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May 22, 2017

VIA eFILING

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17105

Re: Petition of Pennsylvania-American Water Company for Approval of Tariff Changes and Accounting and Rate Treatment Related to Replacement of Lead Customer-Owned Service Pipes, Docket No. P-2017-_____

Dear Secretary Chiavetta:

Enclosed please find the **Petition of Pennsylvania-American Water Company**, in the above-referenced proceeding.

A copy of this Petition will be served on those parties identified on the attached Certificate of Service.

Very truly yours,





Anthony C. DeCusatis

c: Per Certificate of Service (w/encls.)

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**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

PETITION OF PENNSYLVANIA-	:	
AMERICAN WATER COMPANY FOR	:	
APPROVAL OF TARIFF CHANGES AND	:	Docket No. P-2017-
ACCOUNTING AND RATE TREATMENT	:	
RELATED TO REPLACEMENT OF LEAD	:	
CUSTOMER-OWNED SERVICE PIPES	:	

CERTIFICATE OF SERVICE

I hereby certify and affirm that I have this day served a copy of the **Petition of Pennsylvania-American Water Company** on the following persons, in the matter specified in accordance with the requirements of 52 Pa. Code § 1.54:

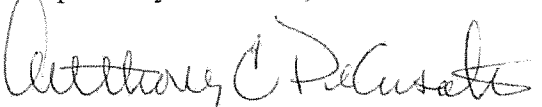
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Respectfully submitted,



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Dated: May 22, 2017

*Attorneys for Pennsylvania-American
Water Company*

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

PETITION OF PENNSYLVANIA-	:	
AMERICAN WATER COMPANY FOR	:	
APPROVAL OF TARIFF CHANGES	:	
AND ACCOUNTING AND RATE	:	DOCKET NO. P-2017-
TREATMENT RELATED TO	:	
REPLACEMENT OF LEAD	:	
CUSTOMER-OWNED SERVICE PIPES	:	

**PETITION OF
PENNSYLVANIA-AMERICAN WATER COMPANY**

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Dated: May 22, 2017

Counsel For Pennsylvania-American Water Company

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

PETITION OF PENNSYLVANIA-AMERICAN WATER COMPANY FOR APPROVAL OF TARIFF CHANGES AND ACCOUNTING AND RATE TREATMENT RELATED TO REPLACEMENT OF LEAD CUSTOMER-OWNED SERVICE PIPES	: : : : : : :	DOCKET NO. P-2017-
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**PETITION OF PENNSYLVANIA-AMERICAN WATER
COMPANY**

I. INTRODUCTION

Pursuant to 52 Pa. Code § 5.41, Pennsylvania-American Water Company (“PAWC” or the “Company”) hereby petitions the Pennsylvania Public Utility Commission (“PUC” or the “Commission”) to approve tariff revisions that will authorize PAWC to replace lead customer-owned Service Pipes and recover the associated costs.¹ Specifically, PAWC requests that the Commission: (1) approve the tariff revisions set forth in the Supplement to Tariff No. 4 provided as PAWC Exhibit No. 1, which will allow the Company to replace lead Service Pipes at its sole cost, subject to the accounting and rate recovery proposals set forth in this Petition;² (2) authorize the Company to capitalize costs incurred to replace lead Service Pipes (“LSP Replacement Costs”) and to record such costs in Account No. 333 – Services (“Services Account”) for accounting purposes; and (3) affirm that the Company’s investment in capitalized

¹ Rules 2.11 and 2.12, respectively, set forth at page 16 of PAWC Tariff Water-Pa. P.U.C. No 4 (“Tariff No. 4”), define a “Service Line” as “[t]he Company-owned piping and appurtenances which run between and are connected to the Company’s main and its street service connection,” and a “Service Pipe” as “[t]hat part of the water line not owned by the Company” that “begins at the Company-owned street service connection and continues into the structure on the premise[s] to be supplied.” Therefore, throughout this Petition, the terms “Service Line” and “Service Pipe” are employed in the manner they are defined in Rules 2.11 and 2.12 of Tariff No. 4.

² This revision is required because Rule 4.9, at page 20 of Tariff No. 4, currently provides that “[t]he Customer shall have full responsibility for the installation, repair, replacement, and maintenance of all Service Pipes.”

LSP Replacement Costs constitutes “eligible property” for water utilities as defined in 66 Pa.C.S. § 1351 and, therefore, pursuant to 66 Pa.C.S. § 1357, PAWC is entitled to recover a return on, and a return of, such costs through its Distribution System Improvement Charge (“DSIC”).

PAWC’s plan to replace lead Service Pipes (“Replacement Plan”) consists of two parts. First, PAWC will proactively remove and replace, with the customer’s consent, lead Service Pipes that are encountered when it replaces its mains and service lines (“Replacement Plan – Part 1”).³ Second, PAWC will remove and replace lead Service Pipes when requested to do so by a customer subject to verifying that the customer, in fact, has a lead Service Pipe (“Replacement Plan – Part 2”). Under Replacement Plan – Part 2, the Company will coordinate customer-requested replacements. Customer requests will be grouped by geographic location, and replacements will be undertaken when the number of customer requests in a given location allows the Company to realize reasonable economies of scale by doing those replacements as a single project.

PAWC proposes to set a budget cap of \$6.0 million per year on the amounts expended to replace lead Service Pipes. Lead Service Pipe replacements under Replacement Plan – Part 1 will have priority on the use of the \$6.0 million annual budgetary allotment because, as explained below, these replacements address conditions that pose relatively greater risks of raising lead levels for the affected customers.

If implemented as proposed, the Company’s lead Service Pipe Replacement Plan would help PAWC reduce customers’ exposure to lead and maintain compliance with applicable

³ When PAWC replaces a main, it typically replaces its Service Lines that are attached to that main at the same time. There may also be locations where PAWC, for sound operational reasons, will replace its Service Lines even though it is not replacing its mains. In both of the aforementioned scenarios, PAWC would replace all of the lead Service Pipes it encounters pursuant to its Replacement Plan – Part 1.

drinking water regulations. Specifically, those regulations impose obligations on drinking water providers to prevent elevated lead levels at the customer's tap even if the source of lead originates within the customer-owned Service Pipes and in-home piping. Eliminating lead Service Pipes, together with PAWC's on-going efforts to eliminate its remaining lead Service Lines and its robust corrosion control water treatment measures, are a prudent and effective means to maintain regulatory compliance and protect public health.

PAWC requests the Commission's approval of the tariff revisions set forth in PAWC Exhibit No. 1 in order to implement both Parts 1 and 2 of its Replacement Plan and bear the LSP Replacement Cost, subject to the accounting and rate recovery treatment requested herein. In light of the public health and safety benefits of a well-coordinated lead Service Pipe replacement initiative, PAWC should be allowed to capitalize the LSP Replacement Costs for accounting purposes and recover a return on, and a return of, such costs by including them in rate base in a subsequent base rate case and through its existing DSIC for property placed in service between base rate cases.

II. BACKGROUND AND OVERVIEW

1. PAWC is a corporation organized and existing under the laws of the Commonwealth of Pennsylvania with its principal offices in Hershey, Pennsylvania. As of February 27, 2017, PAWC furnished water service to 655,632 customers and wastewater service to approximately 54,478 customers within its authorized service territory, which encompasses portions of thirty-six counties across the Commonwealth.

2. As a Pennsylvania public utility, the Company is subject to the regulatory authority of the Commission. In addition, the Company must comply with drinking water, environmental and other operational standards established by the Pennsylvania Department of

Environmental Protection (“DEP”) and the United States Environmental Protection Agency (“EPA”), including the Lead and Copper Rule (“LCR”). The LCR regulations promulgated by the EPA and DEP require utilities, among other things, to test drinking water inside older homes for lead and take additional action if more than 10% of tap water samples exceed the lead concentration limit (i.e., 15 parts per billion).⁴ The Company regularly monitors the drinking water in its distribution system in accordance with DEP and EPA standards.

3. Lead is a naturally occurring metal that can cause a variety of adverse health effects, including delays in normal physical and mental development of young children. While the most common sources of lead exposure are soil, paint chips and dust, drinking water is another route of lead exposure, primarily as a result of corrosion of lead pipes and plumbing materials. Recent events, including those in Flint, Michigan, have heightened customers’ concern about the possible presence of lead in their drinking water.

4. Until around 1950, it was common for water utilities to install lead service lines. In addition, lead was widely used in on-premises plumbing fixtures and solder until “lead free” plumbing was mandated by amendments to the federal Safe Drinking Water Act enacted in 1986 and the Pennsylvania Plumbing System Lead Ban and Notification Act, enacted in 1991.⁵ The Company ceased installing lead Service Lines by the 1950’s. However, some lead Service Lines remain in service in the portions of PAWC’s distribution system that predate this change.

5. As discussed by Mr. Kaufman in PAWC Statement No. 1, the Company employs a proactive approach to manage the potential risks of lead exposure as part of its commitment to maintain excellent water quality and protect the health and safety of its customers. To that end,

⁴ See 40 C.F.R. §§ 141.80 *et seq.*; 25 Pa. Code §§ 109.1101 *et seq.*

⁵ See 42 U.S.C. § 300g-6; 35 P.S. §§ 723.3-723.5.

the Company has implemented a variety of measures, including effective corrosion control treatment, ongoing research to ensure that sampling and corrosion control protocols reflect the latest available science and best practices, robust customer education and eliminating the Company's remaining lead Service Lines.

