service rates over the useful life of the property. Alternatively, severing the amortization 3 of unprotected EADIT balances from the related plant in service would distribute a tax 4 benefit to customers that is disproportionate to the cost to which the benefit relates, and 5 thus benefit customers during the abbreviated amortization period to the detriment of 6 customers who continue to pay for these investments over the property's remaining useful 7 life. Using a shorter period to amortize unprotected plant-related EADIT also would 8 increase the cost of service recovered from customers over the life of the property.

## 9 Q. Please explain further how using ARAM to normalize EADIT promotes inter10 generational equity.

11 The normalization concept prevents the inter-generational inequity that can occur when the A. flow-through method is used. If PAWC uses an immediate or close-to-immediate flow-12 13 through method, current customers receive the entire refund and benefit disproportionally. 14 This occurs even if tax rates change again before the timing difference reverses. For 15 example, assume an EADIT balance has been generated with respect to the tax benefits 16 associated with an asset with a book depreciation life of 35 years. If a shorter flow-through 17 method is used for the EADIT, customers who take service during the flow-through period 18 realize 100% of the benefit from the TCJA, whereas the customers paying for the asset 19 during the remainder of its life realize none of the benefit. The asset giving rise to the 20 benefit, however, will serve all of them. What is also inequitable for those later customers 21 is the accelerated increase in rate base. The entirety of the EADIT will have already been 22 returned over the flow-through period, resulting in a larger rate base and thus a greater 23 revenue requirement for the remainder of the life of the asset giving rise to the benefit.

1 Future customers are unfairly penalized, and doubly so, because they may not receive any 2 refund, and yet pay for the cost of the utility asset over its remaining useful life. Even 3 worse, if tax rates are raised in the future, future generations will have to pay for the 4 deficient ADIT because any prior excess will have been refunded to prior customers. 5 Normalization ensures that tax benefits are spread to all customers who benefit from the 6 Company's long-lived assets and not just current customers. PAWC therefore believes 7 that the normalization concept should be applied to all plant-related EADIT (including 8 repairs-related EADIT) and its amortization should be calculated pursuant to ARAM 9 without regard to its status as protected or unprotected.

### Q. How would a normalization approach to the return of unprotected plant-related EADIT affect the originally anticipated timing of ADIT amortization?

12 As shown on Exhibit JRW-1, almost all of the Company's unprotected plant-related A. EADIT is associated with the Company's Tax Repairs Deductions. As discussed in the 13 14 preceding section of my testimony, PAWC normalizes repairs-related ADIT. If a similar 15 policy of normalization is utilized for the return of excess repairs-related ADIT (that is, it 16 is amortized pursuant to ARAM), the Company would be required to pay the money no 17 longer owed to the government to its customers instead, but in approximately the same 18 time frame as PAWC originally expected to pay it to the government. A shorter 19 amortization period would mean that PAWC would have to secure the capital to pay back 20 the funds more quickly. As noted previously, it is not as if EADIT is money that is on 21 deposit in a bank. These are funds that have been invested in needed infrastructure to serve 22 our customers. If PAWC is required to pay the funds back more quickly than originally 23 anticipated and thus more quickly than the underlying investment is recovered, the

Company must secure the capital to make those payments from other sources – either external capital or internally-generated funds. All else being equal, the added need for capital will entail additional costs, driving up utility rates. In an era when water utilities need to attract capital for needed infrastructure, this would not be a prudent use of funds.

## 5 Q. Why did the Company use a 20-year period to amortize non-plant-related EADIT 6 balances?

7 A. A 20-year amortization period is consistent with the life of the underlying assets and 8 liabilities. These EADIT balances are related to deductions claimed with respect to two 9 primary types of assets and liabilities: regulated deferred assets and liabilities, and assets 10 and liabilities related to providing employee benefit programs. The vast majority of the 11 EADIT balance that falls into these categories would be associated with assets and 12 liabilities that will reverse over periods greater than 20 years. Thus, it is reasonable to 13 match the reversal or recovery period of the incurred costs that gave rise to the EADIT to 14 the period the EADIT is amortized.

