COMMONWEALTH OF PENNSYLVANIA

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January 11, 2022

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120

Re: Pennsylvania Public Utility Commission
v.
Aqua Pennsylvania, Inc. and
Aqua Pennsylvania Wastewater, Inc.
Docket Nos. R-2021-3027385 (Water)
C-2021-3028466 (Water)
R-2021-3027386 (Wastewater)
C-2021-3028467 (Wastewater)

Dear Secretary Chiavetta:

Attached for electronic filing please find the Office of Consumer Advocate's Main Brief in the above-referenced proceedings. Please note that the **HIGHLY CONFIDENTIAL** version of OCA's Main Brief will only be sent to the parties that have executed the non-disclosure agreement as indicated on the Certificate of Service. The **HIGHLY CONFIDENTIAL** version of the OCA's Main Brief will be efiled using the Public Utility Commission's Share Point file process.

Copies have been served per the attached Certificate of Service.

Respectfully submitted,

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cc: The Honorable Mary D. Long **(via USPS and email)**
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Certificate of Service
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CERTIFICATE OF SERVICE

Re: Pennsylvania Public Utility Commission	:	
	:	Docket Nos. R-2021-3027385 (Water)
v.	:	C-2021-3028466 (Water)
	:	R-2021-3027386 (WW)
Aqua Pennsylvania, Inc. and Aqua	:	C-2021-3028467 (WW)
Pennsylvania Wastewater, Inc.	:	

I hereby certify that I have this day served a true copy of the following document, the Office of Consumer Advocate's Main Brief, upon parties of record in this proceeding in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant), in the manner and upon the persons listed below:

Dated this 11th day of January 2022.

Receiving the HIGHLY CONFIDENTIAL Version of OCA's Main Brief

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Dated: January 11, 2022
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BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	Docket Nos. R-2021-3027385 (Water)
v.	:	C-2021-3028466 (Water)
	:	R-2021-3027386 (WW)
Aqua Pennsylvania, Inc. and Aqua	:	C-2021-3028467 (WW)
Pennsylvania Wastewater, Inc.	:	

MAIN BRIEF
OF THE
OFFICE OF CONSUMER ADVOCATE

PUBLIC VERSION

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Dated: January 11, 2022

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I. INTRODUCTION

A. History of the Proceeding

On August 20, 2021, Aqua Pennsylvania Inc. (Aqua or Company) filed Original Tariff Water – Pa. P.U.C. No. 3 (Tariff Water No. 3) and Original Tariff Sewer – Pa. P.U.C. No 3 (Tariff Sewer No. 3) with the Pennsylvania Public Utility Commission to become effective on October 19, 2021. Through its proposed tariffs, Aqua proposes to increase the Company's total annual operating revenues by approximately $97,684,824 million per year, or approximately 17.86% over the amount of annual revenues anticipated for the Fully Projected Future Test Year (FPFTY) ending March 31, 2023. Aqua also proposes to collect $20 million of its wastewater revenue requirement from its water customers pursuant to 66 Pa. C.S. § 1311(c).

The Company serves approximately 450,000 water customers located in municipalities and territories in portions of Adams, Berks, Bradford, Bucks, Carbon, Chester, Clarion, Clearfield, Columbia, Crawford, Cumberland, Delaware, Forest, Juniata, Lackawanna, Lawrence, Lehigh, Luzerne, Mercer, McKean, Monroe, Montgomery, Northampton, Northumberland, Pike, Schuylkill, Susquehanna, Snyder, Venango, Warren, Wayne, and Wyoming Counties. The Company also serves approximately 40,000 wastewater customers in portions of Adams, Bucks, Carbon, Chester, Clarion, Clearfield, Delaware, Lackawanna, Luzerne, Monroe, Montgomery, Pike, Schuylkill, Venango, and Wyoming Counties.

On September 13, 2021, the Pennsylvania Office of Consumer Advocate (OCA) filed a Formal Complaint and Public Statement challenging the justness and reasonableness of the proposed rate increase. Numerous other parties and more than 60 Aqua customers similarly filed Formal Complaints with the Commission. On October 7, 2021, the Commission suspended the tariff filings for investigation and assigned the proceeding to the Office of Administrative Law Judge, with the Honorable Mary D. Long (ALJ) presiding.

A Prehearing Conference was held on October 15, 2021 before ALJ Long where the parties established rules for discovery and a procedural schedule, among other things. On November 10, 2021, the OCA filed OCA Statement 2, the Direct Testimony of Morgan N. DeAngelo[1]; OCA Statement 3, the Direct Testimony of David J. Garrett[2]; OCA Statement 4, the Direct Testimony of Glenn A. Watkins[3]; OCA Statement 5, the Direct Testimony of Roger D. Colton[4]; OCA Statement 6, the Direct Testimony of Barbara R. Alexander[5]; and OCA Statement 7, the Direct Testimony of Terry L. Fought.[6] The OCA filed OCA Statement 1, the Direct Testimony of Ralph

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[1] Ms. DeAngelo is a Regulatory Analyst at the Office of Consumer Advocate. She regularly analyzes the financial, economic, rate of return, and policy issues relevant to ratemaking filings and presents written testimony on behalf of the OCA. She has submitted testimony in *Pa. P.U.C. v. UGI Util., Inc. – Elec. Div.*, R-2021-3023618; *Pa. P.U.C. v. Pittsburgh Water and Sewer Auth.*, R-2021-3024773; *Petition of Twin Lakes Util., Inc.*, P-2020-3020914; and *Application of Pennsylvania American Water Co.*, A-2020-3019634. A more complete description of Ms. DeAngelo's education and experience may be found at Appendix A to OCA St. 2.

[2] Mr. Garrett is the managing member of Resolve Utility Consulting, LLC. He is an independent consultant specializing in public utility regulation. Mr. Garrett has represented numerous consumer groups and state agencies in utility regulatory proceedings, primarily in the areas of cost of capital and depreciation. He is a Certified Depreciation Professional with the Society of Depreciation Professionals. He is also a Certified Rate of Return Analyst with the Society of Utility and Regulatory Financial Analysts. Mr. Garrett's background and qualifications are attached as Exhibit DJG-1 to OCA Statement 3.

[3] Mr. Watkins is a Principal and Senior Economist with Technical Associates, Inc., an economics and financial consulting firm. Mr. Watkins has conducted marginal and embedded cost of service, rate design, cost of capital, revenue requirement, and load forecasting studies involving numerous electric, gas, water/wastewater, and telephone utilities, and has provided expert testimony in Alabama, Arizona, Georgia, Illinois, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Vermont, Virginia, South Carolina, Washington, and West Virginia. A more complete description of Mr. Watkins education and experience is provided in Schedule GAW-1, attached to OCA St. 4.

[4] Mr. Colton is a principal of Fisher Sheehan & Colton, Public Finance and General Economics in Belmont, Massachusetts. He provides technical assistance to public utilities and primarily works on low income utility issues. Mr. Colton has devoted his professional career to helping public utilities, community-based organizations and state and local governments design, implement and evaluate energy assistance programs to help low income households better afford their home energy bills. He has been involved with the development of the vast majority of ratepayer-funded affordability programs in the nation. His curriculum vitae is attached to OCA St. 5 as an Appendix A.

[5] Ms. Alexander is a Consumer Affairs Consultant who runs her own consulting practice, Barbara Alexander Consulting LLC. She received her Bachelor of Arts degree from the University of Michigan and her J.D. from the University Of Maine School Of Law. Ms. Alexander's professional experiences and qualifications are attached as Exhibit BA-1 to OCA St. 6.

[6] Mr. Fought has been a licensed engineer in Pennsylvania since 1975, is licensed in New Jersey and Virginia and has been a consulting engineer since 1983. He received his Bachelor of Civil Engineering from Cleveland State University. He has been involved in the design, construction and operation of water and wastewater facilities for over 40 years. He has also served as a consultant to the OCA for water and wastewater rate cases, complaint proceedings, investigations, and applications since 1984. Mr. Fought's background and qualifications are attached as Appendix A to OCA Statement 7.

C. Smith[7] informally on November 11, 2021, and formally on November 12, 2021. The OCA filed Supplemental Testimony of Mr. Watkins and Mr. Fought in OCA Statement 4 Supp. and OCA Statement 7 Supp., respectively, on November 19, 2021. OCA witness Glenn A. Watkins filed Rebuttal Testimony on December 2, 2021, and all OCA witnesses filed Surrebuttal Testimony on December 14, 2021.

The OCA opposes Aqua's proposed rate increase because it is unjust and excessive, and the detrimental impacts of a rate increase on consumers will be exacerbated because consumers are still dealing with the COVID-19 pandemic. The OCA's recommended adjustments result in a $12.142 million revenue decrease, or 2.21% decrease, on a total Company basis. A summary table showing the OCA's recommended revenue requirements on a total Company basis and the seven individual revenue requirements is included in Appendix A (Summary Table). Tables that show the revenue requirement for each system, reflecting the OCA's accounting adjustments and cost of capital, are also attached to this Main Brief in Appendix A. *See* Appendix A, Tables I-VI (Water); Tables I-VI (Wastewater Base); Tables I-VI (Limerick); Tables I-VI (East Bradford); Tables I-VI (Cheltenham); Tables I-VI (East Norriton); Tables I-VI (New Garden). A chart showing the rate impact on customers is attached as Appendix B.

B. Burden of Proof

The Company bears the burden of proof to establish the justness and reasonableness of every element of its requested rate increase. As set forth in Section 315(a) of the Public Utility Code:

[7] Mr. Smith is a Certified Public Accountant, attorney, and Senior Regulatory Consultant at Larkin & Associates, PLLC. Most of Mr. Smith's 39 years of work experience has involved utility regulation, and Mr. Smith has previously testified before this Commission, as well as 38 other state utility commissions, federal courts, and the Federal Energy Regulatory Commission. A complete description of Mr. Smith's qualifications is provided in OCA St. 1 as Attachment RCS-1.

> Reasonableness of rates – In any proceeding upon the motion of the Commission, involving any proposed or existing rate of any public utility, or in any proceedings upon the complaint involving any proposed increase in rates, the burden of proof to show that the rate involved is just and reasonable shall be upon the public utility.

66 Pa. C.S. § 315(a).

The Pennsylvania Commonwealth Court has interpreted the utility's burden of proof in a rate proceeding as follows:

> It is well-established that in general rate increase proceedings, the burden of proof does not shift to parties challenging a requested rate increase. Rather, the utility's burden of establishing the justness and reasonableness of every component of its rate request is an affirmative one that that burden remains with the public utility throughout the course of the rate proceeding. It has been held that there is no similar burden placed on other parties to justify a proposed adjustment to the utility's filing.

Pa. P.U.C. v. Pennsylvania American Water Co., 2004 Pa. P.U.C. LEXIS 29 at *16-18 (Jan. 29, 2004) (*PAWC 2004*). To the extent that Aqua has failed to meet its burden of proof for each of its claims, the Commission must reject those claims.

The OCA notes that Pennsylvania law is clear that there is no similar burden for a party proposing an adjustment to a utility base rate filing. *See, e.g.*, *Berner v. Pa. P.U.C.*, 382 Pa. 622, 116 A.2d 738 (1955) (*Berner*). In *Berner*, the Pennsylvania Supreme Court stated:

> [T]he appellants did not have the burden of proving that the plant additions were improper, unnecessary or too costly; on the contrary, that burden is, by statute, on the utility to demonstrate the reasonable necessity and cost of the installations and that is the burden which the utility patently failed to carry.

Berner, 382 Pa. at 631, 116 A.2d at 744. The Commission recognizes this standard in its rate determinations. *Pa. P.U.C. v. Equitable Gas Co.*, 57 Pa. P.U.C. 423, 471 (1983) (*Equitable Gas 1983*); *see also University of Pa. v. Pa. P.U.C.*, 86 Pa. Commw. 410, 485 A.2d 1217 (1984) (*U. Penn. 1984*); *Pa. P.U.C. v. PPL Elec. Util. Corp.*, 237 PUR4th 419 (2004) (*PPL 2004*). Thus, it is unnecessary for the OCA (or any challenger) to prove that Aqua's proposed rates are unjust, unreasonable, or not in the public interest. To prevail in its challenge, Pennsylvania law requires

only that the OCA show *how* the Company failed to meet its burden of proof. While subtle, this critical distinction shows that parties opposing a utility in a rate proceeding need only to shift the burden of going forward to prevail. The burden of proof will not shift to an intervener that is challenging the requested rate increase. *Pa. P.U.C. v City of Bethlehem*, 2011 Pa. P.U.C. LEXIS 190, *11 (2011) (*City of Bethlehem 2011*). However, this does not mean that a utility must affirmatively defend claims that no other party has brought or questioned. The Pennsylvania Commonwealth Court has held:

> While it is axiomatic that a utility has the burden of proving the justness and reasonableness of its proposed rates, it cannot be called upon to account for every action absent prior notice that such action is to be challenged.

Allegheny Center Assocs. v. Pa. P.U.C., 570 A.2d 149, 153 (Pa. Cmwlth. 1990) (*Allegheny*); *see also Pa. P.U.C. v. Equitable Gas Co.*, 73 Pa. P.U.C. 310, 359-60 (1990) (*Equitable Gas 1990*).

In conclusion, the Company must affirmatively demonstrate the reasonableness of every element of its claims and demonstrate that its proposed rates are just, reasonable, and in the public interest. The OCA will show that the Company has failed to satisfy its statutory burden and, thus, the Commission must deny the relief requested by the Company.

C. The Pandemic's Impact Should Be Considered in Determining Whether Aqua's Rate Increase Is Just and Reasonable.

The economic repercussions of the COVID-19 pandemic—to the extent yet known—are real and significant in Aqua's service territory and the OCA submits that the Commission should acknowledge the circumstances of consumers during these extraordinary times. In this proceeding in particular, the impact of the COVID-19 pandemic is especially felt by Aqua's ratepayers. Indeed, portions of Aqua's service territory[8] have the highest hospitalization rate in the country.

[8] Northumberland and Columbia counties.

OCA St. 2SR at 10. The latest data clearly shows that the COVID-19 pandemic is ongoing and continues to severely impact the lives of Aqua's ratepayers.

Due to the COVID-19 pandemic, the unemployment rate across Pennsylvania reached 16.2% in April 2020. OCA St. 2 at 2. As of October 2021, the average unemployment rate for Aqua's overall service territory is 5.4%, shown in Table 1[9]. The unemployment rate for Aqua's overall service territory is higher than the United States' rate of 4.2%.[10] This data continues to reflect the effects brought forth by the COVID-19 pandemic.

Table 1:

Division	**County**	**Unemployment Rate**	**Division**	**County**	**Unemployment Rate**
Roaring Creek / Susquehanna	Adams	4.1%	Honesdale / White Haven	Carbon	5.7%
	Bradford	4.7%		Lackawanna	5.6%
	Columbia	5.1%		Lehigh	5.5%
	Cumberland	3.8%		Luzerne	6.8%
	Juniata	4.2%		Monroe	6.9%
	Northumberland	5.9%		Northampton	4.8%
	Schuylkill	5.7%		Pike	6.3%
	Snyder	4.9%		Schuylkill	5.7%
Shenango	Clarion	5.7%		Susquehanna	4.6%
	Clearfield	6.1%		Wayne	5.5%
	Crawford	5.7%		Wyoming	5.4%
	Forest	7.4%	Southeastern	Berks	5.8%
	Lawrence	6.4%		Bucks	4.3%
	McKean	5.8%		Chester	3.4%
	Mercer	6.0%		Delaware	5.1%
	Venango	5.8%		Montgomery	4.0%
	Warren	5.4%			

OCA St. 2SR at 7.

Despite the end of the utility termination moratorium, arrearages continue to grow and the overall burden of this debt and rates in general needs to be considered when the Commission is setting rates. In July 2021, the Commission requested that all utility companies comply with

[9] Data in Table 1 was taken from: https://www.workstats.dli.pa.gov/Products/CountyProfiles/Pages/default.aspx
[10] https://www.bls.gov/eag/eag.pa.htm

temporary, quarterly reporting of At-Risk Accounts and Aggregate Arrears through the 4th Quarter of 2021.[11] As observed by OCA witness DeAngelo, the pandemic has increased arrearages of Aqua's At-Risk Accounts and Aggregate Arrears. OCA St. 2 at 3. As the COVID-19 pandemic is ongoing, the arrearages across Aqua's service territory continue to be significantly higher than they were pre-pandemic. The following table compares the total number of customer At-Risk Accounts for termination in July-September 2019 (pre-pandemic) and July-September 2021, along with their percent change.[12]

Table 2:	**Aqua Customer Accounts At-Risk of Termination**		
	Residential	Non-Residential	Total Accounts
Jul-19	45,042	12,367	57,409
Jul-21	52,434	15,288	67,722
Percent Change	16.41%	23.62%	17.96%
Aug-19	50,441	13,508	63,949
Aug-21	48,173	14,630	62,803
Percent Change	-4.50%	8.31%	-1.79%
Sep-19	55,311	14,003	69,314
Sep-21	50,441	16,341	66,782
Percent Change	-8.80%	16.70%	-3.65%

OCA St. 2 at 4.

Table 3 compares the total Aggregate Dollars of Arrears for Residential and Non-Residential customers from July-September 2019 and in 2021, along with their percent change.

[11] *Public Utility Serv. Termination Moratorium; COVID-19 Cost Tracking and Creation of Regulatory Asset*, Docket Nos. M-2020-3019244, M-2020-3019775, Order (July 15, 2021).
[12] Percent Change = ((New Number – Original Number) / (Original Number)) * 100

Table 3:	**Aqua Customer Accounts At-Risk of Termination**		
	Residential	Non-Residential	Total Arrears
Jul-19	$ 9,238,219	$ 1,465,838	$ 10,704,057
Jul-21	$ 14,029,091	$ 3,108,697	$ 17,137,788
Percent Change	51.86%	112.08%	60.11%
Aug-19	$ 9,201,219	$ 1,334,616	$ 10,535,835
Aug-21	$ 13,764,799	$ 3,062,141	$ 16,826,940
Percent Change	49.60%	129.44%	59.71%
Sep-19	$ 9,684,840	$ 1,603,606	$ 11,288,446
Sep-21	$ 13,915,184	$ 3,274,306	$ 17,189,490
Percent Change	43.68%	104.18%	52.28%

OCA St. 2 at 4.