6. Ownership and the responsibility for the maintenance, repair and replacement of Service Lines and Service Pipes lies with the Company and customers, respectively. As previously explained, under existing Rules 2.1, 2.2 and 4.9 of Tariff No. 4, the Company owns and is responsible for the Service Line, which extends from the water main to the curb stop, while the customer owns, and is responsible for, the Service Pipe that extends from the curb stop to the customer's premises.

7. This Petition requests the requisite tariff authority and associated accounting and ratemaking treatment to enable PAWC to replace customers' lead Service Pipes pursuant to its proposed Replacement Plan. In further support of the approvals requested herein, PAWC is submitting the following statements, which are attached hereto and incorporated herein by reference:

PAWC Statement No. 1 – Direct Testimony of David R. Kaufman

Mr. Kaufman is PAWC's Vice President of Engineering. His testimony discusses PAWC's efforts to better protect customers from the health and safety risks of lead exposure in drinking water and describes the benefits of allowing the Company to replace lead Service Pipes under its proposed Replacement Plan.

PAWC Statement No. 2 – Direct Testimony of John R. Cox

Mr. Cox is PAWC's Manager of Rates and Regulations. Mr. Cox presents the Company's proposed tariff changes to enable PAWC to implement its proposed Replacement Plan and discusses the Company's proposed accounting and ratemaking treatment of the associated costs and their impact on customers' rates.

III. TARIFF CHANGES RELATED TO REPLACING LEAD SERVICE PIPES

8. The current LCR requires public water suppliers to employ water treatment methods, as necessary, to minimize the corrosive quality of the water they provide because corrosion can cause lead piping and lead solder to leach lead into the water drawn at the customer's tap. If, notwithstanding optimal corrosion control measures, the lead "action level" is exceeded in more than 10% of the samples in a water system, LCR regulations require utility-owned and customer-owned lead piping be replaced. However, the applicable regulation permits the utility to replace only the segment it owns if a customer is unable or unwilling to pay for replacing the portion of the service piping for which the customer is responsible. In PAWC's case, its options are further limited by Rule 4.9 of Tariff No. 4, which does not authorize the Company to replace a customer's Service Pipe.

A. Replacement Plan – Part 1

9. As explained below, where a lead Service Pipe is encountered, replacing only the Service Line may cause lead concentrations in water at that customer's tap to increase for a period of time after such a "partial" replacement occurs. Thus, replacing lead Service Pipes when the corresponding Service Lines are replaced will eliminate that potential source of lead exposure for PAWC's customers.

10. Lead Service Lines and lead Service Pipes remain in service in PAWC's distribution system. Notwithstanding the presence of the lead piping, PAWC has not triggered the LCR action level requirements in any portion of its system,⁶ which is a testament to the

⁶ In McEwensville and Wildcat Park, two small systems recently acquired by PAWC, testing indicated a possible exceedance that, upon further analysis, was attributed to customer sampling irregularities. DEP agreed that testing two subsequent, properly obtained samples showing negative results would confirm that the action level had not been exceeded. The results of the first subsequent sampling and testing have been below the action level.

effectiveness of the Company's corrosion control measures and prudent management of its distribution system.

11. PAWC's main and Service Line replacement programs are on-going. PAWC has tried to stage its replacements to avoid portions of its distribution system where lead Service Pipes are likely to remain in service. Nonetheless, infrastructure rehabilitation in those areas is necessary and must be undertaken. As previously explained, this work will entail replacing mains and associated Service Lines.

12. A growing body of research indicates that "partial" replacements of lead services, where only the utility-owned segment is replaced and the customer-owned segment remains, potentially elevates the risk of lead exposure through drinking water. Two primary factors contribute to this elevated risk.

a. Removing and replacing the Service Line and curb box connection may disturb the "scale" or coating that builds up naturally inside of the Service Pipe over its years in service. If an insoluble and adherent scale forms, there is a physical barrier that prevents leaching of lead into the water the lead Service Pipe delivers.⁷ This protective barrier, however, may be susceptible to releasing lead and other accumulated material in the scales following physical disturbances related to infrastructure work.

b. If a lead Service Line is replaced with a line made of another metal, the conditions are created for bi-metallic corrosion. The lead in the Service Pipe is a sacrificial metal that loses electrons to the non-lead material it adjoins. This is the cause of corrosion, which affects the interior wall of the lead Service Pipe and accelerates leaching of lead into the

⁷ See *Optimal Corrosion Control Treatment Evaluation Technical Recommendations for Primacy Agencies and Public Water Systems*, EPA 816-B-16-003 (Mar. 2016), pp. 9-10.

water passing through the pipe. While optimal corrosion control techniques can mitigate this risk, it is still a risk that should be avoided given the health and safety concerns associated with lead contamination.

13. Lead Service Pipes are more likely to still be in service in older neighborhoods with populations that face economic constraints that make it more difficult for them to bear the cost of replacing their lead Service Pipes.

14. The Company does not have, nor could it reasonably be expected to have, records of the material used in Service Pipes that are installed and owned by the customer. Consequently, PAWC does not have an exact count of lead Service Pipes that would be replaced under its Replacement Plan – Part 1. However, PAWC preliminarily estimates that there are approximately 18,000 lead Service Lines remaining on its system. Given the age of the housing stock in the areas where PAWC estimates lead Service Lines are located, it is reasonable to assume that the majority of the same customer premises served by the Company’s lead Service Lines will have lead Service Pipes. As previously explained, an elevation in lead concentration following a “partial” replacement is a function of the lead Service Pipe remaining in place. Therefore, under its Replacement Plan – Part 1, PAWC proposes to replace lead Service Pipes when they are encountered in conjunction with the Company’s main and/or Service Line replacements whether or not the associated Service Line that is also being replaced is made of lead or some other material.

B. Replacement Plan – Part 2

15. There are lead Service Pipes serving customer premises in locations that are not within areas where the Company is replacing, or plans to replace, its mains and Service Lines. The Company believes that its corrosion control treatment process coupled with required

monitoring of lead levels at customers' taps in these areas assures that customers are currently receiving water that fully complies with the LCR's requirements. However, the Company recognizes that an incremental risk can be avoided by replacing lead Service Pipes (together with the Company's Service Line if it is also lead) even in areas where there is no on-going work by the Company that would disturb the existing Service Lines and adjoining Service Pipes. Consequently, the Company proposes to proactively address these situations. The best way to identify such locations is through customers' requests to have their lead Service Pipes replaced. In that way, the Company's customers will play a role in developing an inventory of lead Service Pipes that may remain in service.

16. Under its proposed Replacement Plan – Part 2, the Company will offer to replace a Service Pipe at a customer's request if the customer and the Company verify that the customer's Service Pipe is made of lead. However, these lead Service Pipes will not be replaced on a customer-by-customer basis. The Company will, instead, maintain a log of customer requests grouped by relevant geographic areas. When a reasonable number of requests have been received in a given area, the Company, using the same qualified contractors it uses for its own distribution system work, will undertake all of the replacements in an area as part of a single project. This approach recognizes that: (1) costs can be managed by coordinating requested replacements based on geographic area to achieve economies of scale; and (2) there is not the same risk posed by the lead Service Pipes remaining in service in these areas as the lead Service Pipes in areas envisioned by the Company's proposed Replacement Plan – Part 1 and, therefore, it is reasonable that customer-requested lead Service Pipe replacements should be done over a longer time horizon and within a capped budget to improve cost-efficiency and mitigate rate impacts.

17. The Company will undertake appropriate customer education in areas that align with the scope of its Replacement Plan – Part 2 to inform customers in those areas that the Company is offering to replace their lead Service Pipes under the terms and on the timeline explained above.

C. Ownership And Maintenance Of Service Pipes After Replacement

18. Although PAWC proposes to replace lead Service Pipes under the terms set forth herein, it will not retain ownership of, or be responsible in the future for maintaining, repairing or replacing, the Company-installed replacement Service Pipes. The affected customers will retain the ownership and responsibility for maintaining, repairing and replacing their new Service Pipes. The tariff revision set forth in PAWC Exhibit No. 1 provides that an affected customer will enter into an appropriate agreement with the Company to allow PAWC to perform the replacement on the customer's property and document the customer's ownership of the replacement Service Pipe.

IV. COSTS AND BUDGETARY ALLOTMENT

19. PAWC estimates that the average cost to replace a lead Service Pipe would approximate \$3,500 whether the replacement is done under either Parts 1 or 2 of its proposed Replacement Plan. The Company proposes to begin replacing lead Service Pipes as they are identified in conjunction with its on-going main and Service Line replacements as soon as practicable after the Commission approves this Petition. Replacements under its Replacement Plan – Part 2 would begin when, in the Company's discretion, various factors such as the customer request level in a designated geographic area, would support undertaking a project to replace the verified lead Service Pipes identified by those customer requests.

20. As previously noted, the Company will establish a budget cap of \$6.0 million per year to replace lead Service Pipes under its Replacement Program. The Replacement Plan – Part 1 will have first priority on the use of the annual budget allotment. Subject to the coordination, grouping and minimum customer request levels discussed previously, any funds available in the annual budgetary allotment not used for the Replacement Plan – Part 1 will be applied to lead Service Pipe replacements under Replacement Plan – Part 2 in that year. If, in any year, the entire budgetary allotment is not expended by PAWC, it will be carried forward and added to the budgetary allotment for the next subsequent year. However, the priority of use by each Part of the Replacement Plan will remain the same.