### Q. Are current customers harmed by normalizing or amortizing EADIT over longer rather than shorter periods?

A. No. First, rate base is the sum of plant, less accumulated book depreciation, and less ADIT.
EADIT is a component of the ADIT in rate base, and until it is repaid to the government
or to customers it thus provides customers with a return equal to the utility's weighted
average cost of capital. Second, as I have explained, EADIT is simply a portion of a
temporary benefit that was made permanent by the federal government; the cost that gave
rise to the benefit was a component of plant in service and relates specifically to the portion

of plant in service that has not yet been paid for, consumed or used by current customers.
The permanent nature of the benefit is still dependent on future events, such as a 21%
federal tax rate being the enacted rate for the 35 years or more that the underlying
temporary differences will reverse, and the benefit of the lower tax rate will be realized.
The customer who will pay for and use the investment should receive the benefit that arose
when the utility put the asset in place.

7 Mathematically, rates are intended to provide a utility with the opportunity to earn 8 an adequate after-tax return on the portion of the utility's investment in plant that is 9 financed with equity. The after-tax return is grossed up to produce its pre-tax equivalent. 10 That amount is the same regardless whether a portion of the tax will be deferred or not. 11 The tax code allows some or all of the tax that would be otherwise be due on pre-tax 12 earnings to be deferred as an incentive to the utility to invest, and in some cases Congress 13 has explicitly acted to prevent flow through of a tax benefit intended to be an investment 14 incentive and not a rate subsidy. A prime example of Congress's protection of certain tax 15 incentives to utilities is the tax normalization rules applicable to ADIT and EADIT.

# Q. Has the Commission recognized that the amortization of all plant-related EADIT balances pursuant to ARAM, whether "protected" or not, best serves the long-term interest of a utility's customers?

A. Yes. In *Pennsylvania Public Utility Commission v. Duquesne Light Company*, Docket No.
R-2018-3000124 *et al.*, Opinion and Order, slip op. at 42 (Pa. Pub. Util. Comm'n Dec. 20,
2018), this Commission approved a settlement providing that the utility, Duquesne Light
Company, will flow back EADIT related to prior tax repairs and other deductions pursuant
to ARAM:

1 2 3 4 5 6 7	Duquesne Light will continue to use normalization accounting with respect to the benefits of the tax repairs and Internal Revenue Code ("IRC") Section 263A deductions. Duquesne Light will reverse EDIT with regard to prior tax repairs and IRC Section 263A deductions pursuant to the Average Rate Assumption Method ("ARAM") used to reverse EDIT associated with accelerated depreciation deductions. The remaining unamortized EDIT balance will continue as a reduction to rate
8 9	base in all future base rate proceedings until the full amount is returned to ratepayers.
10	
11	<i>Id.</i> , slip op. at 13. Duquesne Light Company describes this settlement term and the reason
12	the Office of Consumer Advocate did not oppose it in its publicly-filed Statement in
13	Support of the Joint Petition for Settlement:
14	Under the TCJA, certain excess deferred taxes must be returned to
15	customers over the life of the property, with the unreturned or unamortized
16	amounts deducted from rate base, thereby benefiting customers (the
17	Average Rate Assumption Method or ARAM). While other excess deferred
18	taxes are not subject to this requirement, and OCA proposed accelerated
19	return of such amounts, the Company demonstrated in its rebuttal that
20	accelerated return would increase rates by over \$52 million In
21	surrebuttal, OCA withdrew the adjustment The Settlement provision
22	affirms that all EDIT related to plant will be returned under the ARAM
23	procedure and that unamortized balances will be deducted from rate base in
24	future base rate proceedings, thereby benefiting customers.
25	
26	Pennsylvania Pub. Util. Comm'n v. Duquesne Light Co., Docket No. R-2018-3000124 (Pa.
27	Pub. Util. Comm'n), Duquesne Light Company's Statement in Support of Joint Petition
28	for Approval of Settlement Stipulation ¶ 6 at 11 (filed Sept. 14, 2018) (record citations
29	omitted). <sup>3</sup>
30	As explained above, amortizing PAWC's unprotected plant-related EADIT over an
31	amortization period shorter than that produced by ARAM would increase the cost of
32	service recovered from customers over the life of the property. Like the settlement

<sup>&</sup>lt;sup>3</sup> Duquesne Light Co's Statement in Support was filed as Appendix G to the Joint Petition for Approval of Settlement Stipulation filed on September 14, 2018.