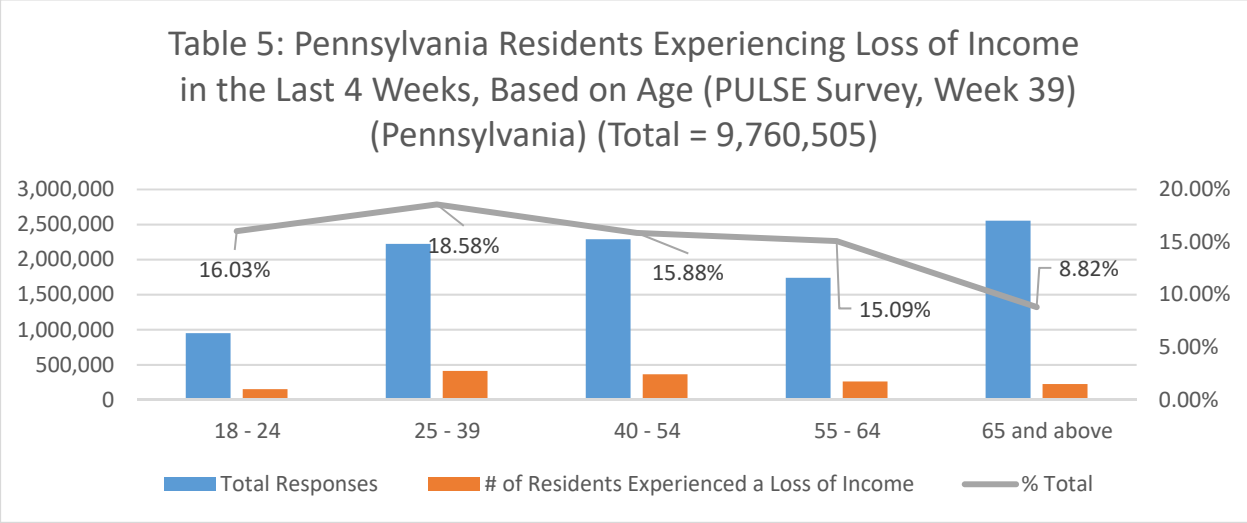
Table 4 compares the Residential and Non-Residential customer accounts disconnected for Non-Payment with Dollar Amounts owed from July-September 2021.

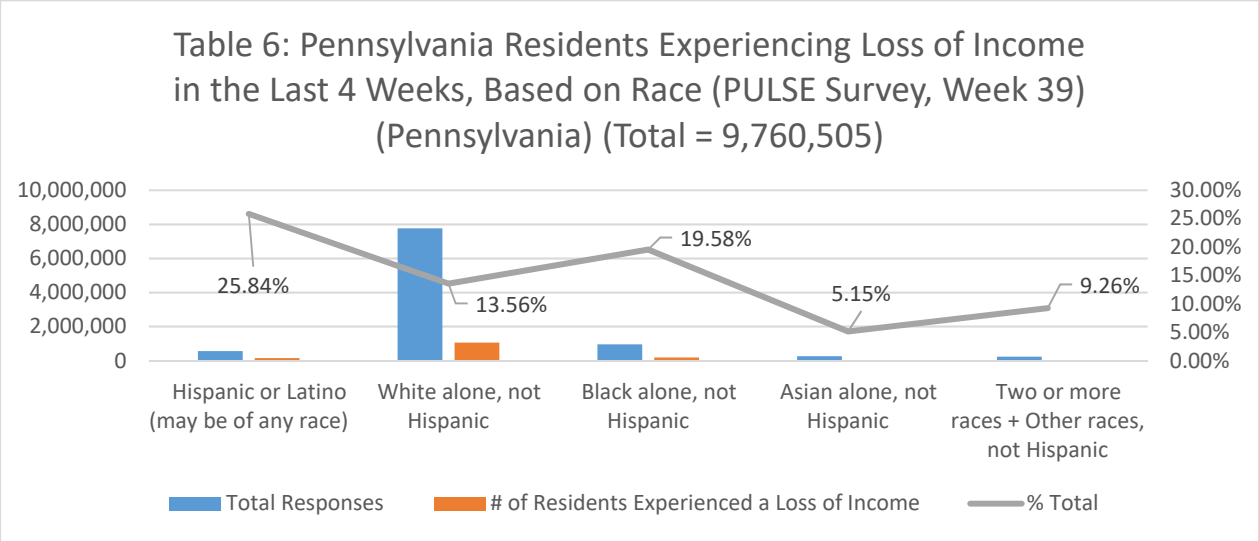
Table 4:	**Aqua Customer Accounts Disconnected for Non-Payment With Dollar Amounts Owed**		
	Residential	Non-Residential	Total Accounts
Jul-21	561	25	586
Aug-21	440	15	455
Sep-21	538	14	552

OCA St. 2 at 5.

The number of At Risk and Arrearage accounts, even in the second half of 2021, reveal the hardships faced by Pennsylvania ratepayers in paying their utility bills remain significant. The OCA notes that the trend of increasing Arrearage Amounts and a large number of At Risk Accounts is not surprising given the economic circumstances of the pandemic and the moratorium on terminations. As Aqua's service territory contains areas with higher than average unemployment rates, the OCA submits that it is reasonable to assume that some At-Risk customers are experiencing the negative impacts of the current economic conditions, causing them to fall behind on utility payments. OCA St. 2 at 5.

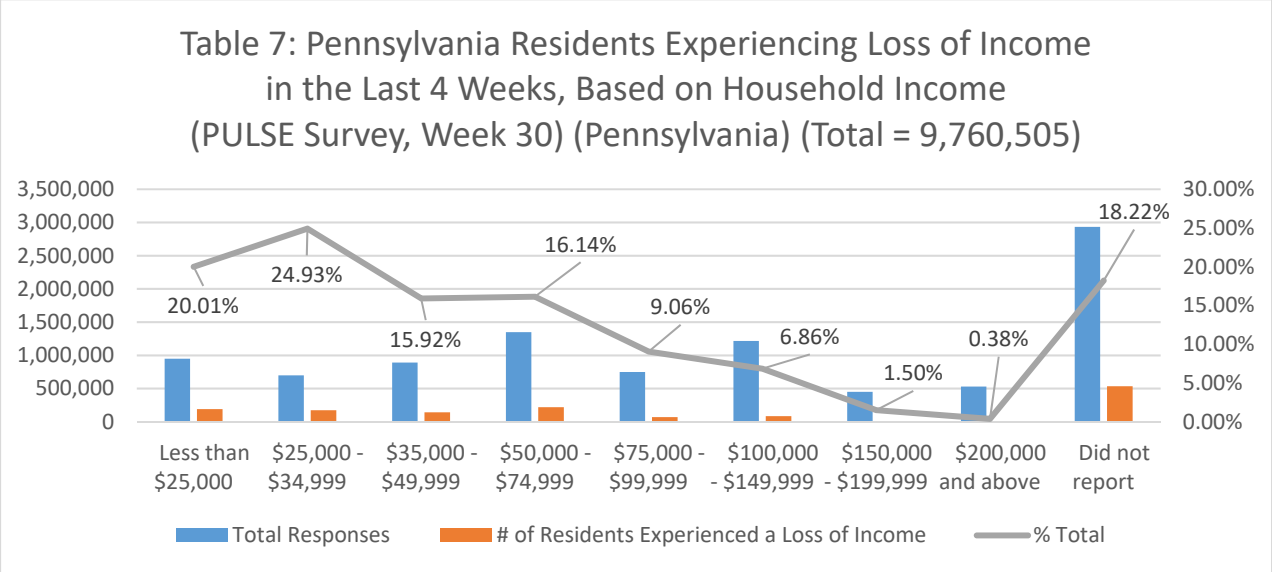
The Household Pulse Survey (Pulse Survey) provides data, in addition to unemployment rates, which quantifies the effects of COVID-19 on Pennsylvania Citizens.[13] According to the most recent data from the Pulse Survey, people ages 25-39, and those who identify as Hispanic, or Latino are experiencing the greatest impact of the pandemic, as shown in the following tables:





[13] The Pulse Survey is organized by the United States Census Bureau. It is an experimental project in which data is collected to discover the impacts of the COVID-19 pandemic. The data is then organized by state to display how people are affected through different categories. The categories include employment status, food security, housing, educational disruption, among others. The data has been organized into different phases beginning in April 2020, until the present time. OCA St. 2 at 5-6.

OCA St. 2 at 6-7. Similarly, the lower a household's income, the greater the impact the pandemic has on income loss, as shown in the following table:



OCA St. 2 at 6-7.

The COVID-19 pandemic impacts, however, are not limited to these groups, and the effects can be felt across a broad array of customers. Indeed, during the Public Input Hearings, testimony was offered from a significant number of customers within Aqua's service territory who expressed their frustration with Aqua's request for a rate increase in the midst of the ongoing pandemic. *See* Tr. 51, 140, 145, 154-55, 160, 172, 226, 246, 280-81, 283-84, 315, 382-84, 424; *see also* Comitta Exhibit 1. For example, witness Nancy Deutsch, an executive director at Jenner's Pond Retirement Community testified that the population she serves has been most severely impacted by COVID-19 and any increase received at her business will have to be passed down to the residents. Tr. 315-316. Witness Rosemary Horstman testified that "[w]ater and sewage bills are not the only bills that people must pay because of the widespread destruction caused by the pandemic, most costs are rising." Tr. 160.

Moreover, all of the elected representatives that testified at the Public Input Hearing expressed similar concerns regarding Aqua's request for a rate increase during a pandemic. Senator Katie Muth testified that "[i]t's unreasonable to raise rates on essential water and wastewater services as the economic impact of the pandemic continues to unfold in unpredictable and uncertain ways." Tr. 383. State Representative Christina Sappey testified that she is "particularly concerned with the increase for seniors on fixed incomes and for our working families, many of whom have experienced job loss or insecurity because of the recent COVID-19 pandemic." Tr. 280. Additionally, Senator Carolyn Comitta's written comments stated that Aqua's proposed rate increase "comes at the very time that we continue to face the unprecedented challenges associated with an evolving pandemic, an ongoing economic crisis, and significant storm and flood damage from Hurricane Ida earlier this fall." Comitta Exh. 1 at 2.

State Senator Comitta further testified to the pandemic's impact on low-income programs[14] as follows:

> Additionally, since the onset of the pandemic, many residents have been forced to apply for utility assistance through multiple programs, such as the Emergency Rental & Utility Assistance Program, the Low-Income Home Energy Assistance Program (LIHEAP), and various non-profit organizations, to maintain service and avoid shutoffs. Given the financial difficulties currently affecting so many Pennsylvanians, I am concerned that this proposed rate increase will only cause a greater burden on those households still struggling to recover and, in turn, result in a greater demand for assistance and already limited resources. Again, I am opposed to this increase and respectfully ask that the PUC carefully consider its potential impacts on all our communities, especially our most vulnerable friends, neighbors, and families.

Comitta Exh. 1 at 2.

The State Coincident Index, a monthly publication of the Federal Reserve Bank of Philadelphia, further illustrates the hardships that Pennsylvanians are experiencing as a result of

[14] The OCA's specific recommendations in regard to the Company's low-income proposals are discussed *infra*, in Section IX.

the COVID-19 pandemic.[15] The index is based on the level of economic activity in 2007, which is equal to 100. OCA St. 2 at 8. A rise in the index shows economic activity is expanding, while a decline indicates a contraction in economic activity. Since June 2021, the coincident index for Pennsylvania rose 2% to 118.7. OCA St. 2 at 8. The Coincident Index for both Pennsylvania (118.7) and the United States (129.9) continues to slowly recover from the plunge it took in April 2020 to 89.5. The OCA also notes that, although the level of payroll employment increased over the past three months, numbers remain lower than pre-pandemic, February 2020.[16]

In response to the OCA's testimony, Aqua witness Packer claimed that Aqua's proposed rate relief in regard to the COVID-19 pandemic is just and reasonable. OCA St. 2SR at 2. To support Aqua's position, Mr. Packer stated anecdotally, without any supporting evidence that "[w]hile I do not think anyone could say with any certainty that the pandemic is over, I can observe that people are back to work, commercial business are open, and expectations of additional actions from our government as far as infrastructure investment and other governmental assistance is happening." OCA St. 2SR at 2 *citing* Aqua St. 1R at 4.

However, as outlined in OCA's Surrebuttal Testimony, despite Mr. Packer's optimism, the COVID-19 pandemic continues to impact Pennsylvanians. The following charts show that the daily new cases and the daily new deaths have recently been increasing:

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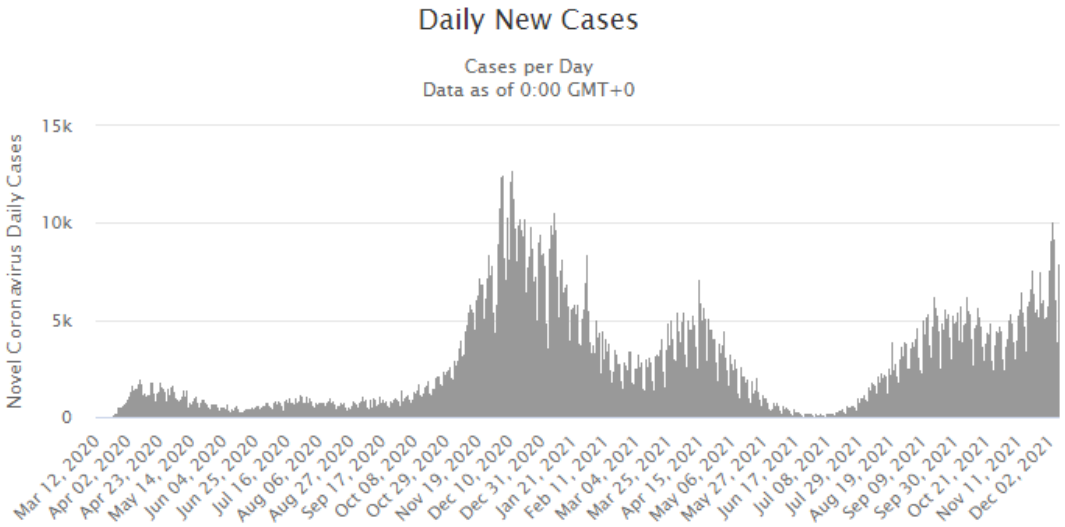
[15] The Coincident Indexes combine four state-level indicators to summarize current economic conditions in a single statistic, such as (1) nonfarm payroll employment, (2) average hours worked in manufacturing by production workers, (3) the unemployment rate and (4) wage and salary disbursements deflated by the consumer price index (U.S. city average). The trend for each state's index is set to the trend of its gross domestic product (GDP), so long-term growth in the state's index matches long-term growth in its GDP. https://www.philadelphiafed.org/surveys-and-data/regional-economic-analysis/state-coincident-indexes

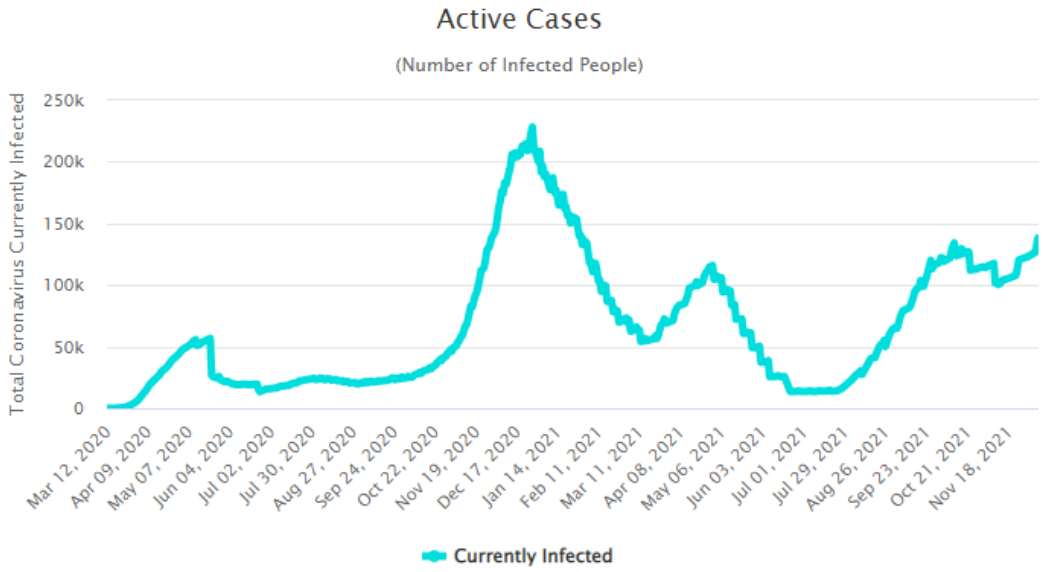
[16] February 2020; Pennsylvania's Coincident Index = 122.76, United States' Coincident Index = 130.81

Daily New Cases in Pennsylvania



[17]