21. PAWC believes that a budgetary allotment of \$6.0 million per year is adequate to address lead Service Pipes encountered under Replacement Plan – Part 1 and provide a reasonable level of funds to implement Replacement Plan – Part 2 while balancing the impact of both Parts of the Replacement Plan upon customer rates. If PAWC determines that the proposed annual budget no longer meets the future needs of administering both Parts of the Replacement Plan, the Company may seek Commission approval to modify this amount.

V. PAWC’S PROPOSED REPLACEMENT PLAN IS IN THE PUBLIC INTEREST

22. In summary, PAWC’s proposed Replacement Plan is reasonable and in the public interest.

a. With regard to its Replacement Plan – Part 1, a relatively recent and growing body of research indicates that a “partial” replacement, which physically disturbs, but leaves in place, the customer’s segment of a service connection, may potentially increase the risk of lead exposure through drinking water. For that reason, the National Drinking Water Advisory Council recommended that the EPA revise the LCR regulations to require complete replacement

of both the utility and customer segments of service connections that contain lead. PAWC has an on-going infrastructure rehabilitation program that includes replacing mains and associated Service Lines. PAWC has tried to stage its infrastructure rehabilitation to temporarily avoid locations where lead Service Pipes are likely to be found until a solution is adopted, and regulatory approvals obtained, to avoid the risks that may be posed by partial replacements. However, that avoidance cannot continue indefinitely; infrastructure rehabilitation must proceed into areas where PAWC expects to find larger numbers of lead Service Pipes.

b. With regard to its Replacement Plan – Part 2, proactive replacement of lead Service Pipes will eliminate a potential, incremental risk of lead exposure and will address customer concerns about lead Service Pipes and Service Lines. Because neither the potential risks nor the need for prompt action rise to the level of those addressed by Replacement Plan – Part 1, it is reasonable for the Company to coordinate lead Service Pipe replacements under Part 2, use reasonable grouping measures and set reasonable customer-request levels as the trigger for undertaking a project to replace lead Service Pipes in designated area.

c. PAWC is requesting approval of tariff revisions to allow it to replace lead Service Pipes under Parts 1 and 2 of its Replacement Plan and to bear the cost of the replacement. Because lead Service Pipes largely remain in neighborhoods that face economic constraints making it unlikely the affected customers could bear the cost of such replacements, it is particularly important that the Commission approve the tariff revisions requested in this Petition and provide PAWC reasonable means to recover the fixed costs of its investments to replace lead Service Pipes, as also requested in this Petition.

23. As previously explained, the LCR imposes an obligation on drinking water providers to furnish water that is below the lead action level at the customer's tap regardless of the fact that lead may originate in property the water provider does not own, such as the customer's Service Pipe or in-home piping. Consequently, remaining in compliance with applicable drinking water regulations necessarily requires taking steps to address possible sources of lead contamination from customer-owned property.

24. The Company's proposed Replacement Plan is an efficient and cost-effective way: (1) to avoid creating a risk of exposing customers to elevated lead levels in their drinking water from PAWC's extension of its infrastructure rehabilitation program into areas where lead Service Pipes are more likely to exist (Replacement Plan – Part 1); and (2) proactively remove any possible risk of lead exposure from Service Pipes in other areas in a coordinated manner (Replacement Plan – Part 2). As explained by Mr. Kaufman, under both Parts 1 and 2 of its Replacement Plan, the Company will be able to leverage economies of scale to reduce costs and minimize service disruptions related to lead Service Pipe replacements. In addition to these efficiencies, PAWC's ability to coordinate the replacement of Service Lines and lead Service Pipes will streamline project administration and reduce overall costs.

25. For similar reasons, the Commission recently authorized York Water Company ("York Water") to coordinate the replacement of utility-owned service lines and adjoining customer-owned lead service lines.⁸ During its most recent triennial water sampling prior to filing its Petition, York Water found elevated levels of lead in portions of its system that

⁸ See *Petition of The York Water Co. For an Expedited Order Authorizing Limited Waivers of Certain Tariff Provisions and Granting Accounting Approval to Record Cost of Certain Customer-Owned Service Line Replacements to the Company's Services Account*, Docket No. P-2016-2577404 (Order entered Mar. 8, 2017) ("York Water Order").

exceeded the LCR action level.⁹ As a result, on December 16, 2016, York Water entered into a Consent Order and Agreement with DEP and committed to, among other things, expeditiously replace its remaining known lead service lines.¹⁰ Because York Water's then-current tariff did not authorize it to replace any customer-owned portions of lead service lines discovered during this replacement work, York Water requested, and the settling parties agreed to, a waiver of its tariff rule regarding ownership and control of service lines.¹¹ The Commission concluded that York Water's proposed course of action was an appropriate means to address the issues associated with unacceptable levels of lead:

The efficiency of this approach minimizes total costs thereby providing better service to York Water customers, particularly to those who might find the total cost of replacing the customer-owned line to be burdensome or too expensive a task to undertake independently. Additionally, a "partial lead service replacement" may not significantly reduce the lead level at the customer's tap, but may temporarily increase lead at the customer's tap due to disturbing the customer-owned service line during the partial replacement.¹²

The Commission further determined that it was more appropriate to implement the settlement through a tariff revision and, therefore, directed York Water to submit a tariff supplement and granted time-limited waivers that would expire upon the effective date of such compliance filing.¹³

⁹ *Id.*, pp. 2-3.

¹⁰ *Id.*

¹¹ *Id.*, pp. 4-5.

¹² *Id.*, p. 6.

¹³ *York Water Order*, pp. 5-7; see also *Petition of the York Water Co. For an Expedited Order Authorizing Limited Waivers of Certain Tariff Provisions and Granting Accounting Approval to Record Cost of Certain Customer-Owned Service Line Replacements to the Company's Services Account*, Docket No. P-2016-2577404 (Motion of Commissioner Gladys M. Brown issued Mar. 2, 2017) ("Moreover, I strongly encourage any future applicants seeking to address a situation similar to the one faced by York Water to propose a tariff amendment, as opposed to requesting a waiver of tariff language.").

VI. ACCOUNTING AND RATEMAKING TREATMENT OF LSP REPLACEMENT COSTS

26. As previously explained, the Company will limit LSP Replacement Costs to an annual budgetary allotment of \$6.0 million. PAWC proposes to capitalize those costs because they are incurred to create a long-lived asset that, as previously explained, has a direct, immediate and long-term impact on PAWC's ability to comply with important primary drinking water standards of the EPA and DEP. In short, PAWC's investment in replacing lead Service Pipes provides a multi-year assurance that it can continue to comply with the LCR and, as a result, its investment has all the characteristics of a capital asset of the Company. Consequently, PAWC proposes to record LSP Replacement Costs in its Services Account because that investment creates property physically connected to its Service Lines. And, just as important, because of the obligations imposed by the LCR, the Company's investments are functionally a part of property that must be considered as a single unit for purposes of complying with applicable drinking water and environmental regulatory mandates.¹⁴

27. Given all of the factors set forth above, replacing lead Service Pipes under the Company's proposed Replacement Plan is an integral part of PAWC's infrastructure rehabilitation efforts and, as such, the associated costs should properly be capitalized.

28. Prior decisions of the Commission support the Company's proposal. The Commission has previously determined that it is appropriate to capitalize the cost to replace

¹⁴ The fact that the Service Pipes installed by PAWC will not be owned or maintained thereafter by the Company does not preclude the LSP Replacement Costs from being recorded in the applicable property account of the Company. Every time the Company (or any other utility) excavates a public street to install, replace or rehabilitate its mains, services or appurtenances, it incurs substantial roadway restoration costs. The restoration costs are capitalized and booked to the utility's property account for the utility's underlying capital project even though the roadway, including the newly restored portion, remains the property of the municipality in that location. The same is also true of restoration work performed on the premises of a landowner in connection with capitalized main, service or other work performed by a utility.

customer-owned service lines, and to recover the associated “fixed costs” (depreciation and pre-tax return) of such investments through the DSIC, where the service lines being replaced are made of vulnerable material and, therefore, pose safety concerns.¹⁵ In light of lead’s negative health effects, the Commission should follow its previously-established, directly-applicable policy and authorize PAWC to capitalize its LSP Replacement Costs.

29. PAWC also requests that the Commission affirm that capitalized LSP Replacement Costs constitute the “original cost” of “eligible property” for a water utility under 66 Pa.C.S. § 1351 either by reason of such costs being recorded in the Services Account (as requested herein) and/or pursuant to section (3)(vi) of the definition of “eligible costs” as including “other capitalized costs.” Simply stated, once the Commission determines that LSP Replacement Costs should properly be capitalized – and existing Commission policy and precedent would dictate that result – then those costs are squarely within the definition of “eligible property” under Section 1351. The LSP Replacement Costs are expected to have a negligible effect on customers’ bills for water service (i.e., approximately, 10 cents per month), as explained by Mr. Cox in PAWC Statement No. 2. As also explained by Mr. Cox, the Company’s DSIC rate has reached its ceiling of 7.5% and, therefore, approval of this Petition would not result in any further increase in PAWC’s DSIC rate at this time.¹⁶

¹⁵ See *Petition of Peoples Natural Gas Co., LLC for Approval of Limited Waivers of Certain Tariff Rules Related to Customer Service Line Replacement*, Docket Nos. P-2013-2346161 (Opinion and Order entered May 23, 2013), pp. 9-10, 45 (approving gas utility’s request to capitalize the cost of replacing customer-owned bare steel service lines to address the same durability problems as utility-owned bare steel mains); *Petition of Columbia Gas of Pennsylvania, Inc. for Limited Waivers of Certain Tariff Rules Related to Customer Service Line Replacement*, Docket No. P-00072337 (Order entered May 19, 2008), pp. 4-6 (same).