1		approved by this Commission in the Duquesne Light Company order, the Company's
2		proposal "affirms that all EDIT related to plant will be returned under the ARAM
3		procedure and that unamortized balances will be deducted from rate base in future base
4		rate proceedings, thereby benefiting customers." Therefore, it is in the long term best
5		interests of the Company's customers and should be approved.
6		
7		Accumulated Deferred Income Tax – Rate Base Reduction
8	Q.	Does the Company reduce Rate Base by the amount of ADIT?
9	A.	Yes. ADIT represent a "loan" from the federal and state governments which is essentially
10		a zero cost source of capital. As such it is appropriate to reduce rate base by these amounts.
11	Q.	How does the Company determine the amount of ADIT used to reduce rate base?
12	A.	In general all plant-related ADIT that have been normalized are included as a reduction to
13		rate base. The primary source of the information for determining ADIT comes from the
14		calculation of ADIT performed in PowerTax, which is the Tax Provision Module in the
15		software accounting suite developed and sold by PowerPlan Consultants Inc.
16		("PowerPlan").
17	Q.	Please describe what the ADIT balance generated by PowerTax represents and what
18		other amounts or adjustments are made to get to the rate base reduction for ADIT
19		used in PAWC's rate filing.
20	A.	PowerTax tracks the ADIT on "in service" Property Plant and Equipment. It was set up
21		with ADIT calculated at the most recent pre-TCJA income tax rates. Therefore, the ADIT
22		tracked by PowerTax includes in the ADIT balance the EADIT produced by the TCJA's

	tax rate reduction that has not yet been amortized pursuant to ARAM. PowerTax was
	populated with estimated plant additions and book depreciation for relevant periods after
	December 31, 2019. To that number, the Company adds ADIT on plant-related items such
	as construction work in progress, customer advances for construction, etc., that are not
	maintained in the PowerTax system. Finally, because income tax rates on PowerTax items
	are at the pre-TCJA level, there are other sources of excess and deficient ADIT that are not
	related to the TCJA's rate reduction. Those elements of non-TCJA-related EADIT, for
	which the ARAM is not used, are addressed and amortized (using the Reverse South
	Georgia Method) and, to the extent they are unamortized, are included in the ADIT balance
	that is deducted from rate base.
Q.	Are there any other adjustments to ADIT that have been made?
A.	Yes. The Company is setting rates for Rate Years 1 and 2, which are fully forward looking,
	and is using supporting data for those years to calculate its proposed rates. Under IRC
	normalization rules changes to the ADIT during those periods after new rates go in effect
	are subject to a proration formula under Treas. Reg. § 1.167(1)-1(h)(6).
	Implementation of PowerTax – Effect On Income Tax Calculation and Transitional Regulatory Liability
Q.	Did the Company implement the deferred tax feature in the PowerTax software
	module that it uses for tax accounting?
A.	Yes. The Company started the implementation of the deferred tax feature of the PowerTax
	software module in 2017, prior to the passage of the TCJA, and completed the
	implementation in 2019.
	Q. A. Q.

### Q. Did any issues arise with the use of the PowerTax deferred tax feature?

A. Yes. After completing the implementation and using the deferred tax feature, the Company
 identified a transition adjustment pertaining to the regulatory asset that was recorded for
 certain tax-book timing differences for which the Company uses flow-through accounting.

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### Please explain the difference between normalization and flow-through accounting.