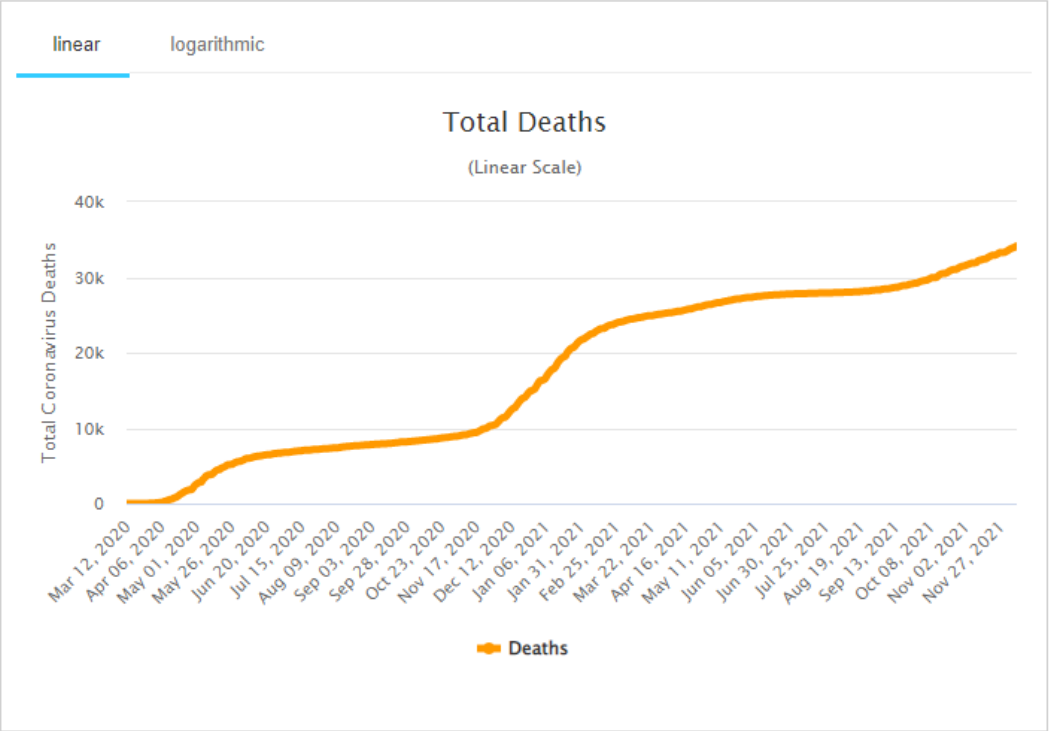
Active Cases in Pennsylvania



[18]

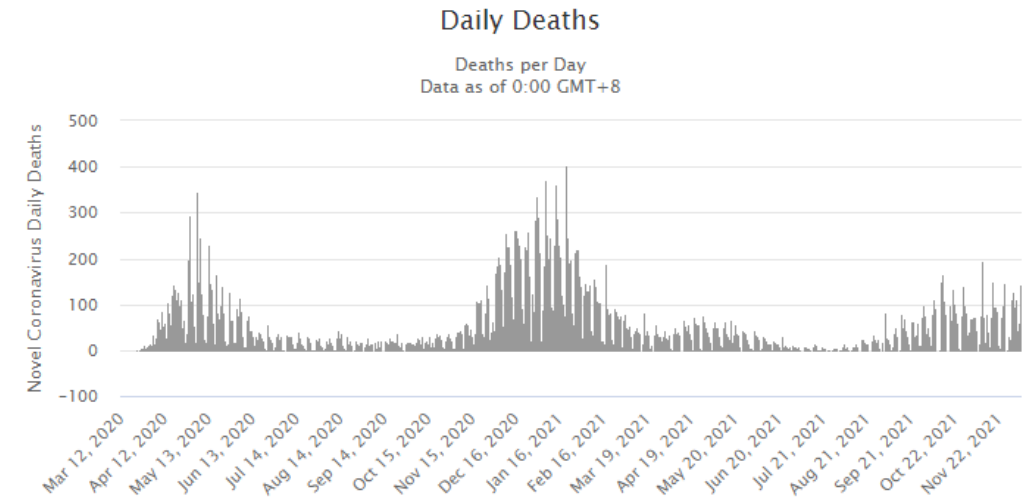
[17] https://www.worldometers.info/coronavirus/usa/pennsylvania/#graph-cases-daily
[18] https://www.worldometers.info/coronavirus/usa/pennsylvania/#graph-cases-daily

Total Coronavirus Deaths in Pennsylvania



[19]

Daily New Deaths in Pennsylvania



[20]

OCA St. 2SR at 8-10.

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[19] https://www.worldometers.info/coronavirus/usa/pennsylvania/#graph-cases-daily
[20] https://www.worldometers.info/coronavirus/usa/pennsylvania/#graph-cases-daily

The continued impact of the COVID-19 pandemic on Aqua's service territory further supports the necessity of the lowest reasonable return on equity in this proceeding. As discussed *supra*, OCA witness DeAngelo provided unrefuted evidence showing that the COVID-19 pandemic has significantly affected Aqua's service territory in particular. As discussed *infra*, OCA witness Colton provided testimony showing that the economic crisis continues. Additionally, OCA witness Alexander's concerns regarding Aqua's practice of charging a significant level of late fee payments during the COVID-19 pandemic and a lack of forgiveness for late fees for low-income customers, discussed *infra*, should be considered by the Commission in determining whether a management adder is appropriate at this time.

The OCA submits that Pennsylvanians have faced hardships due to the COVID-19 pandemic. These impacts continue to affect Pennsylvanians and many of these affects can be seen in the unemployment rates, Pulse Surveys and in monthly reports to the Commission. The data obtained through the Pulse Survey and unemployment data contain significantly higher rates of income loss, unemployment, and hardship due to the pandemic and that the impacts from the pandemic will be faced over the coming months and years. As such, the OCA submits that the Commission should take the COVID-19 pandemic's impact on Aqua's customers into account when determining what constitutes a just and reasonable rate for Aqua's ratepayers. The OCA submits that the unrefuted evidence provided to the Commission regarding the COVID-19 pandemic and its continued impact on Aqua's service territory in particular, should be taken into account to keep any Aqua rate increase to the lowest possible cost for ratepayers.

II. SUMMARY OF ARGUMENT

This Commission should not approve any rate increase for Aqua's water customers at this time, and should approve revised rate increases for Aqua's wastewater customers. Aqua is seeking to increase rates for its water and wastewater operations by a total of $97.684 million, or by 17.86%. The OCA has presented testimony on water and wastewater revenue requirements, including cost of capital, which establishes that there is no need for rates to increase by $97.684 million on a total company basis. In fact, the OCA's recommended adjustments result in a $12.142 million revenue decrease, or a 2.21% decrease on a total Company basis. The OCA also has identified the large subsidies that water customers are being asked to bear and has recommended reasonable ratemaking alternatives. In addition, the OCA has identified numerous issues related to the low-income programs, customer service, rate base, operation and maintenance expenses, revenues, taxes, and quality of service that need to be addressed. The OCA's testimony further shows that Aqua's request for a 10.75% return on equity is excessive, would create unnecessary cost for ratepayers, and should be rejected.

Many of the customers who testified at the public input hearings expressed concerns about their ability to pay their current water and wastewater bills due to the impact of the COVID-19 pandemic and expressed concern about the large proposed increases. Based on the evidence presented here and the compelling testimony presented at the public input hearings, Aqua cannot meet its burden of proof to show that its proposed increases and subsidies will result in just and reasonable rates.

III. RATE BASE

A. Plant in Service

Act 11 permits utilities to use a Fully Projected Future Test Year (FPFTY) when applying for a rate increase under Section 1308(d) of the Public Utility Code. An FPFTY allows a utility to project its revenues, expenses, and other rate base eligible investments a full twelve months past the date that new rates become effective. 66 Pa. C.S. § 315(e). In the Company's filing, Aqua proposed rates based on a FPFTY beginning March 31, 2022 and ending March 31, 2023 as the test period to determine its revenue requirements. Aqua St. 1 at 12. Aqua projects that on March 31, 2023, the Company's rate base will equal approximately $3.818 billion for its water operations and $198.4 million for its wastewater operations.

Using the same FPFTY, the OCA recommends a rate base of approximately $3.809 billion for Aqua's water operations, which is about $9.5 million lower than the Company's proposal. For wastewater operations, the OCA recommends a FPFTY rate base of $198.3 million, only slightly less than Aqua. OCA St. 1SR at Exh. LA-5, Sch. A. The adjustments made by OCA to arrive at these recommended rate bases are discussed below.

B. Aqua's Requested Positive Acquisition Adjustment for the Acquisition of Assets from the Borough of Phoenixville Should Be Denied under 66 Pa. C.S. § 1327.

The Public Utility Code provides a recovery method for the amounts that a utility spends to acquire a water or sewer system that exceeds the acquired system's original cost, minus accrued depreciation. 66 Pa. C.S. § 1327. Under Section 1327 of the Public Utility Code, a utility must satisfy nine requirements in order to include a positive acquisition adjustment in a rate base. They are as follows:

(1) the property is used and useful in providing water or sewer service;

(2) the public utility acquired the property from another public utility, a municipal corporation or a person which had 3,300 or fewer customer connections or which was nonviable in the absence of the acquisition;

(3) the public utility, municipal corporation or person from which the property was acquired was not, at the time of acquisition, furnishing and maintaining adequate, efficient, safe and reasonable service and facilities, evidence of which shall include, but not be limited to, any one or more of the following:

> (i) violation of statutory or regulatory requirements of the Department of Environmental Resources or the commission concerning the safety, adequacy, efficiency or reasonableness of service and facilities;
>
> (ii) a finding by the commission of inadequate financial, managerial or technical ability of the small water or sewer utility;
>
> (iii) a finding by the commission that there is a present deficiency concerning the availability of water, the palatability of water or the provision of water at adequate volume and pressure;
>
> (iv) a finding by the commission that the small water or sewer utility, because of necessary improvements to its plant or distribution system, cannot reasonably be expected to furnish and maintain adequate service to its customers in the future at rates equal to or less than those of the acquiring public utility; or
>
> (v) any other facts, as the commission may determine, that evidence the inability of the small water or sewer utility to furnish or maintain adequate, efficient, safe and reasonable service and facilities;

(4) reasonable and prudent investments will be made to assure that the customers served by the property will receive adequate, efficient, safe and reasonable service;

(5) the public utility, municipal corporation or person whose property is being acquired is in agreement with the acquisition and the negotiations which led to the acquisition were conducted at arm's length;

(6) the actual purchase price is reasonable;

(7) neither the acquiring nor the selling public utility, municipal corporation or person is an affiliated interest of the other;

(8) the rates charged by the acquiring public utility to its preacquisition customers will not increase unreasonably because of the acquisition; and

(9) the excess of the acquisition cost over the depreciated original cost will be added to the rate base to be amortized as an addition to expense over a reasonable period of time with corresponding reductions in the rate base.

66 Pa. C.S. § 1327(a)(1-9).

Here, the Company has proposed one acquisition adjustment for a water utility. On April 26, 2017, Aqua filed an application seeking the Commission's approval of its acquisition of a portion of the Borough of Phoenixville's assets, located in East Pikeland Township, Chester County, and Upper Providence Township, Montgomery County, Pennsylvania. The Commission approved the application and Aqua purchased the system assets on December 5, 2019. OCA St. 2 at 9; Aqua Exh. 3-A at 21, 26. The depreciated cost of the assets was $1,026,724, and Aqua paid $2,437,305 more for the assets than the depreciated original cost, creating a total purchase price of $3,464,029. OCA St. 2 at 9; Aqua Exh. 3-A. In the present proceeding, Aqua is a requesting a twenty-year amortization of the acquisition premium resulting in a claim for a positive acquisition adjustment of $121,865 per year to be approved for ratemaking purposes. OCA St. 2 at 9.

The amount of the Phoenixville Water Acquisition Adjustment should be removed from the Company's rate base because Aqua has not met the criteria under Section 1327(a)(3) necessary to support its inclusion. This adjustment would decrease the Company's proposed water utility rate base by $2.315 million. OCA St. 1 at 20. Section 1327(a) requires that an acquiring utility must prove that the previous owner of the acquired system was "not, at the time of acquisition, furnishing and maintaining adequate, efficient, safe and reasonable service and facilities." 66 Pa. C.S. § 1327(a)(3). Aqua has provided no evidence that the Borough of Phoenixville was providing inadequate service to its customers at the time of the acquisition. OCA St. 2 at 11.

First, the Company has not provided any evidence that the Borough was in violation of statutory or regulatory requirements of the Department of Environmental Protection or the Commission when the Company acquired the Borough's assets. *See* 66 Pa. C.S. § 1327(a)(3)(i). At the time of the acquisition, Aqua had no specified plans to improve the acquired assets, and as

part of the Purchase Agreement the Borough certified that it was in compliance with all applicable laws and regulations. OCA St. 2 at 11. Second, in approving the acquisition, the Commission itself made no findings of inadequate financial, managerial, or technical ability of the Borough. *See Joint Application of Aqua Pennsylvania, Inc. and the Borough of Phoenixville*, Docket No. A-2018-2642873, Order at 2-5 (Oct. 23, 2019) *(Phoenixville 2019*); 66 Pa. C.S. § 1327(a)(3)(ii). In fact, the Borough continues to own and operate water and wastewater systems that serve 11,680 customers without issue. OCA St. 2 at 14; Borough of Phoenixville, 2020 Water Annual Report and 2020 Wastewater Annual Report. Third, the Commission found no deficiencies concerning the availability of water, the palatability of water, or the provision of water at adequate volume and pressure when the assets were owned by the Borough. *See Phoenixville 2019* at 2-5; 66 Pa. C.S. § 1327(a)(3)(iii). Fourth, the Commission found no issues with the acquired assets that would require necessary improvements to the plant or distribution system. *See* OCA St. 2 at 11-12; *see also Phoenixville 2019* at 2-5; 66 Pa. C.S. § 1327(a)(3)(iv).

For its part, the Company asserts that it is entitled to a positive acquisition adjustment under the fifth criteria of Section 1327(a)(3), which states that "any other facts, as the Commission may determine, that evidence the inability of the small water or sewer utility to furnish or maintain adequate, efficient, safe and reasonable service and utilities" may be used to support the inclusion of a positive acquisition adjustment in a rate base. *See* 66 Pa. C.S. § 1327(a)(3)(v). In this case, the Company claims that 1) the provider was manually reading residential and commercial meters; 2) non-revenue water was estimated at 68%, and; 3) 30% (32/105) of system hydrants needed repair or replacement. OCA St. 2 at 12; Aqua Exh. 3-A at 19. Standing alone, these facts are insufficient.

The Company has not demonstrated that the Borough was a troubled system that was not maintaining adequate, efficient, safe, and reasonable service and facilities at the time of the acquisition. Aqua argues that having non-revenue water of approximately 68% and having to replace 13 hydrants and repair 19 out of a total of 105 is an indication of a sufficiently troubled system to meet the requirements of Section 1327. Aqua St. 2R at 8. The OCA disagrees. While these factors may be indicia of trouble, they do not without more meet the requirements of a Section 1327 adjustment. *See Pa. P.U.C. v. Citizens Util. Water Co.*, 1996 Pa. P.U.C. LEXIS 167 at *20, *27-28 (*Citizens 1996*) (where the fact that the system did not have the financial resources to supply service to developments outside of its service territories or to remedy water quality problems near, but not in, its service territory did not create circumstances to satisfy Section 1327). The Company also notes that it is proactively replacing meters and doing other necessary maintenance. Aqua St. 2R at 8-9. The simple reality is that all systems need ongoing maintenance and Aqua's meter replacement and routine maintenance only indicates that the Company is fulfilling its role as the new owner of the system.

Since the Company cannot demonstrate that the Borough was not providing adequate service at the time of the acquisition, the requirements of Section 1327 have not been met. Thus, the Company's proposal for a positive acquisition adjustment should be rejected, and its rate base should be decreased by $2.315 million. OCA St. 1 at 20, Exh. LA-2, Sch. B-1; Table II (Water).

C. Cash Working Capital (CWC)

In the current case, the Company has proposed the following CWC amounts:

- Water Operations - approximately $5.976 million for Expenses, $4.315 million for taxes and negative $8.715 million for Interest for an overall total cash working capital of $1.576 million, per Schedule G-5 on Aqua's Exhibit 1-A (Water).

- Wastewater Base Operations - approximately $898,000 for Expenses, $68,000 for taxes and negative $412,000 for Interest for an overall total cash working capital of $554,000, per Schedule G-5 on Aqua's Exhibit 1-B (Wastewater base).

- Wastewater Aqua's §1329 acquired utilities – see Schedule G-5 on Aqua's Exhibits 1-C through 1-G (Wastewater, §1329 acquisitions, amounts are shown there for each acquired wastewater utility that Aqua has included in the current rate case).

The OCA submits that there should be a negative adjustment for $9.433 million for Interest for Water Operations, and the proposed rate base amount for CWC should be reduced by $0.718 million. OCA St. 1 at 24. This adjustment is based on negative adjustments to Long Term Debt-Interest and PennVest Interest. *Id.*; OCA Exh. LA-2, Sch. B-3. Excluding the Section 1329 acquisitions by the Company, the OCA submits that there should be an approximate negative $440,000 adjustment for Interest for Aqua's wastewater rate base, and recommends a CWC requirement that is $28,000 lower than Aqua's proposed CWC allowance for Wastewater base operations. This adjustment is made based on a negative adjustment to Long Term Debt-Interest, and both adjustments are made at the recommendation of OCA Witness Smith. OCA St. 1 at 25; OCA Exh. LA-2, Sch. B-3.