¹⁶ LSP Replacement costs would not be reflected in the Company’s DSIC rate until its DSIC is “reset” following the conclusion of the Company’s base rate case filed on April 28, 2017 at Docket No. R-2017-2595853. And, even then, the Company’s DSIC rate would not be affected until after the end of the fully projected future test year used in that case (December 31, 2018) and the projected plant additions included in the Company’s rate base claims have been placed in service (i.e., in all likelihood, after the first quarter of 2019).

VII. NOTICE

30. PAWC is serving copies of this Petition on the Commission's Bureau of Investigation and Enforcement, the Pennsylvania Office of Consumer Advocate, the Pennsylvania Office of Small Business Advocate, and all parties of record in PAWC's Long-Term Infrastructure Improvement Plan proceeding at Docket No. P-2017-2585707. Should the Commission conclude that further notice of this Petition is appropriate, PAWC will provide such additional notice as directed by the Commission.

VIII. CONCLUSION

Based upon the foregoing, including the accompanying testimony and exhibits, PAWC respectfully requests that the Commission grant this Petition and enter an Order:

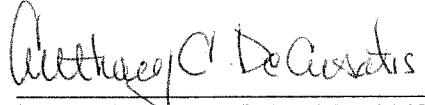
(1) Approving PAWC's proposed tariff changes as set forth in PAWC Exhibit No. 1 and authorizing PAWC to file the tariff supplement provided in PAWC Exhibit No. 1 on one-days' notice;

(2) Authorizing the Company to capitalize its LSP Replacement Costs and to record such costs in its Services Account; and

(3) Affirm that capitalized LSP Replacement Costs are "eligible property" under Section 1351 and, as such, the fixed costs (depreciation and pre-tax return) of such property are

recoverable under the Company's DSIC between base rate cases and in base rates established in a base rate proceeding.

Respectfully submitted,



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Counsel For Pennsylvania-American Water Company

Dated: May 22, 2017

DB1/ 91257056.7

Pennsylvania-American Water Company

4.9.1 Replacement of Lead Service Pipes

Notwithstanding Rules 2.11, 2.12, 2.14 and 4.9, the Company may replace lead Service Pipes pursuant to Parts 1 and 2 of its lead Service Pipe replacement plan (Replacement Plan), subject to the budgeted allotment of \$6.0 million per year for all lead Service Line replacements under its Replacement Plan. Pursuant to its Replacement Plan – Part 1, the Company will replace lead Service Pipes it encounters when replacing its mains and/or Service Lines up to the budgeted allotment of \$6.0 million per year. Pursuant to its Replacement Plan – Part 2, the Company will replace a lead Service Pipe at a customer's request subject to the following conditions: (1) verification that the customer has a lead Service Pipe; (2) the time when the replacement occurs will be determined by the Company based on factors determined by the Company including, without limitation, the number of customer requests for Service Pipe replacements in Company-designated geographic areas; and (3) availability of funds not used for Part 1 replacements under the Company's budgeted allotment of \$6.0 million per year. Lead Service Pipe replacements performed pursuant to Replacement Plan – Part 1 will have priority on the use of funds under the annual budget allotment and, therefore, in any year, funds will be used for lead Service Pipe replacements under Replacement Plan – Part 2 only to the extent that funds are available within the budget allotment and are not allocated to Part 1 replacements planned for that year. Portions of the annual budget allotment of \$6.0 million that are not expended on lead Service Pipe replacements under Part 1 or Part 2 of the Replacement Plan in a year will roll-over to the next subsequent year, but use of the roll-over funds will still be subject to the requirement that priority be given to Part 1 replacements. The Company may, but shall not be required, to petition the Commission for approval to modify its annual budget allotment of \$6.0 million if the Company, in its sole discretion, determines that its annual budget allotment no longer meets the future needs of administering both Parts of the Replacement Plan. However, no change may be made without prior Commission approval. All lead Service Pipe replacements made under the Company's Replacement Plan shall be at the Company's sole cost, subject to the accounting and rate treatment approved by the Order of the Pennsylvania Public Utility Commission (Commission) entered [date] at Docket No. P-2017-____ (Approval Order). After a lead Service Pipe is replaced by the Company, the Customer shall own the Service Pipe and shall have full responsibility for the repair, replacement and maintenance of the new Service Pipe, which, upon installation, shall thereafter be subject to the terms of Rules 2.12, 2.14 and 4.9. The Customer shall enter into an **Agreement for Replacement of Lead Service Pipe**, in a form provided by the Company, prior to the initiation of any work by the Company to replace a Customer's Service Pipe.

Issued:

Effective:

Pennsylvania American Water Company
Annual Revenue Requirement Impact
Replacement of Lead Customer-Owned Service Pipes

<u>Line #</u>		
1	Total Annual Budgeted Funds for Replacing Customer-Owned Service Pipe	\$ 6,000,000
2	Annual Revenue Requirement Rate	11.73% *
3	Annual Capital Cost Recovery (Line 1 x Line 2)	\$ 703,800
4	Annual Depreciation Rate - Services	1.74% *
5	Annual Depreciation Cost (Line 1 x Line 4)	\$ 104,400
6	Annual Revenue Requirement (Line 3 + Line 5)	\$ 808,200
7	Number of DSIC Eligible Customers	654,356 **
8	Annual Cost Per Customer (Line 6 / Line 7)	\$ 1.24

* The Annual Revenue Requirement Rate and the Annual Depreciation Rate are the same as those used in the Company's Water DSIC filing that was approved at Docket No. M-2017-2594415 and became effective on April 1, 2017.

** The Number of DSIC-Eligible Customers is the numebr of water customers at December 31, 2016 excluding Public Fire Customers.

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**PETITION OF PENNSYLVANIA-AMERICAN WATER COMPANY
FOR APPROVAL OF TARIFF CHANGES AND ACCOUNTING AND
RATEMAKING TREATMENT RELATED TO REPLACEMENT
OF LEAD CUSTOMER-OWNED SERVICE PIPES
DOCKET NO. P-2017-_____**

**DIRECT TESTIMONY
OF
DAVID R. KAUFMAN**

**WITH REGARD TO

PENNSYLVANIA-AMERICAN WATER COMPANY'S PLAN TO
REPLACE CUSTOMER-OWNED LEAD SERVICE PIPES**

DATE: May 22, 2017

PENNSYLVANIA-AMERICAN WATER COMPANY

DIRECT TESTIMONY OF DAVID R. KAUFMAN

1 **Q. What is your name and business address?**

2 A. My name is David R. Kaufman, and my business address is 800 West Hersheypark
3 Drive, Hershey, Pennsylvania 17033.

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

5 A. I am employed by Pennsylvania-American Water Company (“PAWC or the “Company”)
6 as Vice President of Engineering.

7 **Q. Please describe your educational background and business experience.**

8 A. In 1975, following graduation from Pennsylvania State University with a Bachelor of
9 Science degree in civil engineering, I accepted an engineering position with Pennsylvania
10 Gas and Water Company (“PG&W”) in Wilkes-Barre, Pennsylvania. I remained in that
11 position until 1989, when I was promoted to Manager of Water Engineering for PG&W.
12 In August 1991, I was promoted to Vice President of Water Resources for PG&W. In
13 that position, I was responsible for PG&W’s water operations relating to water supply,
14 water quality and treatment, water engineering and planning. When the water assets of
15 PG&W were acquired by PAWC in February 1996, I accepted an Operations Manager
16 position with the Company in its Northeast Region. I remained in that position until
17 February 2001, when I was promoted to Manager of Northeast Operations. In 2004, I
18 accepted the position of Director of Engineering – Southeast Region with American
19 Water Works Service Company and remained in that position until I accepted the
20 position of Vice President of Engineering for PAWC. I am a registered Professional
21 Engineer in Pennsylvania and hold a Class A1 water treatment plant operator’s license.

1 **Q. Do you belong to any professional or industry associations?**

2 A. Yes, I am a member of the American Water Works Association, the Pennsylvania
3 Chapter of the National Association of Water Companies, the American Society of Civil
4 Engineers and the Water Environmental Federation.

5 **Q. What are your duties and responsibilities in your current position?**

6 A. As Vice President of Engineering for PAWC, I am responsible for the administration of
7 engineering services, including the planning, design and construction of water and
8 wastewater capital investment projects for all of PAWC's systems and facilities.

9 **Q. Have you previously submitted testimony before the Pennsylvania Public Utility
10 Commission ("PUC" or "Commission")?**

11 A. Yes. I have testified before the Commission on several occasions in both water and
12 wastewater proceedings, including, most recently, in the Company's base rate case filed
13 on April 28, 2017 at Docket No. R-2017-2595853.

14 **Q. What is the purpose of your testimony?**

15 A. My direct testimony is being submitted in support of the Company's Petition for
16 Approval of Tariff Changes and Accounting and Ratemaking Treatment Related to
17 Replacement of Lead Customer-Owned Service Pipes ("Petition"). My testimony is
18 divided into several parts. First, I provide an overview of PAWC's operations and water
19 distribution system. Next, I discuss PAWC's efforts to protect customers from lead
20 exposure in the drinking water the Company supplies consistent with federal and state
21 regulatory standards established by the United States Environmental Protection Agency
22 ("EPA") and Pennsylvania Department of Environmental Protection ("DEP"). Third, I
23 explain why PAWC's proposed plan to replace customer-owned lead Service Pipes

1 (“Replacement Plan”) is in the public interest.¹ Finally, I describe the estimated costs of
2 lead Service Pipe replacement and the Company’s proposed budget cap for its
3 Replacement Plan.