6 A. PAWC has certain tax items that are normalized for ratemaking purposes and other items 7 that are subject to flow-through accounting for ratemaking. Whether normalization or 8 flow-through is used for ratemaking will affect the way tax-book timing differences are 9 reflected in a utility's rates. A tax-book timing difference occurs when the same item is 10 treated differently for book accounting and tax reporting purposes. As previously 11 explained, normalization generates ADIT, which is deducted from rate base because the 12 net ADIT balance represents tax expense that the utility recovers in rates but its payment 13 to the federal government is deferred to a future date. The deferred taxes will eventually 14 be paid to the federal government when the tax-book timing differences "reverse" over 15 time. As that occurs, the amount in the ADIT balance relating to the relevant tax items is 16 reduced – eventually to zero, when the timing difference is eliminated. ADIT is like a no-17 interest loan from the federal government. The utility keeps the proceeds of the deferred 18 tax "loan" and provides the benefit of that loan to customers as a rate base reduction that 19 is eliminated over time as the utility pays back the deferred tax loan to the government 20 through the reversal of the tax-book timing difference.

Under flow-through accounting, the tax benefits a utility receives are flowedthrough to customers. It is as if the proceeds of the no-interest government loan where given directly to customers in the form of lower utility rates when the loan is received as

1 opposed to using those amounts to fund capital expenditures. The loan still has to be paid 2 back, however, when the tax-book timing differences reverse in the future. A utility does 3 not record ADIT on its books for flow-through tax benefits as it does under normalization 4 accounting; instead, the regulator has provided that the amounts will be recoverable from 5 customers in the future when the loan becomes due to the government. However, since the 6 issuance of former FAS 109 (now ASC 740), generally accepted accounting principles 7 require a utility to record an ADIT liability and at the same time offset that entry by 8 recording a regulatory asset on its balance sheet. In short, while there is no ADIT for 9 regulatory purposes, accounting rules require the liability to be recorded, as the Company 10 indeed does owe the government the money; however, that is offset by the regulatory asset 11 that represents the customers' obligation to reimburse the company as the company pays 12 back the loan to the government.

### Q. What was the issue that arose with respect to the regulatory asset pertaining to flowthrough accounting?

15 A. After it completed the implementation of the deferred tax feature, the Company identified 16 a difference between the amount of the regulatory assets that had been recorded on its 17 books for certain flow-through tax benefits and the amounts of those regulatory assets 18 PowerTax calculated. In summary, the PowerTax calculation showed a larger regulatory 19 asset than that previously recorded on the Company's books. In other words, under the 20 PowerTax calculation, customers would have to repay a higher "loan" balance for flowed-21 through tax benefits than the amount that the Company had historically determined over 22 many years. The Company established to its satisfaction that this difference is attributable 23 to the way PowerTax calculated the tax benefits flowed-through in the past to customers.

1 Thus, the difference is a function of the PowerTax algorithm and does not reflect tax 2 benefits customers actually received. The Company has also determined that the amount 3 previously recorded on its books is a better measure of the balance of the flow-through 4 "loan" proceeds customers received than the higher "loan" balance PowerTax calculated.

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### What has the Company done to address this difference?

6 A. With PowerTax, the Company has more and better data available to it than it ever had 7 before. However, PowerTax was set up at a specific point in time under specific parameters 8 for all the detailed items it tracks. While the system is now providing the best available 9 flow-through calculations going forward, the Company believes Customers should not be 10 required to pay back more than the historically calculated flow-through "loan" balance that 11 they actually owe. To assure that the correct tax expense amount is calculated for 12 ratemaking purposes, the Company isolated the difference between the higher regulatory 13 asset calculated by PowerTax and the lower regulatory asset it had previously recorded on 14 its books. That amount is \$17.6 million, which the Company proposes in this case to 15 amortize as a reduction to tax expense over twenty years. This adjustment assures that 16 over time customers pay back only the net proceeds of the "loan" the Company's books 17 indicate they actually received.

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### **Conclusion**

- 20 Q. Does that conclude your direct testimony at this time?
- A. Yes, it does.