In rebuttal, Aqua claimed that to meet OCA's proposed adjustments to cash working capital, it would have to borrow $160 million in long term debt and dividend it directly to its parent company, which it claims would not be reasonable or appropriate. Aqua St. 1R at 10. Aqua witness Packer asserted that since the Company has never been subject to a hypothetical capitalization structure for ratemaking purposes, the interest expense used by OCA to calculate cash working capital does not reflect Aqua's cost of service. Aqua St. 1R at 10. The Company also stated such an adjustment would affect the total rate base. Aqua St. 2R at 10. However, the OCA's interest expense calculation reflects proper synchronization and coordination of the OCA's recommended weighted cost of debt and rate base, and trying to substitute any other amount as

Aqua witness Packer suggests would result in inconsistent treatment of allowed interest expense. OCA St. 1SR at 12-13; *Pa. P.U.C. v. Pennsylvania Power & Light Co.*, 1995 Pa. P.U.C. 190 at *43 (1995) (*PPL 1995*) (noting that adjustments to interest are not "stand alone" components of a utility's rate base and cannot exist except in relation to other elements, including cash working capital allowance). Further, Mr. Packer himself recognizes the need for synchronization among rate case revenue requirement components when he acknowledged in his rebuttal testimony that an increase in interest expense reduces cash working capital requirements. Aqua St. 1R at 10; OCA St. 1 at 25; OCA Exh. LA-2, Sch. B-3.

D. Aqua Understated Its Contributions in Aid of Construction and Customer Advances.

Aqua understated its actual amounts of Contributions in Aid of Construction (CIAC) and Customer Advances when calculating its starting rate base amount. Aqua reflected a total of $184,419,150 for water utility operations as a combined sum of CIAC and Customer Advances as of March 21, 2021. However, in response to OCA-VII-11, Aqua provided an actual CIAC balance as of March 31, 2021 of $135,594,031, and an actual balance of Customer Advances of $55,266,575. These amounts total $190,850,606, which is $6,431,456 larger than the amount originally claimed by Aqua. OCA witness Smith remedied that by reflecting a rate base adjustment of negative $6.431 million. OCA St. 1 at 23; OCA Exh. LA-2, Sch. B-2. Mr. Smith also recommended that the wastewater rate base be decreased by $2.994 million to reflect actual CIAC and Customer Advances balances at March 31, 2021, rather than the amount shown by Aqua. *Id.*; *see also* Aqua Exh. 1-B, Sch. G-6. Aqua witness Saball explained in her rebuttal testimony that the omission by Aqua was inadvertent, and OCA witness Smith withdrew the adjustment in surrebuttal, resolving the issue. Aqua St. 8R at 7; OCA St. 1SR at 12; OCA Exh. LA-6, Sch. B-5.

IV. REVENUES

Aqua has presented water and wastewater revenue requirement calculations that would result in a base revenue increase of approximately $97.685 million, or 17.86%. Specifically, Aqua is requesting a base rate revenue increase of approximately $86.119 million for its Water Operations, and $11.566 million for its Wastewater Operations. OCA St. 1 at 6. The OCA recommends a revenue requirement that is approximately $111.1 lower than what Aqua has requested. The OCA has proposed adjustments to FPFTY revenue for metered water sales and to special contract revenue.

A. Aqua's Adjustment to FPFTY Revenue for Metered Water Sales Should More Accurately Depict the Percentage of Residential Consumers Spending More Time at Home.

The Company proposes to reduce revenue for residential metered customer water sales by $11.03 million and to add $9.4747 and $1.217 million of Commercial and Public Authority revenue for metered water sales, respectively, on the basis that FPFTY sale levels will likely reflect pre-pandemic water sales. In response to OCA discovery, Aqua stated its basis for reducing HTY residential meter water sales was that "The Company expects usage to return to normal levels by class post pandemic."[21] OCA St. 1 at 36; OCA Exh. LA-3 at p. 14.

The OCA accepts Aqua's adjustments for Commercial and Public Authority water sales revenues to reflect pre-pandemic water sales revenues, but the OCA submits that Aqua's proposed adjustment for residential customers is overstated. The Company's metered residential water sales in 2020 were 1,181,614,000 gallons higher than in 2019, a pre-pandemic period. With increased residential water usage in 2020 it would be unreasonable for Aqua to reduce HTY metered

[21] Mr. Smith noted in his testimony that in response to OCA discovery. Aqua claimed that it refrained from reflecting any impact of estimated declining residential water usage because of the unusual effects of the COVID-19 pandemic, but in Schedule 6 of the Company's filing, Aqua did in fact reflect a reduction in residential metered water sales of 895,854,900 gallons. OCA St. 1 at 36-37; Exh. LA-3 at 14.

residential water sales by such a significant quantity for the purpose of deriving sales levels for the FPFTY. OCA witness Smith recommended that only 75% of Aqua's adjustment for residential customers be accepted, since many residential consumers continue to work from home and spend more time in their houses. OCA St. 1 at 36. This recommendation would increase residential revenue from metered water sales by $2.757 million. *See id.*; OCA Exh. LA-2, Sch. C-6.

In rebuttal testimony the Company argued that if OCA accepts that Commercial and Public Authority water sales revenues will reflect pre-pandemic water sales revenues, than residential usage must necessarily be back to normal. Aqua St. 5R at 18. The Company supports this claim by showing that according to its data, residential usage has decreased by four or five percent. *Id.* at 19. However, as demonstrated in the below chart, water usage is still up from 2019 levels, indicating that people are using water at home more frequently. While numbers may be adjusting towards pre-pandemic levels, they are not there yet and it is likely that at-home water usage will remain high into the future. OCA St. 1SR at 27-28.

Aqua Pennsylvania							
Water Usage Comparison - 1000 Gallons							
					2020-2021		2021 versus 2019
	Pre-Pandemic			2020-2021	Percentage	2021 versus 2019	Percentage
Description	Oct-19	Oct-20	Oct-21	Change	Change	Change	Change
	(A)	(B)	(C)	(D) = (C) - (B)	(E) = (D) / (B)	(F) = (C) - (A)	(G) = (F) / (A)
Residential	1,416,205	1,636,326	1,545,471	(90,855)	-5.6%	129,266	9.1%
Commercial	784,081	805,189	877,755	72,566	9.0%	93,674	11.9%
Public	62,994	43,714	58,915	15,201	34.8%	(4,079)	-6.5%
	2,263,280	2,485,230	2,482,141	(3,089)	-0.1%	218,861	9.7%
	Pre-Pandemic			2020-2021	Percentage	2021 versus 2019	Percentage
	Sep-19	Sep-20	Sep-21	Change	Change	Change	Change
Residential	1,528,962	1,706,364	1,636,859	(69,505)	-4.1%	107,897	7.1%
Commercial	848,893	870,301	935,491	65,190	7.5%	86,598	10.2%
Public	64,813	54,027	59,981	5,954	11.0%	(4,832)	-7.5%
	2,442,668	2,630,691	2,632,331	1,639	0.1%	189,663	7.8%
Notes and Source:							
Columns B through E: Aqua PA witness Heppenstall Rebuttal Testimony, page 19							
September and October 2019 Information: Aqua PA response to OCA Informal Discovery							
Columns F and G: Calculated using the 2021 and 2019 water sales information provided by Aqua PA							

OCA St. 1SR at 28.

Using the available information, OCA witness Smith recommends the increase of $2.757 million to residential revenue, which is 75% of Aqua's proposed adjustment to residential revenue. *See id.*; *see* Table II (Water); *see also* Exh. LA-2, Sch. C-6.

B. Aqua's Special Contract Revenue Should Be Increased to Accurately Reflect Inflation in the FPFTY.

The OCA submits that Aqua's water utility revenue for the FPFTY should be increased by $236,777 for special contract revenue, based on the recommendation of OCA witness Watkins. *See* OCA St. 1SR at 16; OCA Exh. LA-6, Sch. C-2; *see also* OCA St. 4SR at 11; Highly Confidential OCA Sch. GAW-2SR.[22] This number reflects revenue adjustments for the sales of resale contracts and for the end-user negotiated rate contracts, discussed in Section VIII.E, *infra*. OCA St. 4 at 23; OCA St. 1SR at 16; OCA Exh. LA-6, Sch. C-2. The Company agrees that an adjustment to current revenues to reflect the contractual escalation rates through March 31, 2021 is appropriate, but does not agree with the inflation factors to be used in making the adjustment. Aqua St. 2R at 27-28. The Company's escalation provisions in its contracts are tied to changes in the Consumer Price Index (CPI). The OCA's recommended escalation rates utilize the average of the U.S. Office of Management and Budget's and the Federal Reserve's forecasted inflation rates for 2021, 2022, and 2023 to provide an accurate depiction of inflation levels at the time of the FPFTY.[23] OCA St. 4SR at 9; Highly Confidential Sch. GAW-9. The Company forecasted considerably lower inflation rates without providing a basis for their use. *Id.*; *see also* Aqua St. 2R at 28. The OCA's adjustment should be adopted.

[22] The OCA has confirmed with Aqua PA that the information discussed here and in the OCA's testimony regarding Highly Confidential OCA Schedules GAW-9 and GAW-2SR is not confidential.
[23] *See infra* Section VIII.E.

C. Miscellaneous Revenues

Company rebuttal testimony from Aqua witness Feeney indicated that the Company made an adjustment to increase Miscellaneous revenue by $150,172 to normalize the impact of COVID-19. Aqua St. 2R at 30. The OCA reflected the impact of this adjustment in its own calculations. OCA St. 1SR at 15; OCA Exh. LA-6, Sch. C-19; Table II (Water).

D. New Garden Late Fee Revenue for Water Utility

Company rebuttal testimony also indicated that Aqua received $8,691 in late payment revenue between September and April of 2021 for the New Garden system that Aqua acquired in December 2020. Aqua St. 2R at 30-31. Aqua accepted I&E witness Kubas' proposed adjustment to take the monthly average of $1,448.50 in late payment revenue and annualize it to reflect a full 12 months. *Id.*; I&E St. 5 at 60-61; I&E Exh. 5, Sch. 8. This adjustment results in annual revenue of $17,382, which the OCA has reflected in its adjustments. OCA St. 1SR at 15-16; Exh. LA-6, Sch. C-20; Table II (New Garden).

V. EXPENSES

The expenses at issue in this case include expenses associated with: 1) a general blanket inflation adjustment for which the Company did not identify specific changes; 2) purchased power expense; 3) an adjustment to customer assistance program expansion; 4) advertising expenses; and 5) payroll expenses related to a vacancy rate, seasonal positions, stock-based compensation expenses, and employee group insurance.

A. Aqua's General Inflation Adjustment Should Be Removed.

Aqua's application includes adjustments for a general blanket inflation on expenses for two years (April 1, 2021 - March 31, 2023, the future test year and the fully projected future test year, respectively) for which Aqua did not identify specific changes. Aqua Exh. 1-A through 1-G, Sch. C-4. The Commission disallowed the inclusion of a blanket two percent inflation factor because it was too speculative and unreliable, and could not adequately be explained as part of the Company's ratemaking. *Pa. P.U.C. v. Philadelphia Gas Works*, Docket No. R-0006193, Order (Sept. 28, 2007) (*PGW 2007*). In *PECO 1983*, the Commission again denied the Company's adjustment, finding that "however in the final analysis the Company's proposed attrition adjustment must be rejected as speculative in nature." *Pa. P.U.C. v. Philadelphia Elec. Co.*, 58 Pa. P.U.C. 7 (1983) (*PECO 1983*).

The OCA submits that Aqua's adjustments for estimated blanket inflation are inconsistent with the law and should be removed, reducing FPFTY expenses by $1.07 million. OCA St. 1 at 34-35; OCA Exh. LA-2, Sch. C-5; Table II (Water, Wastewater Base, Limerick, East Bradford, Cheltenham, East Norriton, New Garden). Aqua did not adequately justify the purpose behind its inflation adjustments, stating only that the 'adjustment reflects the anticipated effect of inflation on operating expenses that were not specifically adjusted in this case." Aqua St. 3 at 3. To the

extent that Aqua was not able to identify specific adjustments to the expenses to which the inflation adjustment was applied, it is speculating regarding what increase, if any is appropriate for those expenses. If it had evidence of specific increases to each of those expenses, it could have introduced that evidence, but it did not. Thus, the adjustments are inadequately justified, unreasonable, and speculative in nature. Thus, the impact of general inflation that Aqua included in deriving its FPFTY expense should be removed. *PGW 2007*; *PECO 1983* (disallowing inflation factors that were overly speculative). OCA St. 1 at 34-35; OCA Exh. LA-2, Sch. C-5; Table II (Water, Wastewater Base, Limerick, East Bradford, Cheltenham, East Norriton, New Garden).

The Company claims in rebuttal that its adjustment for inflation only impacts operating expenses not otherwise specifically adjusted in the case or not subject to inflation. Aqua St. 3R at 2-3. With those expenses otherwise accounted for, only 22% of total operating expenses are subject to the inflation factor. Aqua St. 3R at 3. The Company cites to *Pa. P.U.C. v. Philadelphia Suburban Water Co.*, 2002 Pa. P.U.C. LEXIS 55 (2002) (*PSWC 2002*) and *National Fuel Gas Dist. Corp. v. Pa. P.U.C.*, 677 A.2d 861 (Pa. Cmwlth. 1986) (*NFG 1986*) to support its decision. In *PSWC 2002*, the Commission accepted an inflation adjustment when PSWC demonstrated to the Commission's satisfaction that its expenses had increased at a rate higher than the 1.7 % inflation factor accepted by the ALJ. *PSWC 2002*,*54-55. In *NFG*, the Commission also accepted an inflation adjustment when it was applied <u>only to miscellaneous employee expenses</u> not otherwise adjusted (emphasis added). *NFG 1986* at *51.

Here, the Company's blanket inflation adjustment is applied to operating expenses, and the Company does not specify whether these expenses are specifically related to employees. Aqua St. 3R at 1-2. While the Company does indicate that certain expenses such as Supplies Expense, Lab Testing Expense, and Outside Accounting expenses have grown at a faster rate than the 1.75%

factor being applied to them in the future test year, standing alone, this is not sufficient to show that *all* expenses under this category should be subject to this general inflation factor.[24] OCA St. 1SR at 26. If the Company had specific evidence to support increases to individual expense items, then it should have provided that evidence in the case rather than lumping these expense claims in with other expenses not subject to the same inflationary factors. While this may be simpler for Aqua, its simplicity belies the fact that Commission precedent requires specificity if an inflation factor is utilized. The Company's full inflation adjustment should be removed as it is not supported by record evidence and contradicts precedent to approve inflation adjustments only when the proposed adjustments are specific and not too general.

B. OCA's Recommended Adjustment to Proposed Revenue from Residential Metered Water Sales Has an Impact on Certain Expenses.

As described above, OCA recommends an adjustment to Aqua's proposed revenue from residential metered water sales to increase revenue by $2.757 million.[25] This revenue adjustment results in an increase to the Purchased Power expense of $96,312. OCA St. 1 at 38; OCA Exh. LA-2, Sch. C-7; Table II (Water). This revenue adjustment also results in an increase to Chemical Expense of $66,787. *Id.* at Sch. C-8; Table II (Water). Mr. Smith explained that with increased usage, and the resulting increased revenues, purchased power and chemical usage also increase. His adjustments reflect proportional increases for both and should be adopted.

C. The Portion of Aqua's Advertising Expense Being Introduced for the First Time in This Case Should Be Normalized over Three Years.

Aqua has requested $368,810 in FPFTY advertising expenses for its water utility operations and $7,500 for its wastewater utility operations. The proposed new expenses are for

[24] The inflation factor is 1.75% in the FTY and 1.70% in the FPFTY.
[25] *See supra* IV.A.

"Explanation of billing practices, rates, rules, and regulations." OCA St. 1 at 39. Aqua did not show any amount for advertising expense in that category. Aqua's water utility advertising expense for the FPFTY includes amounts for "Public Health and Safety" and "Other Advertising Programs" which are reflected in the HTY and FTY. OCA St. 1 at 40; OCA Exh. LA-2, Sch. C-10.

Normalization is necessary when expenses fluctuate year-to-year to create a normal, annual amount of expense for ratepayers that is not excessive. *See A Guide to Utility Ratemaking*, James H. Cawley & Norman J. Kennard (Pa. P.U.C. 2018) at 86 (*A Guide to Utility Ratemaking).*[26] In this case, the expense for "Explanation of billing practices, rates, rules, and regulations" has not been established as a reasonable annual expense, since it was zero in the preceding two years. When a normal operating expense is being introduced for the first time in the FPFTY but may also fluctuate in future rate cases, normalization is appropriate. *Pa. P.U.C. v. Pennsylvania American Water Co.*, 2003 Pa. P.U.C. LEXIS 498 at *101-02 (*PAWC 2003*). Because the advertising expenses for "Explanation of billing practices, rates, rules, and regulations" are being introduced for the first time in the FPFTY, the OCA recommends normalizing the FPFTY amounts for the new expense over three years, for an allowance of $25,000 in the FPFTY for the water utility and $2,500 for the wastewater utility. This would help to smooth out the effects of introducing a new expense that may occur again in the future in variable amounts and would make the cost more bearable for ratepayers. *PAWC 2003* at *101-02. The proposed normalization of the "Explanation of billing practices, rates, rules, and regulations" expense will result in a reduction to Aqua's proposed advertising expense of $50,000 for the water utility and $5,000 for the wastewater utility. OCA St. 1 at 40; OCA Exh. LA-2, Sch. C-10, Table II (Water); Table II (Wastewater Base).

[26] *Available at* https://www.puc.pa.gov/General/publications_reports/pdf/Ratemaking_Guide2018.pdf.

Section 1316 of the Public Utility Code disallows the recovery of expenditures for advertising in ratemaking proceedings, "unless and only to the extent that the commission finds that such advertising is reasonable and meets one or more of the following criteria." Recovery of the expense is allowed when it:

> (1) Is required by law or regulation.
>
> (2) Is in support of the issuance, marketing, or acquisition of securities or other forms of financing.
>
> (3) Encourages energy independence by promoting the wise development and use of domestic sources of coal, oil, or natural gas and does not promote one method of generating electricity as preferable to other methods of generating electricity
>
> (4) Provides important information to the public regarding safety, rate changes, means of reducing usage or bills, load management, or energy conservation.
>
> (5) Provides a direct benefit to ratepayers.
>
> (6) Is for the promotion of community service or economic development.