4 **Overview Of PAWC’s Operations And Water Delivery System**

5 **Q. Please describe PAWC and the Company’s commitment to provide a high quality of**
6 **service to its customers.**

7 A. As of February 27, 2017, PAWC provides water service to 655,632 customers –
8 representing a population of approximately 2.3 million – and wastewater service to
9 54,478 customers in over 405 communities located in 36 of the 67 counties in
10 Pennsylvania. As a public utility, the Company is subject to the regulatory authority of
11 the Commission. In addition, the Company must comply with drinking water,
12 environmental and other operational standards established by the DEP and the EPA.
13 The Company’s commitment to serving its customers is organized around five key
14 principles: quality, safety, customer satisfaction, regulatory compliance and operational
15 efficiency. PAWC evaluates all aspects of its business based on those principles and
16 changes its operations to achieve continuous improvement and to deliver reliability and
17 high quality water and wastewater service to its customers.

18 **Q. Does the Company have a particular focus on quality of the drinking water it**
19 **provides to Commonwealth residents?**

¹ As explained by Mr. Cox in PAWC Statement No. 2, Rules 2.11 and 2.12, respectively, set forth at page 16 of PAWC Tariff Water-Pa. P.U.C. No 4 (“Tariff No. 4”), define a “Service Line” as “[t]he Company-owned piping and appurtenances which run between and are connected to the Company’s main and its street service connection,” and a “Service Pipe” as “[t]hat part of the water line not owned by the Company” that “begins at the Company-owned street service connection and continues into the structure on the premise[s] to be supplied.” Therefore, throughout my testimony, I use the terms “Service Line” and “Service Pipe” as they are defined in Rules 2.11 and 2.12 of Tariff No. 4.

1 A. Yes. PAWC has provided water service to its customers for over 130 years and has an
2 exceptional record of meeting regulatory standards for drinking water. The Company has
3 also been recognized for its water treatment plant optimization and water quality
4 achievements. For example, thirty-one of PAWC's thirty-six surface water treatment
5 plants earned Directors' Awards in the EPA's Partnership for Safe Drinking Water
6 program for outstanding performance with respect to meeting water quality and
7 environmental standards. As of 2016, only thirty-three water treatment surface plants in
8 the U.S. have received the program's highest honor, the Phase IV Presidents Award, and
9 nine of those recognitions were awarded to PAWC plants.

10 **Q. Please provide a general description of PAWC's water distribution system.**

11 A. The Company's water distribution system consists of water mains, hydrants and valves,
12 pumping stations, storage facilities, and meters and services. PAWC owns and operates
13 nearly 10,000 miles of water distribution mains, ranging in diameter from two inches to
14 forty-eight inches. These water mains are generally made from either ductile iron or cast
15 iron. The Company also owns and operates over 700,000 Service Lines, which I will
16 discuss in detail later in my testimony.

17 **Q. What portion of service piping is the Company's responsibility?**

18 A. Ownership and responsibility for the maintenance, repair and replacement of Service
19 Lines and Service Pipes lies with the Company and customers, respectively. Under
20 existing Rules 2.1, 2.2 and 4.9 of Tariff No. 4, the Company owns and is responsible for
21 the Service Line, which extends from the water main to the curb stop, while the customer
22 owns, and is responsible for, the Service Pipe that extends from the curb stop to the
23 customer's premises.

1 **PAWC's Approach To Mitigate Potential Lead Exposure In Drinking Water**

2 **Q. What is lead?**

3 A. Lead is a naturally occurring metal that is harmful if inhaled or swallowed, particularly to
4 children and pregnant women. Lead exposure can cause a variety of adverse health
5 effects. For example, lead exposure can cause developmental delays in babies and
6 toddlers and deficits in the attention span, hearing and learning abilities of children. Lead
7 exposure can also cause hypertension, cardiovascular disease and decreased kidney
8 function in adults. The most common sources of lead exposure are paint and dust, but
9 lead can also be found in drinking water. Recent events, including those in Flint,
10 Michigan, have heightened PAWC customers' concern about the presence of lead in
11 drinking water.

12 **Q. How can lead enter drinking water?**

13 A. PAWC's drinking water does not contain lead when it leaves the treatment plant. Lead
14 leaches into water over time through corrosion, a dissolving or wearing away of metal
15 caused by a chemical reaction between water and plumbing materials. The risk for lead
16 contamination arises when water passes through lead service lines and premise plumbing
17 fixtures and solder used to join pipes and faucets. Lead solder was banned in
18 Pennsylvania in 1991.² Congress has also set limits on the amount of lead that can be
19 used in plumbing.³

20 **Q. Does any lead piping remain in service in public water systems in the**
21 **Commonwealth?**

² See 35 P.S. §§ 723.3-723.5.

³ 42 U.S.C. § 300g-6.

1 A. Yes. Until around 1950, it was common practice for water utilities in Pennsylvania to
2 install lead service lines. The Company ceased installation of lead Service Lines by the
3 1950's. However, some lead piping remains in service in the portions of PAWC's
4 distribution system that predate this change and in systems subsequently acquired by the
5 Company.

6 **Q. Please describe PAWC's obligations under federal and state regulatory standards to**
7 **control lead levels in the drinking water at the customer's tap.**

8 A. Federal and state regulations require public drinking water providers, including the
9 Company, to regularly test for contaminants such as lead. The EPA and DEP
10 promulgated treatment technique regulations for lead and copper (the "Lead and Copper
11 Rule" or "LCR") in 1991 and 1994, respectively, which establish an action level for lead
12 of 15 parts per billion (ppb).

13 The current LCR requires public water suppliers to employ water treatment
14 methods, as necessary, to minimize the corrosive quality of the water they provide
15 because corrosion can cause lead piping and lead solder to leach lead into the water
16 drawn at the customer's tap. If, notwithstanding optimal corrosion control measures, the
17 lead "action level" is exceeded in more than 10% of the samples in a water system, LCR
18 regulations require replacement of utility-owned and customer-owned lead piping.
19 However, the applicable regulation permits the utility to replace only the segment it owns
20 if a customer is unable or unwilling to pay for replacing the portion of the service piping
21 for which the customer is responsible. In PAWC's case, its options are further limited by
22 Rule 4.9 of Tariff No. 4, which, as discussed by Mr. Cox, does not authorize the
23 Company to replace a customer's Service Pipe.

1 **Q. Please describe the Company’s approach to address potential sources of lead in**
2 **drinking water at the customer’s tap.**

3 A. PAWC employs a proactive, multi-faceted approach to manage the potential risks of lead
4 exposure as part of its commitment to maintain excellent water quality and protect the
5 health and safety of its customers. These layers of protection include treatment of water,
6 monitoring of key indicators of water quality, identification and inventorying of Service
7 Line materials and customer education. Most significantly, the Company implemented
8 corrosion control treatment measures and sampling protocol approved by the DEP in the
9 early 1990’s, which have been optimized several times over the past two decades to
10 reflect the latest available science and best practices. In addition, the Company employs
11 a wide variety of tools to help customers understand how they can reduce the risk of lead
12 exposure from their own older plumbing, including a comprehensive lead information
13 page on PAWC’s website.

14 **Q. What is the Company’s track record in meeting LCR requirements?**

15 A. Notwithstanding the presence of the lead piping in its distribution system, PAWC has a
16 well-established history of LCR compliance. In the past thirty years, the Company has
17 not triggered the LCR action level requirements in any portion of its system,⁴ which is a
18 testament to the effectiveness of the Company’s corrosion control measures and prudent
19 management of its distribution system.

⁴ In McEwensville and Wildcat Park, two small systems recently acquired by PAWC, testing during the Company’s 2016 sampling period indicated a possible exceedance that, upon further analysis, was attributed to sampling irregularities. DEP agreed that testing two subsequent, properly obtained samples showing negative results would confirm that the action level had not been exceeded. The results of the first round of subsequent sampling and testing have been below the lead action level.

Prudency Of PAWC's Replacement Plan

Q. Please describe PAWC's proposed Replacement Plan.

A. PAWC's Replacement Plan consists of two parts. First, PAWC will proactively remove and replace, with the customer's consent, lead Service Pipes that are encountered when it replaces its mains and service lines ("**Replacement Plan – Part 1**"). Second, PAWC will remove and replace lead Service Pipes when requested to do so by a customer, subject to the conditions described later in my testimony ("**Replacement Plan – Part 2**").

Q. Is the Replacement Plan an important step in assuring that PAWC will continue to maintain compliance with applicable drinking water regulations?

A. Yes. The LCR imposes an obligation on PAWC and other drinking water providers to furnish water that is below the lead action level at the customer's tap even if the source of lead originates within the customer-owned service pipes and the in-home piping. Consequently, remaining in compliance with applicable drinking water regulations necessarily requires taking steps to address possible sources of lead contamination from customer-owned property. Eliminating lead Service Pipes, together with PAWC's robust corrosion control water treatment measures and the Company's ongoing efforts to eliminate its remaining lead Service Lines, are a prudent and effective means to maintain regulatory compliance and protect public health.

Q. Why is PAWC proposing, pursuant to Replacement Plan – Part 1, to remove all lead Service Pipes that are encountered when the Company replaces its mains and Service Lines given PAWC's full compliance with LCR requirements?