### **BEFORE THE** PENNSYLVANIA PUBLIC UTILITY COMMISSION

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PENNSYLVANIA PUBLIC UTILITY									
COMMISSION									
<b>v.</b>									
PENNSYLVANIA-AMERICAN									
WATER COMPANY									

**DOCKET NOS. R-2020-3019369** (WATER) R-2020-3019371 (WASTEWATER)

### **VERIFICATION**

I, John R. Wilde, hereby state that the facts set forth in the pre-marked Statement No. 10 and accompanying exhibits, if any, are true and correct to the best of my knowledge, information and belief. I understand that this verification is made subject to the provisions and penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsifications to authorities).

Date: April 29, 2020

John R. Wilde

#### Pennsylvania American Water TCJA Excess ADIT Exhibit JRW-1

#### Plant

Utility Plant in Service (PowerTax)

		Amortization		Categorization pursuant to Tax Normalization	Net Excess Accumulated Deferred Income							
	Item	Method	Period	rules	Taxes	2018 Amortization 2	019 Amortization 20	20 Amortization 20	21 Amortization 20	22 Amortization	Total	3 Yr amortization
	Method / Life	ARAM	Asset Life	Protected	206,658,250	2,344,452	2,847,516	2,409,335	2,327,941	2,013,191	7,601,303	2,533,768
	Cost of Removal	ARAM	Asset Life	Uncertain	5,587,890	(104)	(0)	-	-	-	(104)	(35)
	Repairs	ARAM	Asset Life	Unprotected	140,081,147	3,209,210	4,759,346	4,739,009	4,847,910	5,077,260	12,707,566	4,235,855
	Taxable CIAC	ARAM	Asset Life	Protected	(3,371,573)	) (233,870)	(233,870)	(233,870)	(233,870)	(233,870)	(701,610)	(233,870)
	All Other Federal	ARAM	Asset Life	Uncertain	(975,857)	) 235,686	100,915	299,181	302,834	329,012	635,781	211,927
	Federal Benefit of State	ARAM	Asset Life	Unprotected	(13,651,713)	) (301,575)	(455,891)	(448,728)	(459,763)	(483,022)	(1,206,195)	(402,065)
s	Sub-Total (UPIS)				334,328,143	5,253,799	7,018,016	6,764,926	6,785,053	6,702,570	19,036,742	6,345,581
C	CWIP, CAC, and other Non-UPIS Plan	t items										
	Item	Amortization Method	Life									
	Plant Customer Advances	ARAM	Asset Life	Unprotected	(10,382,270)	) (163,152)	(217,938)	(210,079)	(210,704)	(208,142)	(591,169)	(197,056)
	Plant CWIP	ARAM	Asset Life	Unprotected	446,724	7,020	9,377	9,039	9,066	8,956	25,437	8,479
	CIAC WIP	ARAM	Asset Life	Unprotected	(206,590)	) (3,246)	(4,337)	(4,180)	(4,193)	(4,142)	(11,763)	(3,921)
	Plant 481	ARAM	Asset Life	Unprotected	745,845	11,721	15,656	15,092	15,137	14,953	42,469	14,156
	CAC Reserve	ARAM	Asset Life	Unprotected	1,031,707	16,213	21,657	20,876	20,938	20,684	58,746	19,582
	Net Operating Loss Carryover	ARAM	Asset Life	Uncertain	(9,086,082)	) (142,783)	(190,730)	(183,851)	(184,398)	(182,157)	(517,364)	(172,455)
s	Sub-Total (Non-UPIS)				(17,450,666)	) (274,228)	(366,314)	(353,104)	(354,154)	(349,849)	(993,646)	(331,215)
Sub-Total Pla	int				316,877,477	4,979,571	6,651,702	6,411,823	6,430,898	6,352,721	18,043,096	6,014,365
Non-Plant	Other	Normalization	20 Years	Unprotected	(1,017,564)	) (50,878)	(50,878)	(50,878)	(50,878)	(50,878)	(152,635)	(50,878)
Total					315,859,913	4,928,693	6,600,824	6,360,945	6,380,020	6,301,843	17,890,461	5,963,487
							Catch up		5,963,487	5,963,487		
							То	tal —	12,343,507	12,265,330		

12,343,507 12,265,330

Catchup Amortization 2018-2020 2021-2023