66 Pa. C.S. § 1316.

Aqua witness Feeney argues that since the advertising expense is related to customer outreach for a proposed Universal Service Program, it falls into the fourth and fifth categories of this statute. Aqua St. 2R at 34. However, Aqua has failed to explain why its historical levels of advertising spending could not be utilized to address expanded customer outreach, and because Aqua's proposal includes a significant increase in spending, it must be established as a reasonable level of expense. OCA witness Smith's proposed reduction to the Company's claimed advertising expense of $50,000 makes the expense more reasonable while still providing additional funds to meet Aqua's needs. OCA St. 1 at 40. Normalizing the amounts as suggested by OCA witness Smith would also make the increased expense more reasonable given the evidence in this case. OCA St. 1SR at 30.

D. Payroll Expenses

1. The Proposed Vacancy Rate by Aqua Is Unreasonable and Does Not Align with the Company's Actual Experience.

A Company's proposed vacancy rate used for calculating a revenue requirement must be reasonable as determined by the Commission based the company's present and historic vacancy levels, size, plans for restructuring, and other relevant factors. *Pa. P.U.C. v. Pennsylvania American Water Co.*, 1994 Pa. P.U.C. LEXIS 121 at *58-61 (*PAWC 1994*).

The Company reflected a vacancy adjustment in its payroll expenses that is "in line with the Company's actual experience." Aqua St. 2 at 11; OCA Exh. 1-A - 1G. To determine this number, the Company looked at both non-union employees and union employees. For non-union employees, Aqua started with actual wage rates as of April 1, 2021 and annualized payroll expense using those rates. OCA St. 1 at 40. The Company also reflected an anticipated wage increase for all employees and annualized payroll expense using those rates as well. *Id.* For union employees, the Company's payroll expense was annualized based on pay rates included in the collective bargaining agreements in place for each of Aqua's seven unions. *Id.* Aqua then reduced the non-union and union FPFTY gross payroll amounts by the capitalized and non-operating labor reflected in the HTY, and the gross payroll amounts ultimately reflected an adjustment due to a vacancy rate of 2.50 %.[27] *See* OCA St. 1 at 41.

The OCA submits that a more accurate vacancy rate would be 2.88%, as calculated based on information provided in response to I&E-RE-22-D. The information in the chart in that response, shown below, demonstrates that in the past three years, Aqua has consistently authorized more seasonal positions than it was able to fill. OCA St. 1 at 43-44. The 2.88% vacancy rate is

[27] The OCA has confirmed with Aqua PA that the vacancy rate referenced here, taken from Highly Confidential I&E-RE-16, is not confidential.

based on the difference between actual regular hours and authorized regular hours during the HTY, and thus more accurately reflects Aqua's experience, as shown below. OCA St. 1 at 41-42.

Description	Amount	
Authorized Regular Hours	1,208,480	
Actual Regular Hours	1,173,669	
Vacancy Rate	34,811	2.88%
Source: I&E-RE-22-D		

When the 2.88 % vacancy rate is applied to the Company's FPFTY gross payroll amounts for union and non-union employees, there is an adjustment decreasing payroll expense by $119,358 for the Company's water operations and $6,855 for the Company's wastewater operations. OCA St. 1 at 44-45; OCA Exh. LA-2, Sch. C-11 at 2. In aggregate, this calculation decreases payroll expense by $126,213. *Id.* The Company has indicated that it accepts Mr. Smith's proposed adjustment to the vacancy rate. Aqua St. 2R at 35-36.

a. Aqua's Payroll Expense for Seasonal Positions Should More Accurately Reflect the Number of Positions Filled.

While the Company accepted OCA Witness Smith's 2.88% vacancy rate, the Company did not accept Mr. Smith's recommendation to reduce payroll expenses relating to the number of non-union seasonal employees in the FPFTY. Aqua St. 2R at 35-38; OCA St. 1SR at 30-31. The Company included 33 seasonal positions in its proposed FTY and FPFTY gross payroll expenses, amounting to a total expense of $240,240, but the expense reflected for these positions in the HTY was zero dollars. OCA St. 1 at 42. These seasonal positions were vacant as of March 31, 2021 because they represent seasonal employee positions that operate only from mid-May until mid-September. These 33 seasonal positions represent authorized positions rather than actual employees. Of these 33 authorized positions, Aqua had only 11 actual seasonal positions at the end of the second quarter of 2021. Actual seasonal positions for the years 2019 and 2020 were

zero, even though Aqua budgeted for 34 and 33 authorized seasonal positions for each of those summers, respectively. OCA St. 1 at 43.

Given the large difference between actual seasonal positions filled by Aqua (11) and the authorized seasonal positions budgeted by Aqua (33), using the authorized seasonal positions to calculate payroll expense would overstate the payroll expense. The OCA submits that the 11 actual seasonal positions should be used instead of 33 to calculate gross payroll expense, which would decrease the Company's requested payroll expense by $147,673 for water operations. This adjustment would also decrease payroll expense for wastewater operations by $12,487, resulting in a total decrease of $160,160. OCA St. 1 at 44; OCA Exh. LA-2, Sch. C-11.

Aqua submits that years 2020 and 2021 are outliers due to the COVID-19 pandemic, and that the Company anticipates filling all of its seasonal positions in the FPFTY. To support this, the Company describes how it filled only 31 out of 33 positions in 2019 to support its argument. Aqua St. 2R at 38. The OCA submits that this is further evidence that the Company over-budgeted for seasonal employees even before the pandemic, and it is most appropriate to budget for seasonal employees going forward by using the actual average number of employees from the summer of 2021 (11 employees). OCA St. 1SR at 32-33. Further, the payroll cost savings related to not hiring the budgeted amount of seasonal positions in 2020 and 2021, which amount to approximately $400,000 should be offset against Aqua's COVID-19 deferral if it is approved. *Id.* at 33-34.

In sum, when combined with adjustments related to removing seasonal positions, the OCA's overall adjustment for vacancies decreases payroll expense by $267,031 for water operations and $19,342 for wastewater operations. OCA St. 1 at 45; OCA Exh. LA-2, Sch. C-11.

2. Aqua's Stock-Based Compensation Expense Should Not Be Borne by Ratepayers.

Based on the record in this proceeding, Aqua should not be permitted to assess costs to ratepayers for its stock-based compensation plan because there is insufficient evidence demonstrating that the plan benefits customers or improves operational efficiency. Where a stock-based compensation program includes "both financial and operating metrics and goals which benefit customers" as well as shareholders, a company may be allowed to recover costs for that program from consumers if it can demonstrate that a key component of such a program is that it establishes employee eligibility based on "performance duties and metrics directly related to the provision of service." *Pa. P.U.C. v. Pennsylvania American Water Co.*, 2021 Pa. P.U.C. LEXIS 55, *59-60 (*PAWC 2021*). Where an incentive compensation plan is reasonable, prudently incurred, not excessive, and there is a benefit to ratepayers, a Company may recover the expense of that program. *Pa. P.U.C. v. PPL Elec. Util. Corp.*, Docket No. R-2012-2290597, Order (Dec. 28, 2012) (*PPL 2012*). The Commission has specifically approved recovery for incentive compensation programs when they are focused on improving operation effectiveness. *Id.*

In Aqua's FPFTY cost of service, the Company included costs for (1) stock option compensation, (2) performance share units (PSU) and (3) restricted stock units (RSU). The Company did not provide compensation plan documents related to stock options, but it did state that stock options are being removed from its long-term incentive compensation program. The Company provided a copy of its stock-based compensation plan documents in its Highly Confidential response to OCA-IV-5, but the Company did not provide compensation plan documents related to stock options. OCA St. 1 at 46. However, the Company did state in an Essential Utilities Proxy Statement from March 22, 2021, that stock options were being removed from the long-term incentive program:

> Beginning in 2020, under the redesigned long-term incentive program, stock options have been removed from the program and instead a heavier emphasis is placed on performance share units and restricted stock units. This approach has become the foundation of the long-term incentive program and will continue in 2022.

Essential Utilities Proxy Statement, March 22, 2021 at 58.[28]

The OCA submits that all stock-based compensation expenses should be removed, an adjustment that would decrease Aqua's FPFTY cost of service by $780,493 for water operations and by $66,000 for wastewater operations. OCA St. 1 at 45; OCA Exh. LA-2, Sch. C-10. Aqua has not provided any evidence to demonstrate that ratepayers benefit from the provision of stock-based compensation to Aqua and Essential Utilities executives. In fact, the proxy statement above went on to describe how performance share units and restricted share units have the primary purpose of benefiting Essential Utilities shareholders rather than those employees that are directly engaged in providing quality service to consumers. OCA St. 1 at 48. Aqua's stock-based compensation program provides Aqua and Essential Utilities executives with compensation based on the performance of the Company's or the parent company's stock price. Absent a clear tie to ratepayer benefit or operational effectiveness, it is unreasonable to burden ratepayers with the costs of that program.

Further, the cost of stock-option based compensation has typically been treated as a dilution of shareholders' investments under Statement of Financial Accounting Standards No. 123 Revised, meaning it was a cost historically borne by shareholders.[29] OCA St. 1 at 49. Stock-option based compensation costs are now required to be expensed on company's financial statements, this in and of itself does not make it reasonable to shift the responsibility for that cost from shareholders

[28] *Available at* https://www.essential.co/static-files/18867cab-fde9-441f-a7ba-4f6b47586a4f.
[29] This was true under Statement of Financial Accounting Standards No. 123 Revised, now known as Accounting Standards Codification (ASC) 718, available at https://asc.fasb.org/imageRoot/34/117128134.pdf.

to ratepayers. In sum, the costs for this programming should be removed from Aqua's cost of service, reducing water operations by $780,493 and wastewater operations by $66,000 for a total reduction of $846,493. OCA St. 1 at 49-50; OCA Exh. LA-2, Sch. C-12.

In rebuttal, the Company responded to the OCA's adjustment by describing the four main principles underlying its compensation plan that make the plan relevant to consumers. Aqua St. 1R at 15. First, the Company describes how the purpose of the plan is tie compensation to employees accomplishing the Company's main objectives, which ultimately benefits consumers. *Id*. at 15-16. Second, the Company states that compensation from the program is both "competitive" and "appropriate." *Id.* at 16. Third, the Company argues that since the Company has been utilizing incentive compensation regularly since 1999, it must be a factor in the Company's ability to continue to achieve its key objectives. Finally, the Company claims that this payment program is a key element of its overall payment package in attracting and retaining an appropriately skilled workforce. *Id.* at 17. Specifically, the Company says that the program is geared toward cost containment, quality service, and compliance initiatives to ensure reasonable cost and high quality service to customers. *Id.* at 17-18.

The Company next defends stock-based compensation as being one of the "reasonable costs of providing utility service that directly bear on its utility operating income", and notes that in a recent case, the Commission allowed an electricity company to recover stock-based compensation. *Id.* at 18-19; *Pa. P.U.C. v. UGI Util., Inc. – Elec. Div.*, Docket No. R-2017-2640058, Order at 73-74 (Oct. 25, 2018) (*UGI Electric 2018*). In the UGI Electric case, the record reflected that the employees receiving the stock-based compensation had "direct responsibility for customer service." *UGI Electric 2018* at 73. UGI was able to establish that employees' eligibility to receive the benefits were based on performance duties and metrics directly related to the

provision of service. *Id*. The same cannot be said about Aqua's stock-based compensation, which primarily benefits shareholders, rather than Aqua employees engaging in customer service. OCA St. 1 at 48. Other than the cursory statements above, Aqua presented no evidence and provided no nexus between the Company's stock-based compensation program and operational effectiveness or the provision of quality service to customers. *Id*. Thus, Aqua's program is not comparable to the program approved in *UGI Electric 2018*, and the cost of Aqua's stock-based compensation program should not be borne by ratepayers.

The Company also refers extensively to a 1988 Management Audit report to support the position that executive stock-based compensation should be charged to ratepayers. Aqua St. 1R at 14-15; OCA St. 1SR at 35, Exh. LA-7. However, the management audit in question did not address stock-based compensation plans, or mention stock-based compensation at all. OCA St. 1SR at 35, Exh. LA-7. The report only recommended establishing an annual incentive plan for Philadelphia Suburban Water Company, and stock-based compensation is not typically a component of utility annual incentive compensation plans. OCA St. 1SR at 36.

OCA witness Smith described how stock-based compensation is typically limited to executives and high level managers, and how this appears to be the case for the stock-based compensation that Aqua has included in this case. OCA St. 1SR at 36. Aqua has not pointed to any benefit that ratepayers receive in exchange for these additional costs being included in rates. OCA St. 1SR at 38-39. Further, it is common in other states to exclude stock-based compensation for executives from rate recovery. *See id*. at 37 (referencing *Application of UNS Gas, Inc.*, 2010 Ariz. P.U.C. LEXIS 151 at *60-62 (Apr. 14, 2010) (describing the Arizona Commission's history of denying recovery of executive stock-based compensation in rate cases and stating that these expenses are better borne by shareholders). Aqua may still provide stock-based compensation to

executives; however, shareholders should be responsible for these costs instead of ratepayers. OCA St. 1SR at 38-39. Finally, the OCA notes that requiring parent company shareholders to absorb the cost of executive stock-based compensation programs helps to mitigate the discrepancy in wealth between utility executives and utility workers and ratepayers. OCA St. 1SR at 38-39. *See* Table II (Water); Table II (Wastewater Base).

3. Payroll Tax Expenses

OCA witness Smith recommended adjustments to Aqua's payroll tax expense through adjustments to FICA (Social Security and Medicare), State Unemployment Tax (SUTA) and the Federal Unemployment Tax Act (FUTA). These adjustments are related to Mr. Smith's recommended adjustments to reduce the number of the Company's non-union seasonal employees, to reduce the vacancy rate used for payroll expenses, and to remove stock based compensation from the FPFTY cost of service, discussed *supra*. The adjustments reduce Aqua's payroll tax expense by $93,467 for water operations and by $7,448 for wastewater operations, totaling a reduction of $100,915. OCA St. 1 at 50; OCA Exh. LA-3, Sch. C-13; Table II (Water); Table II (Wastewater).

E. Insurance

1. Aqua's Expense for Employee Group Insurance Should Be Adjusted Using the More Accurate 2.88% Vacancy Rate.

The Company proposed adjusting employee group insurance for water operations using FTY contract prices and subtracting employee co-pay, and a portion not charged to operations. Aqua St. 1 at 17. The Company also applied a 2.5% vacancy credit to employee group insurance based on the 2.5% vacancy rate that it used for its payroll expense adjustment. The Company did not propose a similar adjustment to employee group insurance for wastewater operations; Aqua's

employee group insurance for its wastewater operations reflects an amount of $1,263,638 for the FPFTY. OCA St. 1 at 51.

The OCA recommended a 2.88% vacancy adjustment to payroll expense, discussed *supra*, and when that same vacancy rate is used to calculate FPFTY employee group insurance for water operations it decreases Aqua's proposed expense by $24,285. OCA St. 1 at 51, Exh. LA-2, Sch. C-14. The OCA also proposes an adjustment for the Company's wastewater intracompany benefits calculation based on the payroll expense derived from the recommended 2.88% vacancy rate. The modified payroll expense would result in wastewater intracompany benefits of $1,259,525, or a decreased expense of $4,113. OCA St. 1 at 53; OCA Exh. LA-2, Sch. C-14. In total, these result in adjustments of $28,398.

2. Aqua's General Insurance Expense Calculation Used Outdated Data.

The Company claims that Aqua's insurance expenses experienced an average year-over-year increase of 5.97%. This is based on the period ending December 31, 2017 through the period ending December 31, 2021 (five years total). Aqua St. 4 at 7. Aqua applied this annual escalation rate to its actual premium expense in 2021 to derive its FTY and FPFTY insurance amounts, minus those insurance costs that were not charged to operating expense.

The OCA submits that the data being used by the Company to derive the 5.97% annual escalation date is outdated and not representative of more accurate recent information. To calculate an alternate escalation rate, OCA witness Smith used a three year average of year of year increases from the years 2019, 2020, and 2021, and data from those years would project an expense increase of 4.38%. OCA St. 1 at 54, Exh, LA-2, Sch. C-15. When that 4.38% is applied to the Company's FTY and FPFTY, the resulting adjustment reduces Aqua's proposed insurance expense for the FPFTY by $71,428 for water operations and $710 for wastewater operations. This

is a total negative adjustment of $72,138. OCA Exh LA-2, Sch. C-15.; Table II (Water); Table II (Wastewater Base).

In rebuttal, the Company accepted this escalation rate of 4.38%, but in applying this escalation rate the Company inconsistently mixed calculations to derive an FPFTY claim for this expense that is $95,961 higher than what was reflected in Aqua's original filing. Aqua St. 4R at 8; OCA St. 1SR at 40. The OCA submits that the 4.38% increase to the FTY amounts properly reflects the normal level of General Insurance expense for the FPFTY, and thus, Aqua's proposed insurance expense should be reduced by $71,428 for water operations and $710 for wastewater operations. OCA St. 1SR at 41.

F. Aqua's Rate Case Expense Should Be Adjusted to Reflect More Accurate Costs and Normalized over 3.3 Years.

The Company initially requested an allowance for a $2.2 million rate case expensed normalized over three years, or a rate case expense of $671,073 per year for Water Operations and $62,260 per year for Wastewater Operations. The calculation for this cost included amounts for engineering, legal expenses, other consultants, including rate of return, notices and postage, and a "miscellaneous" cost. OCA Exh. LA-2, Sch. C-16. The Company later clarified that it proposes to amortize this rate case expense that it initially represented as normalized. Aqua St. 3R at 8; OCA St. 1SR at 42-43. Mr. Smith recommended three adjustments, as discussed below.