A. The Company targets specific areas for its ongoing main and Service Line replacement programs based on a variety of factors, including water quality concerns, age, break rates and public health concerns. The opportunity to eliminate its remaining lead Service

1 Lines is another factor PAWC evaluates during planning for water main and Service Line
2 infrastructure replacements.

3 However, continuing scientific advancements complicate the issue of replacing
4 the Company's lead Service Lines as they are encountered during infrastructure project
5 work. A relatively recent and growing body of research indicates that a "partial"
6 replacement, which physically disturbs, but leaves in place, the customer's segment of a
7 service connection, potentially elevates the risk of lead exposure through drinking water
8 after the replacement occurs. For that reason, the National Drinking Water Advisory
9 Council recommended that the EPA revise the LCR regulations to require complete
10 replacement of both the utility and customer segments of service connections that contain
11 lead.

12 In light of this research suggesting that partial replacement increases the risk of
13 lead exposure, an increasing number of utilities, including the Company are
14 reconsidering or avoiding this practice where possible. For its part, PAWC has tried to
15 stage its main replacements to avoid portions of its distribution system where lead
16 Service Pipes are likely to remain in service. Nonetheless, infrastructure rehabilitation in
17 those areas is necessary and must be undertaken. This work will entail replacing mains
18 and Service Lines. Replacing lead Service Pipes when the corresponding mains or
19 Service Lines are replaced will eliminate a potential source of lead exposure following a
20 "partial" replacement for PAWC's customers.

21 **Q. Please explain how replacing only the Service Line where a lead Service Pipe is**
22 **encountered may increase the risk of lead exposure through drinking water at the**
23 **customer's tap.**

1 A. Physical disturbance of lead Service Pipes and electrochemical processes both contribute
2 to an increased risk of lead contamination following a partial replacement. Removing
3 and replacing the Service Line and curb box connection may disturb the “scale” or
4 coating that builds up naturally inside of the Service Pipe over its years in service. If an
5 insoluble and adherent scale forms, there is a physical barrier that prevents leaching of
6 lead into the water the lead Service Pipe delivers.⁵ This protective barrier, however, may
7 be susceptible to releasing lead and other accumulated material in the scales following
8 physical disturbances related to infrastructure work.

9 If a lead Service Line is replaced with a line made of another metal, conditions are
10 created for bimetallic corrosion. The lead in the Service Pipe is a sacrificial metal that
11 loses electrons to the non-lead material it adjoins. This is the cause of corrosion, which
12 affects the interior wall of the lead Service Pipe and accelerates leaching of lead into the
13 water passing through the pipe. While optimal corrosion control techniques can mitigate
14 this risk, it is still a risk that should be avoided given the health and safety concerns
15 associated with lead contamination.

16 **Q. How many lead Service Lines and Service Pipes does the Company expect to**
17 **identify and replace over a ten-year period under Part 1 of its Replacement Plan?**

18 A. PAWC is currently reviewing its distribution system materials inventory to confirm the
19 number and location of lead Service Lines. Preliminary surveys of the Company’s tap
20 cards indicate that approximately 18,000 lead Service Lines remain on its system. The
21 Company does not have records regarding the composition of the Service Pipes that are
22 installed and owned by the customer. Consequently, PAWC does not have an exact

⁵ See *Optimal Corrosion Control Treatment Evaluation Technical Recommendations for Primacy Agencies and Public Water Systems*, EPA 816-B-16-003 (Mar. 2016), pp. 9-10.

1 count of lead Service Pipes that would be replaced under the Company's proposal. Given
2 the age of the housing stock in the areas where PAWC estimates lead Service Lines are
3 located, it is reasonable to assume that the majority of the same customer premises served
4 by the Company's lead Service Lines will have lead Service Pipes. As I previously
5 explained, an elevation in lead concentration following a "partial" replacement is a
6 function of the lead Service Pipe remaining in place. Therefore, under its Replacement
7 Plan – Part 1, PAWC proposes to replace lead Service Pipes when they are encountered
8 in conjunction with the Company's main and/or Service Line replacements whether or
9 not the associated Service Line that is also being replaced is made of lead or some other
10 material.

11 **Q. Is the Company also proposing to proactively address lead Service Pipes that are**
12 **not within the scope of Replacement Plan – Part 1?**

13 A. Yes. There are lead Service Pipes serving customer premises in locations that are not
14 within areas where the Company is replacing, or plans to replace, its mains and Service
15 Lines. The Company believes that its corrosion control treatment process coupled with
16 required monitoring of lead levels at customers' taps in these areas assures that customers
17 are currently receiving water that fully complies with the LCR's requirements. However,
18 the Company recognizes that an incremental risk can be avoided by replacing lead
19 Service Pipes (together with the Company's Service Line if it is also lead) even in areas
20 where there is no ongoing work by the Company that would disturb the existing Service
21 Lines and adjoining Service Pipes. The best way to identify such locations is through
22 customers' requests to have their lead Service Pipes replaced. In that way, the

1 Company's customers will play a role in developing an inventory of lead Service Pipes
2 that may remain in service.

3 **Q. How will the Company coordinate customer-requested replacements under**
4 **Replacement Plan – Part 2?**

5 A. PAWC will offer to replace a Service Pipe at a customer's request if the customer and the
6 Company verify that the customer's Service Pipe is made of lead. However, these lead
7 Service Pipes will not be replaced on a customer-by-customer basis. The Company will,
8 instead, maintain a log of customer requests grouped by relevant geographic areas. When
9 a reasonable number of requests have been received in a given area, the Company, using
10 the same qualified contractors it uses for its own distribution system work, will undertake
11 all of the replacements in an area as part of a single project. This approach allows the
12 Company to realize economies of scale. The time when the replacement occurs will be
13 determined by the Company, in its discretion, based on factors such as the number of lead
14 Service Pipes identified through customer requests in Company-designated geographic
15 areas. While customer-requested lead Service Pipe replacements may occur over a
16 longer time horizon than Part 1 replacements, Part 2 replacements do not have the same
17 elevated risk of lead exposure after the replacement occurs.

18 **Q. Are customer-requested replacements subject to any other conditions?**

19 A. Yes. Part 2 replacements are also subject to availability of funds not used for Part 1
20 replacements under the Company's budgeted allotment of \$6.0 million per year as
21 discussed in the next section of my testimony.

22 **Q. Is the Company's Replacement Plan a cost-effective initiative to address possible**
23 **sources from lead contamination from Service Lines and Service Pipes?**

1 A. Yes. As previously explained, PAWC's proposed Replacement Plan is designed to: (1)
2 avoid creating a risk of exposing customers to elevated lead levels in their drinking water
3 from PAWC's extension of its infrastructure rehabilitation program into areas where lead
4 Service Pipes are more likely to exist (Part 1); and (2) proactively remove any possible
5 risk of lead exposure from Service Pipes in other areas in a coordinated manner (Part 2).
6 However, many customers have been reluctant to replace their lead Service Pipes,
7 particularly, in older neighborhoods with populations that face economic constraints that
8 make it difficult or impossible for them to pay for replacement, which could cost
9 individual customers, on average, \$3,500. Allowing PAWC, at its sole cost, to replace
10 lead Service Pipes under its Replacement Plan is a reasonable solution to this problem.
11 Furthermore, the Company will be able to leverage economies of scale to reduce costs
12 and minimize service disruptions related to lead Service Pipe replacements. In addition
13 to these efficiencies, PAWC's ability to coordinate the replacement of Service Lines and
14 lead Service Pipes will streamline project administration and reduce overall costs.

15 **Q. Please provide an overview of PAWC's implementation strategy for its proposed**
16 **Replacement Plan.**

17 A. The Company proposes to begin replacing lead Service Pipes as they are identified in
18 conjunction with its ongoing main and Service Line replacements as soon as practicable
19 after the Commission approves the Petition. Replacements under Part 2 would begin
20 when the customer request level in a designated geographic area would support
21 undertaking a project to replace the verified lead Service Pipes identified by those
22 customer requests.

1 Under the proposed tariff changes described by Mr. Cox, prior to the initiation of
2 any work by the Company to replace a Customer's Service Pipe under Replacement Plan
3 – Part 1, the affected customer must enter into an appropriate agreement with the
4 Company, which among other things, authorizes the Company to access the customer's
5 property to undertake the replacement work and acknowledges that the ownership and
6 responsibility for the future maintenance, repair and replacement of the newly replaced
7 Service Pipe will remain with the customer. In addition, those tariff changes provide
8 that, pursuant to its Replacement Plan – Part 2, the Company will replace a lead Service
9 Pipe at a customer's request subject to the conditions I previously described.

10 To inform customers about Replacement Plan – Part 1, the Company will provide
11 a letter to all customers within the areas affected by water main and Service Line renewal
12 projects. The Company will also undertake appropriate customer education in areas that
13 align with the scope of its Replacement Plan – Part 2 to let customers in those areas know
14 that the Company is offering to replace their lead Service Pipes under the conditions
15 previously described. When a lead Service Pipe replacement is completed under both
16 Parts of the Replacement Plan, the Company will provide flushing instructions for the
17 customer and contractor, a water sampling kit and a fact sheet about lead and Service
18 Pipe replacement.