First, the OCA this cost should be reduced by adjusting the Company's claimed expenses to more accurately reflect its historic spending. As of September 30, 2021, the Company appeared to have incurred zero costs for "Other Consultants", and as such the OCA recommended removing $100,000 from that category. OCA St. 1 at 55. The OCA also recommended removing the $65,000 that Aqua has requested for "miscellaneous" costs, since as of September 30, 2021, Aqua had only incurred $453 for miscellaneous expenses. *Id*.

In rebuttal, the Company objected to the OCA's recommendation to remove the expense for consultants, because the Company claimed that since September 30, 2021 when it filed its initial response to OCA discovery, it had incurred costs of $40,068 for consultants. Aqua St. 3R at 6. The Company also stated, without further explanation, that it expects to incur the $65,000 of "Miscellaneous" costs if this case is fully litigated. Aqua St. 3R at 7. The OCA accepted both of these updated expenses, but continues to recommend that the $59,932 not incurred for consultants be removed from the claimed expense for "Other Consultants." OCA Exh. LA-6, Sch. C-16. After these adjustments, the OCA recommends a reduction of $124,932 to rate case expense.

Second, the OCA notes that Aqua has overstated its rate case expense in its last three rate cases, and that even with the OCA's proposed $104,525 reduction, Aqua's claimed amount for rate case expense is still overstated.[30] OCA Exh. LA-6, Sch.C-16. Aqua's last three rate cases were settled, which contributed to the Company's claimed rate expense being higher than the actual costs of the rate case. OCA St. 1 at 56; OCA Exh. LA-3 at 41-42.

Company Rate Expense in 2009, 2011, and 2018:

	2009 Case - Water	2011 Case - Water	2018 Case - Water
Claimed Expense	$930,000	$1,015,000	$1,975,000
Actual Expense	$906,665	$772,671	$1,501,768

OCA Exh. LA-3 at 42.

Third, Aqua has proposed to amortize its rate case expense. Aqua St. 3R at 8-9. The Commission has held consistently that rate case expenses are normal operating expenses, and thus, normalization should be used and the normalization period should be based on the historical

[30] In Aqua's 2018 rate case the Company claimed a rate case expense amount of $1.975 million, which overstated Aqua's actual expense of approximately $1.502 million by $473,000. OCA St. 1 at 55.

frequency of a utility's rate filings. *Popowsky v. Pa. P.U.C.*, 674 A.2d 1149, 1154 (Pa. Cmwlth. 1996) (*Popowsky 1996*); *Pa. P.U.C. v. Columbia Water Co.*, 2009 Pa. P.U.C. LEXIS 1423 (2009) (*Columbia 2009*); *Pa. P.U.C. v. National Fuel Gas Dist. Corp.*, 84 Pa. P.U.C. 134, 175 (1995) (*NFG 1995*); *Pa. P.U.C. v. City of Lancaster Sewer*, 2005 Pa. P.U.C. LEXIS 44 (2005) (*Lancaster Sewer 2005*); *Pa. P.U.C. v. Roaring Creek Water Co.*, 73 Pa. P.U.C. 373, 400 (1990) (*Roaring Creek 1990*).

The Company contends that instead of normalization, the rate case expense should be amortized, since it is an expense that will certainly occur again, but irregularly and infrequently, Aqua St. 3R at 8 (citing *A Guide to Utility Ratemaking*). Aqua's reliance on this source is curious because *A Guide to Utility Ratemaking* states that *normalization* is appropriate for rate case expenses. *A Guide to Utility Ratemaking* at 112 ("The Commission's practice is to recognize all prudently-incurred rate case expense and set a normalization period based on historic filing frequency"). Rate cases occur on predictable timelines, the timing of rate cases is the Company's decision, and thus the Company is incorrect to state that "there is no way to determine exactly when the Company will incur [rate case expenses]." Aqua St. 3R at 8. Rate case expenses are not regulatory assets, they are not included in utility rate base to earn profits for investors, and they are not treated as amortized expenses. OCA St. 1SR at 42-43. As normal operating expenses, rate case expenses should be normalized based on the historic frequency of the Company's rate case filings.

On that basis, the OCA recommends that the rate case expense be normalized over 3.3 years rather than the Company's requested three years. The Commission has held that the normalization period is determined, "by examining the utility's actual historical rate filings, not upon the utility's intentions." *Pa. P.U.C. v. City of Lancaster – Bureau of Water*, 2011 Pa. P.U.C.

LEXIS 1685, *56-57 (*Lancaster 2011*); *Pa. P.U.C. v. Metropolitan Edison Co.*, 2007 Pa. P.U.C. LEXIS 5 (2007) (*Met-Ed 2007*).

As OCA witness Smith explained,

> The filing interval from Aqua's 2011 rate case to Aqua's 2019 rate case is approximately 7 years (using the rate effective dates of June 8, 2012 and May 24, 2019). Three rate cases in approximately 9.8 years equates to an average filing interval of about 3.3 years between rate cases:

Aqua PA Rate Case Filing Interval			
Description	Effective date	No. of Days	Approx. No. of Years
2011 rate case	6/8/2012		
2018 rate case	5/24/2019	2,541	7.0
2021 rate case - estimated	4/1/2022	1,043	2.9
Number of days		3,584	
Days per year		365	
Number of years		9.8	9.8
Number of cases		3	3
Average filing interval, in years		3.3	3.3
Source: I&E-RE-9, Attachment 1			

OCA St. 1 at 56-57.

The Company claims that OCA witness Smith's calculations are distorted due to the long period of time between the 2011 rate case and the 2018 rate case that resulted from the 2011 settlement provision regarding the use of a tax repair deduction for income tax purposes that should not recur in the future. Aqua St. 3R at 9. There are many reasons why a utility may decide to not file a rate case. For example, Aqua's filings continue to propose treatments for income tax repairs that do not reflect the full tax benefits of Aqua's tax repairs deductions. The filing frequency is determined by the utility, and Mr. Smith's calculations represent the actual historic frequency of Aqua's filings. *Id.*; Aqua St. 3R at 9. The OCA's adjustments to "Other consultants" and "Miscellaneous" expenses reduce the total rate case expense by $124,932. OCA St. 1SR; OCA

Exh. LA-6, Sch. C-16. The Company has allocated 91.51% of rate case expense to water expenses and 8.49% of rate case expense to wastewater expenses. *Id.* Given the Company's allocation of rate case expense, the OCA's recommended adjustments for rate case expense properly reduce overall operating expense by $114,325 for Aqua's Water Operations and $10,607 for Wastewater Operations, and the adjusted expenses should be normalized over 3.3 years. Based on these recommended adjustments to rate case expense, the OCA recommends a reduction of $95,961 to annual amortization for the Company's Water Operations and a reduction of $8,874 to annual amortization for the Company's Wastewater Operations. *See* OCA St. 1SR at 57; OCA Exh. LA-6, Sch. C-16; Table II (Water); Table II (Wastewater Base).

Finally, the OCA notes that the Company, through witness testimony, stated that it "has not, nor will it ever, seek to recover unamortized rate case expenses from customers in a future rate case." Aqua St. 3R at 8. To the extent that the Company is proposing to amortize rate case expense, and would reflect any unamortized portion of the rate case expense in rate base, that amount should be removed because a rate case expense amortization should not be approved. However, as discussed above, the rate case expense should be normalized in accord with longstanding Commission practice and this issue would be moot. *See* OCA St. 1 at 27. *Popowsky 1996*; *Columbia 2009*; *NFG 1995*; *Roaring Creek 1990*.

G. Aqua's Calculation for Non-Rate Case Legal Expense (Water) Should Exclude the Twelve Month Period ending March 31, 2019.

The Company has requested $644,475 for non-rate case legal expenses for the FPFTY for its water utility operations. OCA St. 1 at 58; Aqua Exh, 1-A, Sch. C-8.1. This proposed non-rate case legal expense is based on a three-year average of amounts for the twelve months ending March 31, 2019, March 31, 2020, and March 31, 2021. Over those three years, the non-rate case legal expense incurred by the Company decreased, with the highest of the three periods being the one

that ended on March 31, 2019, at $694,447. In the calendar year 2019, Aqua recorded $545,550 in non-rate case legal expenses, and in 2020 Aqua recorded $587,742 in non-rate case legal expenses. OCA St. 1 at 58; OCA Exh. LA-2, Sch. C-17 at 2. By including that 2019 period when the Company had particularly high legal costs, Aqua's claim is overstated. OCA St. 1 at 58.

The OCA submits that Aqua's requested amount of $644,475 for non-rate case legal expense be reduced by $24,981 to reflect an amount for the FPFTY that is based on the average amounts recorded by Aqua for the twelve month periods ending March 31, 2020 and March 31, 2021. OCA St. 1 at 59; OCA Exh. LA-2, Sch. C-17 at 2. The amount of non-rate case legal expense reflected after excluding the twelve month period ending March 31, 2019 would be $619,494.

The Company submits that it is erroneous to use the two-year time frame of the years ending March 31, 2020 and March 31, 2021 to calculate non-rate case legal expense. Aqua St. 3R at 10. The Company contends that the three year time frame is more appropriate because it is consistent with prior rate filings and the Company's calculations of other expenses within its' filing. *Id.* The OCA's suggested two-year time frame excludes the 2019 year because it is unusually high and not representative of current or future levels of that expense. OCA St. 1SR at 44. Further, Aqua has been inconsistent about whether a three-year time frame is appropriate for determining non-rate case legal expense. Aqua witness Manning argued for the three-year time frame, but Aqua witness Henkel stated that the Company disagreed with the use of the three-year average, Aqua St. 3R at 10; Aqua St. 4R at 6.

H. Ratepayers Should Not Be Responsible for the Costs of Supplemental Executive Retirement Plant Expense - Executive Compensation.

The Commission has historically disallowed expenses based on its reasonableness determination when the expenses are not necessary in the provision of public utility service and

when the expenses are not related to the consumer. *Pa. P.U.C. v. Pennsylvania American Water Co., 1993 Pa. P.U.C. LEXIS 79* at *121-23 (*PAWC 1993*). When an expense is not directly related to providing utility services, but is related directly to attracting or retaining employees that provide utility service, then the Commission has in some instances allowed the expense. *Pa. P.U.C. v. Pennsylvania American Water Co., 1995 Pa. P.U.C. LEXIS 170* at *38-39 (*PAWC 1995*) (allowing the inclusion of employee recognition dinners in rate recovery). However, where an expense only benefits top executives and has nothing to do with the provision of utility service, that expense should not be placed on the consumer. OCA St. 1 at 45-47; *PAWC 1993* at *136 (prohibiting the recovery of spousal travel expenses for utility company executives from consumers).

The Company's claim unreasonably puts an expense for a Supplemental Executive Retirement Plan (SERP) for Essential Utilities and Aqua top executives on consumers, when that expense is not affiliated with the provision of public utility service. The SERP provides retirement benefits for select highly compensated executives that go beyond what employees with qualified pension plans receive and beyond International Revenue Service (IRS) limitations for qualified plans. Companies typically justify these types of retirement benefits for select employees by stating that they are necessary to attract and retain sufficiently qualified employees.

Aqua has reflected an expense of $97,014 to fund these SERP benefits in its requested revenue increase under "Aqua Nonqualified Service Costs." OCA St. 1 at 60. Aqua indicated in response to OCA-VII-46 that it included related expenses in its FPFTY totaling $598,598 for water operations and $57,050 in wastewater utility operations. Aqua provided a list of the current and former executives (and executive spouses) for whom these expenses are being incurred in Highly Confidential Attachment 4 to Aqua's supplemental response to OCA-VII-46. These highly confidential materials also indicate that the SERP is referred to as a "Nonqualified Pension Plan"

since it represents additional executive benefits that are not provided to Aqua employees with qualified pension plans. OCA St. 1 at 60; OCA Highly Confidential Exh. LA-4. **[BEGIN HIGHLY CONFIDENTIAL]** [redacted] **[END HIGHLY CONFIDENTIAL]** OCA Exh. LA-4 at 87.

The OCA submits that the SERP expense that exists to provide additional compensation to Aqua and Essential Utilities' highest paid executives should not be borne by Aqua PA ratepayers. Without this expense, the Company's executives would still receive retirement benefits available to any other Aqua employee. An expense that exists for the purpose of providing additional compensation to executives that are already the highest paid in the Company is both excessive and unnecessary to the provision of water service. *PAWC 1993* at *136-39 (holding that unnecessary expenditures that do not relate to the provision of utility service should not be borne by ratepayers). While the Company is free to provide these additional retirement benefits to its executives, it should do so at the expense of shareholders rather than ratepayers. As such, the OCA recommends removing the requested FPFTY expenses of $695,612 for the water utility and $57,050 for the wastewater utility altogether. OCA St. 1 at 62; OCA Exh. LA-2, Sch. C-18; Table II (Water); Table II (Wastewater Base).

The Company's primary support for the program is that the PUC has historically supported the Company's pension expense claims. Aqua St. 1R at 12. Aqua also justifies the SERP program by noting that it is only available to executives enrolled in the pension plan, hired prior to 2003, and thus will ultimately be reduced as the pool of eligible members phases out. *Id*. at 12-13; OCA St. 1SR at 46. The Commission did uphold an incentive compensation program for Aqua PA in the 2007 rate case, where the plan was focused on "improving operational effectiveness, including

customer service." *Pa. P.U.C. v. Aqua Pennsylvania, Inc.*, 2008 Pa. P.U.C. LEXIS 50 at *23-24 (*Aqua 2008*). However, the plan in question here has no ties to customer service as the plan in the 2007 rate case did. The fact that the plan applies only to executives hired prior to 2003 also indicates that the SERP benefits are not in place to attract new employees either. OCA St. 1SR at 45-47. Since the program has no ties to customer service, the costs of the program should not be borne by ratepayers.

I. Aqua's Ability to Continue Recording Costs into a COVID-19 Deferral Account Should Be Limited.

Rather than requesting recovery of its existing COVID-19 deferral amounts in this current rate case, Aqua proposes to continue recording amounts in its COVID-19 deferral account and seek recovery in a future rate case. The Company claims that it is still dealing with expenses from supply chain delays and inflation due to COVID-19 and it wishes to defer the expenses in order to ensure a fair opportunity to earn a reasonable rate of return. Aqua St. 1R at 5-6. The Company states that it its request is simply for time so that the uncollectible expenses stabilize. *Id*. at 6-7.

The OCA submits that Aqua's ability to continue recording costs into a deferral account should be limited, since allowing continual deferrals indefinitely beyond the FPFTY being used in the current base rate case is not reasonable. OCA St. 1 at 63. If the Company seeks to recover deferred COVID-19 costs, it should make its claim for costs through the end of this case's FPFTY, in a filing that should be submitted no later than the next rate case. The OCA also emphasizes that in such a filing, Aqua should account for savings that it has recognized during the pandemic for things such as travel, conferences, and other categories of expenses that may be offset against the recorded COVID-19 deferral balances. The Company has so far acknowledged approximately $360,000 of such savings. Aqua St. 1R at 9.

The Company also notes that the uncollectable expense deferral amount may decrease as the Company continues to resume collection activities, since the termination moratorium was lifted, and in fact Aqua witness Packer indicated that as of October 31, 2021, Aqua's COVID-19 uncollectibles deferral has decreased by about $900,000 since March 31, 2021. Aqua St. 1R at 7-9. Even so, the OCA recommends terminating its COVID-19 deferrals as of the end of the FPFTY in this case and offsetting them with cost-savings related to the COVID-19 pandemic. OCA St. 1SR at 47.

VI. COST OF CAPITAL AND RATE OF RETURN

A. Introduction

The OCA disputes Aqua's proposal for an overall rate of return of 7.64%, which includes a return on common equity of 10.75%, and a capital structure of 46% long-term debt and 54% common equity. This overstates the Company's current cost of common equity and overall return due to its proposed capital structure. The OCA will demonstrate that Aqua's cost of equity is closer to 8.0%. Based on these findings by David Garrett, the OCA considers a reasonable awarded return on equity to be 8.0% for Aqua, which is very likely higher than Aqua's market-based cost of equity.

The Company claims a capital structure of 46.05% long-term debt and 53.95% common equity. Aqua St. 7 at 20; Aqua Exh. 7-A, page 1. The Company bases its proposed capital structure ratios on what it estimates to be a 4.00% prospective embedded cost of long-term debt. Aqua St. 7 at 21; Aqua Exh. 7-A at 11-14. Aqua requests a rate of return, based upon its cost of capital, of 7.64 %, which includes a 10.75% cost of common equity. Aqua Exh. 7-A at 1.

Aqua has presented the testimony of Mr. Paul R. Moul in support of these claims. Mr. Moul has obtained his data by using a proxy group (i.e. barometer group) of eight water companies (Moul Proxy Group) to arrive at his numbers for Aqua's equity cost rate. Aqua St. 7 at 5; Aqua Exh. 7-A at 6. The Moul Proxy Group consists of water companies that are: 1) contained in *The Value Line Investment Survey*, and 2) publicly traded. Aqua St. 7 at 10. Mr. Moul also used Standard & Poor's Public Utilities (S&P Public Utilities), a group of electric and natural gas companies, in his analyses. Aqua St. 7 at 13; Aqua Exh. 7-A at 6.

Mr. Moul has employed his data in the following four models: Discounted Cash Flow (DCF), Risk Premium Analysis (RP), Capital Asset Pricing Model (CAPM) and Comparable Earnings approach (CE). Aqua St. 7 at 5.

Aqua's claim is summarized below:

Type of Capital	**Ratios (%)**	**Cost Rate (%)**	**Weighted Cost (%)**
Long-Term Debt	46.05	4.00	1.84
Common Equity	53.95	10.75	5.80
Total Capital	100.00		7.64

See Aqua Exh. 7-A at 1.

The OCA presented the testimony of David Garrett. *See* OCA St. 3. Regarding Aqua's request for an overall cost of capital, the OCA maintains that the Company's request overstates its financial requirements, and additionally, such request is unsubstantiated.

The OCA's recommendation is summarized as follows:

Type of Capital	**Ratios (%)**	**Cost Rate (%)**	**Weighted Cost (%)**
Long-Term Debt	50.00	4.00	2.00
Common Equity	50.00	8.00	4.00
Total Capital	100.00		6.00

OCA St. 2 at 3.

The OCA submits that first, the PUC should reject or modify Aqua's proposed capital structure, and second, the PUC should establish 8.0% as a more appropriate return on equity.

The PUC should reject or modify Aqua's proposed cost of common equity. The Company errs by relying upon the RP, CAPM, and CE models, which are models subject to bias. In fact, the PUC relies primarily upon the DCF method. *See infra* at VI.G. Further, even though the Company performs a DCF analysis, such analysis is faulty due to the Company's flawed methodology and inclusion of an erroneous leverage adjustment.

B. Legal Standards for Cost of Capital and Rate of Return

Cost of capital is generally accepted as a basis for determining a fair rate of return. *Pa. P.U.C. v. Philadelphia Suburban Water Co.*, 71 Pa. P.U.C. 593, 623 (1989) (*PSW 1989*). In the *PSW 1989* rate base case, the Commission has defined an appropriate rate of return as:

> [T]he amount of money a utility earns, over and above operating expenses, depreciation expense, and taxes, expressed as a percentage of the legally established net valuation of utility property, the rate base. Included in the "return" are interest on long-term debt, dividends on preferred stock, and earnings on common equity. In other words, the return is the money earned from operations which is available for distribution among the various classes of contributors of money capital.

PSW 1989, at 622-23 (quoting *Public Utility Economics*, Paul J. Garfield and Wallace F. Lovejoy, 116 (1964)). Further, "[t]he return authorized must not be confiscatory, and must be based upon the evidence presented." *PSW 1989*, at 623 (citing *Pittsburgh v. Pa. P.U.C.*, 69 A.2d 844, 165 Pa. Super. Ct. 519 (1949)).

As a general rule, a public utility, with facilities and assets dedicated to public service, is entitled to **no more than** a reasonable opportunity to earn a fair rate of return on its investment. The United States Supreme Court established the standard by which to evaluate what is a fair rate of return in *Bluefield Waterworks & Improvement Co. v. Public Serv. Comm'n of West Va.,* 262 U.S. 679 (1923) (*Bluefield*):

> The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to raise the money necessary for the proper discharge of public duties.

Bluefield at 693.

The *Bluefield* Court found that the allowed rate of return should reflect:

> [A] return on the value of the [utility's] property which it employs for the convenience of the public equal to that being made at the same time on investments in other business undertakings which are attended by corresponding risks and uncertainties.

Bluefield at 692.

Twenty-one years later, the United States Supreme Court reviewed the issue of fair rate of return in *Federal Power Commission v. Hope Natural Gas Co.,* 320 U.S. 591 (1944) (*Hope*). In *Hope*, the Court held that a fair rate of return "should be commensurate with returns on investments in other enterprises having corresponding risks" while being sufficient "to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and attract capital." *Hope* at 603. The Court also noted, however, that

> The rate-making process under the Act, i.e., the fixing of 'just and reasonable' rates, involves a balancing of the investor and consumer interests . . . and does not insure that the business shall produce revenues."

Id. The Supreme Court added that consumers are obliged to rely upon regulatory commissions to protect them from excessive rates and charges. *See Permian Basin Area Rate Case*, 390 U.S. 747, 794-95 (1968) (citing *Atlantic Refining Co. v. Public Serv. Comm'n,* 360 U.S. 378, 388 (1981)).

In 1989, the United States Supreme Court affirmed the Pennsylvania Supreme Court's holding that a Pennsylvania public utility is entitled to charge ratepayers a return of and on only that property currently used and useful in providing service to the public. *See Duquesne Light Co. v. Barasch,* 488 U.S. 299 (1989) (*Duquesne Light*), *affirming Barasch v. Pa. P.U.C.,* 516 Pa. 142, 532 A.2d 325 (1987). In *Duquesne Light*, the United States Supreme Court stated that "whether a particular rate is 'unjust' or 'unreasonable' will depend to some extent on what is a fair rate of return given the risks under a particular rate system, and on the amount of capital upon which the investors are entitled to earn on that return." *Duquesne Light* at 310.

This Commission itself has stated:

> A fair rate of return for a public utility, however, is not a matter which is to be determined by the application of a mathematical formula. It requires the exercise of informed judgment based upon an evaluation of the particular facts presented in each proceeding. There is no one precise answer to the question as to what constitutes the proper rate of return. The interests of the Company and its investors are to be considered along with those of the customers, all to the end of assuring

> adequate service to the public at the least cost, while at the same time maintaining the financial integrity of the utility.

Pa. P.U.C. v. Pennsylvania Power Co., 55 Pa. P.U.C. 552, 579 (1982) (emphasis added). *See Pa. P.U.C. v. National Fuel Gas Dist. Corp.,* 73 Pa. P.U.C. 552, 603-605 (1990).

OCA witness Garrett testified that *Hope* indicates "the awarded return must also be fair, just and reasonable." OCA St. 3 at 7. "Among the circumstances that must be considered in each case are the broad economic and financial impacts to the cost of equity and awarded return caused by market forces and other factors. *Id.* If the Commission sets the allowed rate of return too high, higher than the true cost of capital, "it will result in an inappropriate transfer of wealth from ratepayers to the Company." OCA St. 3 at 8.

C. Capital Structure

Aqua proposes using a capital structure of 53.95% common equity and 46.05% long-term debt. Aqua St. 7 at 20. The OCA disagrees with the use of this capital structure because the common equity ratio of Aqua's requested capital structure is significantly higher than the average of the eight regulated water utilities in the proxy group (50.0%). *See* OCA Exh. DJG-14. Mr. Garrett utilized the same proxy group as Aqua witness Moul for determining a hypothetical capital structure and rate of return.

The use of the hypothetical capital structure is appropriate in cases like this one to reduce costs to ratepayers, as opposed to increasing costs. Pennsylvania courts have upheld the use of a hypothetical capital structure where the utility's management adopts an actual capital structure that imposes an unfair cost burden on ratepayers. *T.W. Phillips Gas and Oil Co. v. Pa. P.U.C.*, 474 A.2d 355, 362, 81 Pa. Commw. 205, 217 (1984); *see Carnegie Natural Gas Co. v. Pa. P.U.C.*, 433 A.2d 938, 61 Pa. Commw. 436 (1981) (*Carnegie*) (100% equity actual capital structure). The Commission has explained its rationale several times. It has stated:

> [T]he Commission has the duty to regulate utilities in a manner which provides customers with reliable service at reasonable cost. This is not to say that we may mandate to regulated utilities the proportions of debt and equity contained in their capital structures. Rather, the actual capital structure is a matter within the discretion of corporate management; however, this does not preclude the commission from determining that a particular utility's capital structure is unreasonable or uneconomical when balancing the goals of safety, prudent management, and economy and utilize a hypothetical capital structure for rate-making purposes.

Pa. P.U.C. v. Carnegie Natural Gas Co., 54 Pa. P.U.C. 381, 393 (1980) (affirmed on appeal by *Carnegie*). The underlying theme is an equitable one, in which the Commission and Pennsylvania courts do not allow the utility's financial interests to outweigh the public interest. *Pa. P.U.C. v. Pennsylvania Gas and Water*, 424 A2d 1213, 1217, 492 Pa. 326, 332, (1980) (*PG&W*) (stating that such property must be regulated in the interest of the public no less than in the interest of the utility*)*; *see also Arrowhead Pub. Serv. Corp. v. Pa. P.U.C.*, 600 A.2d 251, 257, 143 Pa. Commw. 558, 570 (1991) (supporting the Commission's use of the utility's actual cost of debt where the cost is clearly identifiable).

In other words, a hypothetical capital structure may be used by the Commission where a utility's actual capital structure is unreasonable or uneconomical. *Big Run Tel. Co. v. Pa. P.U.C.*, 449 A.2d 86, 89, 68 Pa. Commw. 296, 301-02 (1982) (*Big Run*), *following Carnegie* (Commission may utilize a hypothetical capital structure for the purpose of computing a reasonable interest expense where it finds that the actual income tax expense was unreasonable and should not be passed onto ratepayers). The Court in *Big Run* articulated the doctrine that a hypothetical capital structure is justified in the event actual capital structure is disproportionate, meaning, the actual capital structure "imposes an unfair tax burden on ratepayers." *Big Run* at 449.

For Aqua's water and wastewater operations OCA witness Garrett recommends a hypothetical capital structure of 50% common equity and 50% long-term debt based upon the

average of the companies in the proxy group which utilize common equity ratios between 41% and 56%. *See* OCA Exh. DJG-14. Mr. Garrett testified that a higher Weighted Average Cost of Capital (WACC) results in higher rates. *See* OCA St. 3 at 57. Thus a utility is incentivized to increase its WACC. According to Mr. Garrett, "a commission standing in the place of competition must ensure that the regulated utility is operating at the lowest reasonable WACC." OCA St. 3 at 57. By adopting Mr. Garrett's recommended capital structure, the Commission will ensure that wealth is not unfairly transferred from ratepayers to stockholders.

OCA witness Garrett testified that a 50% debt ratio is reasonable, citing more than 3,000 firms in the United States with higher debt ratios than 50%. OCA St. 3 at 59. According to OCA witness Garrett, if Aqua is granted its proposed equity ratio, the result will be "excessively high capital costs and utility rates due to the simple fact that the cost of equity is much higher than the cost of debt. OCA St. 3 at 61. Additionally, Mr. Garrett testified, "There are several notable industries that are relatively comparable to public utilities. For example, the Cable TV, Telecom, Power, and General Utility industries all have an average debt ratios close to 60%." OCA St. 3 at 61. Aqua's proposal of a 46% debt ratio is lower than the proxy group (50%), General Utilities (58%), Power (60%), Telecom (Wireless) (60%), and Cable TV (61%) industries. OCA St. 3 at 61.

In his rebuttal testimony, Aqua witness Moul disagreed with Mr. Garrett's proposed capital structure, stating Garrett's structure "merely lowers the Company's revenue requirements." Aqua St. 7R at 13-14. Mr. Moul's analysis of Mr. Garrett's proposed capital structure mischaracterizes the purpose of Mr. Garrett's analysis of the Company's capital structure. Any proposal by Mr. Garrett that shifts the capital structure towards a structure aligned with the proxy group will result in a lower Company revenue requirement "[b]ecause Mr. Moul's positions regarding the ROE and

capital structure result in an unreasonable high cost of capital estimate." OCA St. 3SR at 3. The Company has simply provided insufficient basis to support its proposed capital structure in the context of this case. While it is free to actually utilize whatever capital structure it deems appropriate, for ratemaking purposes and assessing costs on ratepayers, the Commission must stand in the shoes of a competitive environment select a capital structure that does not unfairly penalize ratepayers.

Mr. Garrett's proposal of 50% debt ratio is reasonable and reflects "the average debt ratio of Mr. Moul's own proxy group." OCA St. 3SR at 4. Mr. Garrett testified, "[i]t is important the Commission approve a capital structure that is reflective of one that might actually exist in a competitive environment." *Id.* The capital structure of Mr. Moul's selected proxy group used for the DCF Model and CAPM analyses "is a reasonable way to assess an appropriate capital structure for Aqua." *Id.*

The Commission should reject Aqua's proposed capital structure and adopt the OCA's recommended capital structure which is reasonable for ratemaking purposes and consistent with Commission precedent of ensuring that ratepayers are not unfairly disadvantaged or over subsidizing the utility.

D. Cost Rate of Common Equity

1. The Commission's Stated Preference Is for the Discounted Cash Flow Model.

Regulators determine the proper cost of capital for a utility company. Although Pennsylvania has no law describing the specific model that must be used to establish a cost of capital, the Commission has consistently stated its preference for using the Discounted Cash Flow

(DCF) model,[31] which is the model employer by the OCA in this proceeding. Aqua witness Moul advocated for the use of multiple models, stating in his Rebuttal testimony, "the use of more than one method provides a superior foundation for the cost of equity determination." Aqua St. 7R at 10. Nonetheless, even if multiple models produce the same results, if key assumptions and inputs violate accepted tenets in finance and valuation, the use of those flawed multiple models should be avoided. *See* OCA St. 3 at 16. Aqua witness Moul's misapplication of multiple models results in a flawed recommended cost of capital.

2. The OCA Is Adopting Aqua's Proxy Group.

There are advantages to comparing the utility to be analyzed to a proxy group of companies. OCA witness Garrett testified:

> First, it is better to assess the financial soundness of a utility by comparing it to a group of other financially sound utilities. Second, using a proxy group provides more reliability and confidence in the overall results because there is a larger sample size. Finally, the use of a proxy group is often a pure necessity when the target company is a subsidiary that is not publically traded. This is because the financial models used to estimate the cost of equity require information from publically traded firms, such as stock prices and dividends.

OCA St. 3 at 17.

The OCA has chosen to use the same proxy group as selected by Aqua witness Moul. While different arguments could be raised for the exclusion or inclusion of a particular utility within the proxy group, by using the same proxy group, the OCA is removing selection of the proxy as a variable in analyzing rate of return. Using the same proxy group will assist in focusing

[31] *Pa. P.U.C. v. City of DuBois – Bureau of Water*, Docket No. R-2016-2554150, Order at 96-98 (Mar. 28, 2017); *Pa. P.U.C. v. UGI Util., Inc. – Elec. Div.*, Docket No. R-2017-2640058, Order at 119 (Oct. 25, 2018); *Pa. P.U.C. v. Wellsboro Elec. Co.*, Docket No. R-2019-3008208, Order at 80-82 (Apr. 29, 2020); *Pa. P.U.C. v. Citizens' Elec. Co. of Lewisburg, PA*, Docket No. R-2019-3008212, Order at 91-93 (Apr. 27, 2020); *Pa. P.U.C. v. Valley Energy, Inc.*; Docket No. R-2019-3008209, at 102-04 (Apr. 27, 2020); *Pa. P.U.C. v. Columbia Gas of Pennsylvania, Inc.*, Docket No. R-2020-3018835, Order at 131 (Feb. 19, 2021).

on the primary factors driving the cost of equity estimate and demonstrate the unreasonableness of Aqua's conclusions concerning rate of return. *See* OCA St. 3 at 17.

3. Discounted Cash Flow Analysis

a. The OCA Is Using the Quarterly Approximation Discounted Cash Flow to Calculate Quarterly Growth Dividends.

Mr. Garrett uses a Quarterly Approximation Discounted Cash Flow (DCF) method that accounts for quarterly growth of dividends. OCA St. 3 at 25. Mr. Garrett selected this method "in the interest of reasonableness, as it produces the highest cost of equity estimates compared with the other DCF Model variations." *Id.* Mr. Garrett's Quarterly Approximation DCF method indicates a cost of equity range for Aqua of 8.0%. OCA St. 3 at 34; *see* OCA Exh. DJG-6.

There are three primary inputs into the DCF model: (1) stock price; (2) dividend; and (3) the long-term grown rate. According to Mr. Garrett, "[t]he stock prices and dividends are known inputs based on recorded data, while the growth rate projection must be estimated." OCA St. 3 at 25-26.

Mr. Garrett provides the Quarterly Approximation DCF Model Equation in his testimony:

Quarterly Approximation Discounted Cash Flow Model

$$K = \left[\frac{d_0(1+g)^{1/4}}{P_0} + (1+g)^{1/4}\right]^4 - 1$$

where: K = *discount rate / required return*
d_0 = *current quarterly dividend per share*
P_0 = *stock price*
g = *expected growth rate of future dividends*

OCA St. 3 at 26.

b. The OCA Has Obtained Stock Pricing from the 30-Day Average of Each Company in the Proxy Group.

Mr. Garrett obtained the stock Price ("P") from the 30-day average of stock prices for each company in the proxy group. OCA St. 3 at 26, *see* OCA Exh. DJG-3. The 30-day average was computed based on the ticker from September 14, 2021 through October 25, 2021. OCA Exh. DJG-3. Mr. Garrett selected a 30-day average to avoid the possible volatility of a single day's stock price, stating that the 30-day period "represents a good balance between adhering to well-established principles of market efficiency while avoiding any unnecessary contentions that may arise from using a single stock price on a given day." OCA St. 3 at 27.

c. The OCA Obtained the Most Recent Quarterly Dividend Paid for Each Proxy Company.

Mr. Garrett obtained the current quarterly dividend per share ("d_0") from "the most recent quarterly dividend paid for each proxy company." OCA St. 3 at 27-28; *see* OCA Exh. DJG-4. This particular model "assumes that the company increases its dividend payments each quarter. Thus, the model assumes that each quarterly dividend is greater than the previous one by $(1 + g)^{0.25}$." OCA St. 3 at 28. This is known as the dividend quarterly growth rate, where "g" is the grown rate, and the exponent "0.25" represents one quarter of a year. *Id.* Mr. Garrett testified that the Quarterly Approximation DCF Model results in a higher cost of equity estimate than the annual or semi-annual DCF Models "due to the quarterly compounding of dividends inherent in the model." OCA St. 3 at 28.

Mr. Garrett testified, "Although my stock price and dividend inputs are more recent than those used by Mr. Moul, there is not a statically significant difference between them because utility stock prices and dividends are generally quite stable." OCA St. 3 at 28. Rather, the difference

between Mr. Moul's and Mr. Garrett's application of the DCF model is in the difference in the growth rate estimates. OCA St. 3 at 28.

d. Using the Company's Growth Rate with Other Reasonable Inputs into the DCF Model Results in an 8.0% ROE.