19 **Lead Service Pipe Replacement Costs And Budgetary Allotment**

20 **Q. Has the Company estimated the cost of replacement for lead Service Pipes?**

21 A. Yes. PAWC estimates that the average cost to replace a lead Service Pipe would
22 approximate \$3,500 whether the replacement is done under Parts 1 or 2 of its proposed
23 Replacement Plan. As previously noted, however, the Company will establish a budget

cap of \$6.0 million per year to replace lead Service Pipes under its Replacement Plan. PAWC believes an allotment of \$6.0 million per full calendar year is adequate to address lead Service Pipes encountered under Replacement Plan – Part 1 and provide a reasonable level of funds to implement Replacement Plan – Part 2 while balancing the impact of both Parts of the Replacement Plan upon customer rates. Depending on when the Commission’s final Order in this proceeding is issued, the first year’s allocation may be prorated on a monthly basis. If PAWC determines that the proposed annual budget no longer meets the future needs of administering both Parts of the Replacement Plan, the Company may seek Commission approval to modify this amount.

Q. Please describe the priority of expenditures within the budget for each Part of the Replacement Plan.

A. The Replacement Plan – Part 1 will have first priority on the use of the annual budget allotment. Subject to the coordination, grouping and minimum customer request levels discussed previously, any funds available in the annual budgetary allotment not used for the Replacement Plan – Part 1 will be applied to lead Service Pipe replacements under Replacement Plan – Part 2 in that year. If, in any year, the entire budgetary allotment is not expended by PAWC, it will be carried forward and added to the budgetary allotment for the next subsequent year. However, the priority of use by each Part of the Replacement Plan will remain the same.

Q. Does PAWC intend to pursue state and federal funding sources to offset Replacement Plan costs recovered from customers in the manner described by Mr. Cox in PAWC Statement No. 2?

A. Yes. PAWC will seek low cost state and federal funding through PENNVEST

1 (Pennsylvania Infrastructure Investment Authority) to the extent funding is available.

2 **Q. Does this conclude your direct testimony?**

3 A. Yes, it does.

4

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**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**PETITION OF PENNSYLVANIA-AMERICAN WATER COMPANY
FOR APPROVAL OF TARIFF CHANGES AND ACCOUNTING AND
RATEMAKING TREATMENT RELATED TO REPLACEMENT
OF LEAD CUSTOMER-OWNED SERVICE PIPES**

DOCKET NO. P-2017-_____

DIRECT TESTIMONY

OF

JOHN R. COX

**WITH REGARD TO
PENNSYLVANIA-AMERICAN WATER COMPANY'S PROPOSAL
TO REVISE ITS TARIFF RULE PERTAINING TO CUSTOMERS' RESPONSIBILITY
TO REPLACE LEAD CUSTOMER-OWNED SERVICE PIPES; CAPITALIZATION OF
REPLACEMENT COSTS; RATEMAKING TREATMENT OF SUCH COSTS; AND
ANTICIPATED REVENUE REQUIREMENT IMPACT OF THE COMPANY'S
PROPOSAL**

DATE: May 22, 2017

PENNSYLVANIA-AMERICAN WATER COMPANY
DIRECT TESTIMONY OF JOHN R. COX

1 I. INTRODUCTION AND PURPOSE OF TESTIMONY

2 Q. What is your name and business address?

3 A. My name is John R. Cox. My business address is 800 West Hersheypark Drive, Hershey,
4 Pennsylvania 17033.

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 Regulations - Pennsylvania.

8 Q. Please summarize your educational background and professional experience.

9 A. I am a 1985 graduate of Shippensburg University of Pennsylvania with a Bachelor of
10 Science degree in Business Administration, with a major in accounting. In 1999, I
11 received a Master of Business Administration degree from Lebanon Valley College. I
12 have also completed the continuing education program sponsored by the National
13 Association of Regulatory Utility Commissioners (NARUC) and the University of Utah.
14 I have been employed by Pennsylvania-American Water Company ("PAWC" or the
15 "Company") or the Service Company since June 1986. From 1986 through June 1988, I
16 served as a staff accountant in the Accounting Department. In July 1988, I was
17 transferred to the Rate Department, and, in July 1989, I was promoted to Senior Rate
18 Analyst. In 1991, I was promoted to accounting supervisor and held that position until
19 December 2000 when I was promoted to Fleet and Materials Management
20 Superintendent. In July 2004 I was promoted to the position of Senior Financial Analyst
21 assigned to the Finance Department. In 2007, I was promoted to the position of Manager

1 of Rates and Regulations, and, in 2016, I was promoted to my current position of Director
2 of Rates and Regulations - Pennsylvania.

3 **Q. What are your duties as Manager of Rates and Regulations?**

4 **A.** My duties include, principally, preparing and presenting rate applications for PAWC. In
5 addition, I am responsible for various aspects of the financial, budgeting and regulatory
6 functions of the Company and general tariff administration.

7 **Q. Have you previously submitted testimony before the Pennsylvania Public Utility
8 Commission (“PUC” or the “Commission”)?**

9 **A.** Yes. I previously presented testimony on accounting and rate matters before the
10 Commission. I have also prepared water rate applications that were presented to the
11 Maryland Public Service Commission and the Virginia State Corporation Commission by
12 subsidiaries of the American Water Works Company that operate in those states.

13 **Q. What is the purpose of your testimony?**

14 **A.** My direct testimony is being submitted in support of the Company’s Petition for
15 Approval of Tariff Changes and Accounting and Ratemaking Treatment Related to
16 Replacement of Lead Customer-Owned Service Pipes (“Petition”). The purpose of my
17 direct testimony is fourfold.

18 First, I will introduce and explain PAWC’s Exhibit No. 1, which is a proposed
19 Supplement to PAWC Tariff Water-Pa. P.U.C. No. 4 (“Tariff No. 4”). The proposed
20 Supplement, if approved, will revise the Company’s Rules and Regulations to authorize
21 PAWC to replace lead customer-owned Service Pipes¹ at its sole cost, while leaving with

¹ The terms “Service Line” and “Service Pipe” are defined in Rules 2.11 and 2.12, respectively, at page 16 of Tariff No. 4. Specifically, a “Service Line” is “[t]he Company-owned piping and appurtenances which run between and are connected to the Company’s main and its street service connection,” and a “Service Pipe” is

1 the affected customers the ownership and responsibility to maintain, repair and replace
2 the new Service Pipe after it is installed.

3 Second, I will describe the Company's proposal to capitalize the costs it incurs to replace
4 customer-owned lead Service Pipes and record the capitalized amount in Account 333 –
5 Services in the Company's regulated books of account.

6 Third, I will explain the proposed rate treatment of capitalized lead Service Pipe
7 replacement costs that the Company's Petition requests the Commission to affirm. In this
8 regard, I will explain that such replacement costs represent "eligible property" under
9 Section 1351 of the Public Utility Code.²

10 Fourth, I will explain the relatively small increase in annual revenue requirement that
11 would result from granting the approvals requested in the Petition. The revenue
12 requirement calculation is set forth in PAWC Exhibit No. 2.

13 **II. PAWC'S PROPOSED TARIFF SUPPLEMENT**

14 **Q. What does Tariff No. 4 currently provide regarding customers' ownership and**
15 **responsibility to maintain, repair and replace Service Pipes?**

16 **A.** As I previously noted, Rules 2.11 and 2.12 of Tariff No. 4 define a Service Line and
17 Service Pipe, respectively, as follows:

18 2.11 Service Line

19 The Company-owned piping and appurtenances which run
20 between and are connected to the Company's main and its service
21 connection.

"[t]hat part of the water line not owned by the Company" that "begins at the Company-owned street service connection and continues into the structure on the premise[s] to be supplied." In my direct testimony, I will use the terms Service Line and Service Pipe as they are defined in Tariff No. 4 to refer to the Company-owned and customer-owned segments of a service line connecting a Company main with a customer's premises.

² Unless I indicate otherwise, when I refer to a "Section," I am referring to a section of the Public Utility Code.

1 2.12 Service Pipe

2 That portion of a water line not owned by the Company
3 which transmits water from the Company-owned water main to the
4 Customer's premise[s]. The water service pipe begins at the
5 Company-owned water main to the Customer's premise[s]. The
6 water service pipe begins at the Company-owned street service
7 connection and continues into the structure on the premise[s] to be
8 supplied.

9
10 Rule 2.14 is also relevant. It provides as follows:

11 2.14 Street Service Connection

12 A street service connection is hereby understood to include
13 a connection to the main pipe to and including the control valve
14 and control valve box, used to carry water from the main to the
15 curb line. The control valve and box terminates the Company's
16 responsibility for expense of the street service connection.

17
18 Additionally, Rule 4.9 of Tariff provides, in relevant part, as follows:

19 4.9 Customer Responsibility for Service Pipe

20 The Customer shall have full responsibility for the
21 installation, repair, replacement, and maintenance of all Service
22 Pipes . . .

23
24 **Q. What change to Tariff No. 4 would be made by the Supplement set forth in PAWC**

25 **Exhibit No. 1?**

26 **A.** The proposed Supplement would add Rule 4.9.1 to Tariff No. 4. The complete text of
27 Rule 4.9.1 is set forth in PAWC Exhibit No. 1. In summary, Rule 4.9.1 contains three
28 operative elements.

29 First, it provides that, notwithstanding Rules 2.12, 2.14 and 4.9, the Company may, at its
30 sole cost, replace lead Service Pipes pursuant to its proposed two-part lead Service Pipe

1 replacement plan (“Replacement Plan”), as follows: (1) when lead Service Pipes are
2 encountered as part of the Company’s on-going work to replace its mains and/or Service
3 Lines (Replacement Plan – Part 1); and (2) at a customer’s request, subject to certain
4 conditions, namely, verification of the presence of a lead Service Pipe and the
5 Company’s determination of when the replacement will occur based on the number of
6 requests in a given geographic area and the availability of funds within its budgeted
7 allotment (Replacement Plan – Part 2). Both Parts 1 and 2 will be subject to a maximum
8 budget allotment of \$6.0 million, and Part 1 will have priority in the use of the annual
9 funding allotment.

10 Second, Rule 4.9.1 provides that the customer will own and retain responsibility for the
11 maintenance, repair and replacement of its Service Pipe after it is replaced by the
12 Company.

13 Third, the proposed tariff revision provides that a customer whose lead Service Pipe is
14 replaced by the Company pursuant to Rule 4.9.1 shall enter in an appropriate agreement
15 with the Company before work to install the replacement begins, which will include
16 granting permission for the Company to enter onto the customers’ property to do the
17 replacement.

18 **Q. Why is the Company proposing to add Rule 4.9.1 to Tariff No. 4?**

19 A. The reasons for proposing Rule 4.9.1 are provided in the Petition and in PAWC
20 Statement No. 1, the direct testimony of David R. Kaufman. In summary, Rule 4.9.1 will
21 provide the authority the Company needs to replace lead Service Pipes under its proposed
22 Replacement Plan. The Petition and Mr. Kaufman’s direct testimony describe Parts 1
23 and 2 of the Replacement in more detail and also explain that customers are reluctant to

1 incur the cost to replace their lead Service Pipes, particularly in neighborhoods with older
2 housing stock where most lead Service Pipes are located and homeowners face economic
3 constraints that make it difficult or impossible for them to bear that cost. Rule 4.9.1 is a
4 reasonable solution to that problem. Additionally, as also explained in the Petition and
5 Mr. Kaufman’s direct testimony, Rule 4.9.1 is necessary to assure that PAWC continues
6 to maintain compliance with regulatory mandates that impose on the Company the
7 responsibility to avoid elevated lead levels in water at the customer’s tap even though the
8 source of lead may be the customer’s own property – not the Company’s. Finally, the
9 Petition and Mr. Kaufman’s testimony also explain that the Replacement Plan has been
10 designed to capture economies of scale and other efficiencies in order to make it more
11 cost-effective for the Company to replace Service Pipes in the manner and over the time-
12 period it proposes.

13 **III. ACCOUNTING FOR LEAD SERVICE PIPE REPLACEMENT COSTS**

14 **Q. How does the Company propose to account for the costs it incurs to replace lead**
15 **Service Pipes under the Replacement Plan?**

16 A. The Company is proposing, and asks the Commission to approve, capitalizing the costs to
17 replace lead Service Pipes pursuant to its Replacement Plan. Additionally, the Company
18 requests approval to record such capitalized costs in Account 333 – Services.

19 **Q. Why is it appropriate to capitalize the costs PAWC incurs to replace lead Service**
20 **Pipes pursuant to both Parts of the Replacement Plan?**

21 A. As explained in the Petition and by Mr. Kaufman, regulatory mandates, specifically, the
22 “Lead and Copper Rule,” impose an obligation on the Company to assure that the “action
23 level” for lead is not triggered by water furnished to customers’ taps even if the source of

1 lead originates on a customer's property, such as a lead Service Pipe. Lead Service Pipe
2 replacement costs represent a long-lived asset that has a direct and long-lasting impact on
3 PAWC's ability to comply with the primary drinking water standards of the EPA and
4 DEP. By providing a multi-year assurance that PAWC will remain below the action level
5 prescribed by the Lead and Copper Rule, the Company's investment in replacing lead
6 Service Pipes has all of the relevant characteristics of a capital asset and should be treated
7 as such for regulatory accounting purposes.

8 **Q. Why is the Company proposing to record lead Service Pipe replacement costs in**
9 **Account 333 – Services?**

10 A. The Company proposes to record the capitalized lead Service Pipe replacement costs in
11 Account 333 because those costs create property that is physically connected to its own
12 Service Lines. And, just as important, because of the obligations imposed by the Lead
13 and Copper Rule, the replacement costs are functionally part a unit of property – services
14 – that must be considered in its entirety for purposes of complying with important health
15 and safety related regulatory mandates. Account 333 has a relatively long depreciable
16 life and, therefore, capitalizing lead Service Pipe replacement costs in that account will
17 result in a relatively low annual depreciation rate (1.74%).

18 **Q. Is it appropriate to record Service Pipe replacement costs in Account 333 even**
19 **though the customer will own, and be responsible for, the new Service Pipe after the**
20 **replacement?**

21 A. Yes, it is. For the reasons I explained above, the replacement costs should properly be
22 recognized as an asset of the Company. In addition, the fact that the Service Pipes
23 installed by PAWC will not be owned or maintained thereafter by the Company does not

1 preclude the replacement costs from being recorded in Account 333. Every time the
2 Company (or any other utility) opens a public street to install, replace or rehabilitate its
3 mains, services or appurtenances, it incurs substantial roadway restoration costs. The
4 restoration costs are capitalized and booked to the utility's property account for the
5 utility's underlying capital project (such as mains or services) even though the roadway,
6 including the newly restored portion, remains the property of the municipality in that
7 location. The same is also true of restoration work performed on the premises of a
8 landowner in connection with capitalized main, service or other work performed by a
9 utility. Consequently, what PAWC is proposing is not unique or unprecedented. In fact,
10 it is consistent with approved accounting practices already in use.

11 **IV. RATE TREATMENT OF LEAD SERVICE PIPE REPLACEMENT COSTS**

12 **Q. What is the Company requesting with regard to rate treatment of lead Service Pipe**
13 **replacement costs?**

14 A. Because lead Service Pipe replacement costs are properly capitalized and recorded in
15 Account 333, those costs are also properly includable in the Company's rate base for base
16 rate purposes, and the Company requests that the Commission expressly affirm that such
17 will be the case. In addition, the Company requests that the Commission affirm that its
18 investments in capitalized lead Service Pipe replacements represent "eligible property" as
19 defined in Section 1351 and, therefore, under Section 1357, the fixed costs (pretax return
20 and depreciation) of such investments placed in service between base rate cases may be
21 recovered through the Company's distribution system improvement charge ("DSIC").

1 **Q. What is the basis for treating the Company’s investment in lead Service Pipe**
2 **replacements as “eligible property”?**

3 A. First, for the reasons I previously discussed in Section III, above, the Company’s
4 investment in lead Service Pipe replacements is functionally a part of one property unit –
5 namely, the entire connection from main to customer’s premises – that must be
6 considered in its entirety for purposes of complying with important primary drinking
7 water standards. Moreover, the lead Service Pipe replacement costs are analogous to
8 other costs that are properly capitalized, such as road restoration costs incurred when
9 mains or services are replaced or rehabilitated. As such, the investment is integral to the
10 Company’s distribution system.

11 Second, the definition of “eligible property” for water utilities includes “utility service
12 lines.” Given the functional integration of Service Lines and the Company’s investment
13 in lead Service Pipe replacement as well as the other factors discussed above, the
14 replacement costs should appropriately be considered part of the Company’s Account
15 333, and costs recorded in Account 333 have been considered “eligible property” for
16 DSIC recover since the DSIC was first adopted for water utilities in 1996.

17 Third, lead Service Pipe replacement costs would also qualify as “eligible costs” under
18 subsection 3(vi) of the definition for water utilities, which authorizes DSIC recovery for
19 “other related capitalized costs.” Lead Service Pipe replacement costs may also be
20 considered “other related . . . costs” that should properly be “capitalized” as part of a
21 water utility’s infrastructure improvements, for all the reasons I discussed previously in
22 this portion of my direct testimony and in Section III of my testimony, above.

1 **Q. If the Company's proposal is approved by the Commission and PAWC began**
2 **incurring lead Service Pipe replacement costs as authorized by Rule 4.9.1, would the**
3 **associated capitalized costs cause the Company's current DSIC rate to increase?**

4 A. No, it would not, because the Company's DSIC rate is currently at its "ceiling" of 7.5%.
5 Therefore, implementing the Company's proposal would not cause its DSIC rate to
6 increase at this time. Such costs would not be reflected in the Company's DSIC rate until
7 its DSIC is "reset" following the conclusion of the base rate case the Company filed on
8 April 28, 2017 at Docket No. R-2017-2595853. And, even then, the Company's DSIC
9 rate would not be affected until, after the end of the fully projected future test year in that
10 case (December 31, 2018), the projected DSIC-eligible plant additions included in the
11 Company's rate base claims have been placed in service. That will likely occur after the
12 third quarter of 2019.

13 **V. REVENUE REQUIREMENT IMPACT**

14 **Q. Have you calculated the rate impact that would result if the Company's Petition is**
15 **approved – recognizing that any increase would not affect customers' rates until the**
16 **conclusion of the Company's pending base rate case?**

17 A. Yes, I have. PAWC Exhibit No. 2 sets forth the calculation of the annual increase in
18 revenue requirement based upon the Company's proposed budget allotment of \$6.0
19 million per year. For purposes of this calculation, I used the pretax return rate and the
20 depreciation rate for Account 333 – Services that were employed in the Company's
21 calculation of its quarterly DSIC adjustment that went into effect on April 1, 2017. As
22 shown on that exhibit, the annual increase in revenue requirement associated with

1 implementing the Company's proposal approximates 10 cents per month or about \$1.24
2 per year.

3 **VI. CONCLUSION**

4 **Q. Does this conclude your direct testimony at this time?**

5 **A.** Yes, it does.