The Quarterly Approximation DCF Model values stock according "the present value of its future cash flows in the form of dividends. Before future cash flows are discounted by the cost of equity, however, they must be 'grown' into the future by a long-term growth rate." OCA St. 3 at 29. The growth rate, unlike the stock price and the dividend, must be estimated. OCA St. 3 at 29. As noted in the Dividend section, *supra*, this model assumes that these dividends grow at a constant rate forever. OCA St. 3 at 28-29. As a result, the growth rate in the constant growth DCF model is often called "stable," "constant," or "terminal." *Id.* at 29. Because Aqua would be considered to be in the maturity stage of an industry's life cycle, Mr. Garrett testified "it is sufficient to analyze the cost of equity using a stably grown DCF Model with one terminal, long-term growth rate." *Id.* at 32.

No firm can grow forever at a higher rate than the growth rate of the economy. OCA St. 3 at 32; *see Investment Valuation: Tools and Techniques for Determining the Value of Any Asset*, Aswath Damodaran (John Wiley & Sons, Inc. 2012) (3rd ed.) at 306. Mr. Garrett testified, "it is reasonable to assume that a regulated utility would grow at a rate that is less than the U.S. economic growth rate." OCA St. 3 at 32. Aqua's growth rate is likely between the expected rate of inflation and the expected rate of nominal GDP growth, or between 2% and 4%. OCA St. 3 at 33; *see* Congressional Budget Office Long-Term Budget Outlook, https://www.cbo.gov/publication/51580. According to Mr. Garrett, the growth rates used by Aqua witness Mr. Moul "are higher than what should typically be used for the terminal growth rate in the DCF Model. OCA St. 3 at 33. Because water companies in Pennsylvania have the opportunity

to grow though the acquisition of smaller water and wastewater companies, Mr. Garrett considered Mr. Moul's higher-than-typical growth rates based on "the water company's unique growth opportunities relative to electric and gas utilities." OCA St. 3 at 33. Mr. Garrett considered various qualitative determinants, as well as the maximum allowed growth rate under basic principles of finance and economics to create the following chart:

Terminal Growth Rate Determinants

Terminal Growth Determinants	Rate
Nominal GDP	3.8%
Real GDP	1.8%
Inflation	2.0%
Projected Growth Rate	6.3%
Risk Free Rate	2.0%
Highest	**6.3%**

OCA St. 3 at 33-34.

Regarding the growth rate of 6.3% he selected for the DCF Model, Mr. Garrett explained, "For the long-term growth rate in my DCF model, I selected the maximum, reasonable long-term growth rate of 6.3%, which means my model assumes that Aqua's qualitative growth in earnings will exceed the nominal growth rate of the entire U.S. economy over the long run – a very charitable assumption." OCA St. 3 at 34.

In his Rebuttal testimony, Aqua witness Moul testified, that "GDP growth rates submitted by Mr. Garrett are an inappropriate representation of investor growth rate expectations." Aqua St. 7R at 13. Mr. Moul comes to this conclusion because "the reason that earning per share growth is the primary determinant of investor expectations rests with the fact that the capital gains yield (*i.e.*,

price appreciation) will track earnings growth with a constant price earnings multiple (a key assumption of the DCF model)." Aqua St. 7R at 13.

In surrebuttal testimony, OCA witness Garrett pointed out that Company witness Moul's rebuttal testimony is "difficult to reconcile." OCA St. 3SR at 4. Mr. Garrett relied on one of Mr. Moul's growth rates to calculate his own DCF result. *Id.* Yet Mr. Moul "concludes that [Garrett's] DCF analysis should be dismissed and that the DCF growth rates [Garrett] propose[s] do not provide a reasonable input to the DCF Model." *Id.*; *see* Aqua St. 7R at 18. In other words, Mr. Moul is stating that Moul's use of a specific growth rate is acceptable, but that if Mr. Garrett uses that same growth rate, then Mr. Garrett's analysis should be dismissed by the Commission. Mr. Garrett testified, "my analysis demonstrates that when reasonable inputs to the DCF Model are used, the resulting ROE is still only 8.0%, even if one of the Company's relatively high proposed growth rate assumptions is considered." OCA St. 3SR at 5. The Commission should rely on Mr. Garrett's DCF results, considering that Mr. Moul and Mr. Garrett used the same growth rate.

e. <u>The Commission Should Consider a Return on Equity of 8.0% to Be at the Higher End of the Range of Reasonableness.</u>

Applying the stock price, the dividend, and the growth rate to the Quarterly Approximation DCF model to estimate Aqua's cost of equity capital resulted in an estimate of 8.0%. OCA St. 3 at 34; OCA Exh. DJG-6. Because this model uses a growth rate input that is considerably higher than the U.S. GDP growth, the Commission should consider 8.0% to be at the higher end of what should be considered reasonable for a cost of equity range. *Id.*

[1]	[2]	[3]	[4]
Dividend (d_0)	Stock Price (P_0)	Growth Rate (g)	**DCF Result**
$0.32	$78.16	6.31%	**8.0%**

[1] Average proxy dividend from Exhibit DJG-4
[2] Average proxy stock price from Exhibit DJG-3
[3] Highest growth determinant from Exhibit DJG-5
[4] Quarterly DCF Approximation = $[d_0(1 + g)^{0.25}/P_0 + (1 + g)^{0.25}]^4 - 1$

OCA Exhibit DJG-6.

4. Mr. Moul's DCF Analysis Should Be Rejected.

a. Introduction

Aqua witness Mr. Moul generated a DCF model with a base cost of equity of 9.0%. OCA St. 3 at 35. Mr. Moul added a 2.34% leverage adjustment to his DCF results through the use of the Hamada formula. OCA St. 3 at 35. Mr. Moul's flawed DCF analysis results in a recommended 11.78% cost of equity. OCA St. 3 at 35; *see* Aqua Exh. 7-A, Sch. 1.

b. Mr. Moul's Use of a Leverage Adjustment Is Unreasonable and Should Be Disregarded by the Commission.

A leverage adjustment is granted on a case-by-case basis and within the discretion of the Commission. *Aqua 2008* at 46; Popowsky *v. Pa. P.U.C.*, 868 A.2d 606, 612-13 (Pa. Cmwlth. 2004). Additionally, the Commission typically applies a leverage adjustment in cases where "market conditions have resulted in a DCF cost rate that is understated." *PPL 2012* at 120. Importantly the potential harm to ratepayers should be considered when determining whether to adjust the DCF cost rate. *Lancaster 2011* at 79. In this case, the DCF model overstates the cost of equity and thus there is no reasonable basis to accept a leverage adjustment. The leverage

adjustment Aqua is seeking here is similar to the adjustment in the 2016 *Pa. P.U.C. v. City of Dubois* case, where the adjustment were "simply unnecessary and are contrary to the public interest." *Pa. P.U.C. v. City of Dubois,* Docket No. R-2016-2554150, Order at 105 (Mar. 28, 2017) (*Dubois*).

Mr. Moul used the Hamada formula to add a 234 basis point adjustment to his 9.0% base cost of equity in the DCF model through the use of the Hamada formula. OCA St. 3 at 37. Concerning the lack of necessity for the Hamada formula, OCA witness Garrett testified, "[w]hile the Hamada formula can be a valuable exercise in certain applications, it does not have any meaningful impact on the cost of equity or fair awarded ROE in this case. OCA St. 3 at 37. In fact, Mr. Garrett pointed out "the most problematic part of Mr. Moul's DCF Model is his use of the Hamada formula to add a 2.34% "leverage adjustment" to his DCF results." OCA St. 3 at 35. The Hamada formula can be used to analyze changes in a firm's cost of capital as it changes is financial leverage. OCA St. 3 at 35. The formula works by starting with an unlevered beta and relevering the beta at different debt ratios. OCA St. 3 at 35. By increasing the amount of financial leverage at different debt ratios, equity investors bear increasing amounts of risk. OCA St. 3 at 35. This leads to higher beta values. OCA St. 3 at 35. The Hamada formula allows for the effects of leverage to be removed. OCA St. 3 at 35-36.

According to OCA witness Garrett, there are several issues with Mr. Moul's application of the Hamada formula. The most egregious of these issues is Mr. Moul's use of a relevered beta of 1.07, implying that Aqua is riskier than the average company in the competitive marketplace (the average company has a beta of 1.0). OCA St. 3 at 38. Mr. Garrett testified, "This is a completely unreasonable assumption." OCA St. 3 at 38. According to Mr. Garrett, "[a] proper and accurate unlevered beta calculation shows an unlevered beta of only 0.47." OCA St. 3 at 38.

An additional issue with Mr. Moul's application of the Hamada formula is his use of the debt ratio from the capital structure. Mr. Garrett advocates for a debt/equity ratio of 50%/50%; Mr. Moul proposed a debt/equity ratio of 46%/54%. *See, e.g.* OCA St. 3 at 38. For the Hamada application Mr. Moul uses an input of 28% for the debt ratio, which skews the results higher. OCA St. 3 at 38. Mr. Moul's use of a 28% debt ratio is unsupported, and OCA witness Garrett calls it either "a mathematical error or an upwardly biased decision on the part of Mr. Moul." *Id.* Mr. Moul's clearly erroneous application of the Hamada formula and the 234 basis point leverage adjustment should be disregarded by the Commission, as it is both erroneous and unsupported.

In Rebuttal testimony, Company witness Moul attempts to justify the use of the leverage adjustment by stating that without the Company's use of the adjustment, the Company's own inputs result in a low result. Aqua St. 7R at 17. That is to say, it appears that the Company's witness did not like the results dictated by the Company's own inputs so he decided to increase those results in a wholly unsupportable way. In Rebuttal testimony, Company witness Moul claims that Mr. Garrett never refutes Mr. Moul's leverage adjustment. Aqua St. 7R at 18. This is not true. Mr. Garrett's testimony directly refutes Mr. Moul's leverage adjustment, including creating an entire exhibit to specifically refute Mr. Moul's adjustment. OCA St. 3SR at 9. As demonstrated above, Mr. Moul's proposed leverage adjustment is either a mathematical error or intentional distortion. Either way it is unreasonable, and as such, should be disregarded by the Commission.

c. <u>Conclusion</u>

Whether the debt ratio input in a mathematical error or an upwardly biased decision by Aqua, Mr. Moul's use of the Hamada formula is incorrect. OCA. St. 3 at 38. The Commission

should reject Mr. Moul's use of the Hamada formula, and disregard the 234 basis point increase proposed by Aqua witness Moul.

5. CAPM Analysis

a. The OCA's CAPM Result Supports the OCA DCF Results.

The CAPM model is a "market-based model founded on the principle that investors expect higher returns for incurring additional risk." OCA St. 3 at 38; *see A Simplified Model for Portfolio Analysis*, William F. Sharpe at 277–93 (Management Science IX 1963). The United States Supreme Court has held, "the amount of risk in the business is a most important factor" in determining the allowed rate of return. *Willcox v. Consolidated Gas. Co.*, 212 U.S. 19, 48 (1909). The United States Supreme Court has also held that "the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks." *Hope* at 603. Recognizing that the Commission relies on the DCF, the OCA notes that Mr. Garrett's CAPM result supports the DCF result he calculated. Concerning the inputs of the CAPM model, OCA witness Garrett testified: "The basic CAPM equation requires only three inputs to estimate the cost of equity: (1) the risk-free rate; (2) the beta coefficient; and (3) the equity risk premium. Here is the CAPM formula:

Basic CAPM

Cost of Equity = Risk-free Rate + (Beta × Equity Risk Premium)

OCA St. 3 at 39.

OCA Witness Garrett estimated that Aqua's CAPM cost of equity is 6.4%. OCA St. 3 at 48; *see* OCA Exh. DJG-11. Company witness Mr. Moul estimated the base CAPM cost of equity as 13.4%. OCA St. 3 at 49. Mr. Moul arrives at this considerably higher result by using the same beta of 1.07 that he uses in the Hamada formula for the leverage adjustment to Aqua's DCF model.

OCA St. 3 at 49. Mr. Moul also adds a size premium of 1.02% to his CAPM. OCA St. 3 at 50. The resulting Company CAPM estimated cost of equity of 13.4% is "so unreasonably high that it must be considered an erroneous result rather than a mere overestimation." OCA St. 3 at 49.

b. The Commission Should Determine that Aqua's Use of a Projected Bond Rate is Unsupported.

Mr. Moul uses a risk free rate of 2.75% as an input in Aqua's CAPM model. OCA St. 3 at 49. Mr. Garrett testified that this Aqua's risk free rate is "about 75 points higher than the current yield on 30-year Treasury bonds." OCA St. 3 at 49. The risk-free rate represents the bare minimum return any investor would expect on a risk investment. OCA St. 3 at 39. Often investors use U.S. Treasury securities to represent the risk-free rate because they are essentially risk-free. OCA St. 3 at 39-40. Short-term U.S. Treasury bonds are subject to greater volatility than long-term bonds. OCA St. 3 at 40. Because stock is considered a long-term investment, and cash flows from dividends are assumed to last in perpetuity, long-term bonds are usually used to represent the risk-free rate in the CAPM model. Mr. Garrett testified concerning the risk-free rate, "I considered a 30-day average of daily Treasury yield curve rates on 30-year Treasury Bonds in my risk-free rate estimate, which resulted in a risk-free rate of 2.02%." OCA St. 3 at 40; *see* OCA Exh. DJG-7.

In rebuttal testimony Company witness Moul claimed that Mr. Garrett's CAPM results are "simply not credible" in part because of his "backward looking" yield on 30-year Treasury bonds. *See* Aqua St. 7R at 22. Explaining his use of the 30-day average on daily yields as opposed to a projected bond yield, Mr. Garrett stated:

> While the process of cost of equity estimation is a forward-looking concept, it does not require the use of prospective bond yields as a proxy for the risk-free rate. In my experience, both in the academic and regulatory environment, most analysts use the current yields on U.S. Treasury securities as a proxy for the risk-free rate. The analysts who use prospective bond yields for the risk free rate typically represent

> utility companies, and the prospective bond yields used in such analyses are inevitably higher than the current bond yields at that time. The inputs to the CAPM, including 20-year or 30-year bond yields and the equity risk premium, are sufficiently "forward-looking" without the use of prospective (i.e., higher) bond yields for the risk-free rate.

OCA St. 3SR at 6.

There is also evidence that reliance on a projected bond yield results in a higher cost of equity estimate, and produces results that, if adopted, would require consumers to overpay a utility's rate of return. As Mr. Garrett stated:

> I have reviewed dozens of utility ROE testimonies dating back more than 20 years. In nearly every one of those cases, the witness representing the utility relied on a forward-looking or projected Treasury bond yield for the risk-free rate, instead of relying on the current, known Treasury bond yield. In fact, I cannot recall a single instance in which the utility's projected bond yield was lower than the current bond yield. In other words, I cannot recall a single case in which a utility witness's prediction of the future did not, all else held constant, result in a higher cost of equity estimate in the present. This reliance on projected bond yields is misplaced, given that the projections often overstate the actual yields. After observing this trend of forecasted yields exceeding actual yields over many years without exception, it reinforces my opinion that it is preferable to use known (current) bond yields rather than unknown (future) bond yields.

OCA St. 3SR at 6-7. The Commission should recognize Mr. Moul's use of a projected bond yield is unsupported and is extremely likely to exceed actual yields well into the future. Instead, the Commission should adopt Mr. Garrett's use of a 30-day average on the daily yield of a 30-year Treasury bond for calculating any CAPM analysis, recognizing that most analysts use this method as a proxy for the risk-free rate. *See* OCA St. 3SR at 6.

c. <u>Mr. Moul Uses an Incorrect Beta that Indicates that Aqua Is More Risky than the Overall Market.</u>

Mr. Moul uses the same beta as used in the DCF leverage adjustment, 1.07, for the beta input of the CAPM model. OCA St. 3 at 49. Mr. Garrett testified that the beta input represents "the sensitivity of a given security to movements in the overall market." OCA St. 3 at 40. Stocks

with a beta greater than 1.0 are more sensitive to market risks; those with a beta less than 1.0 are less sensitive to market risks. OCA St. 3 at 41. Mr. Garrett uses a beta of 0.794 in the CAPM model. *See* OCA Exh. DJG-11. Mr. Garrett's beta coefficient is based on the Value Line Investment Survey of the eight utilities in the proxy group. Mr. Garrett stated, "Mr. Moul takes the unusual approach of making an upward adjustment to Value Line's published betas, which causes a higher CAPM result." OCA St. 3SR at 7.

The eight utilities' betas range from 0.65 to 1.00, and average 0.79. *See* OCA Exh. DJG-8. Seven of the eight proxy utilities has a beta of less than 1.00, and Mr. Garrett testified, "we have an objective measure to prove the well-known concept that utility stocks are less risky than the average stock in the market." OCA St. 3 at 41. Additionally, Mr. Garrett testifies, "there is evidence suggesting that betas published by sources such as Value Line may actually overestimate the risk of utilities." OCA St. 3 at 41. Mr. Garrett's use of the beta of 0.79 therefore represents a conservative beta that may overestimate Aqua's risk. Aqua's use of a beta coefficient of 1.07 is unreasonable because it is an aberration compared to the proxy group, and suggests that Aqua as a utility firm is more risky than the average stock in the market, yet no evidence supports that suggestion.

d. Mr. Garrett's Market Risk Premium Is More Recent and More Accurate.

Mr. Moul calculated Aqua's market premium applicable to CAPM as 9.0%. Aqua St. 7R at 42. OCA Witness Garrett concluded that an equity risk premium of 5.5% is reasonable. The Commission should disregard Aqua's equity risk premium as unreasonable and adopt the position of Mr. Garrett.

Mr. Moul criticized the work of Mr. Garrett in calculating the market premium, stating that looking back 30 days to get an average yield on T-Bonds is "backward-looking." Aqua St. 7R at

25. However, Mr. Garrett noted that "Mr. Moul relies on data that predates the discovery of penicillin and bubble gum for his ERP estimate. Relying on data dating back nearly 100 years (1926) is not a reasonable approach in estimating the ERP." OCA St. 3SR at 7. Mr. Garrett's use of a 30 day average yield on T-Bonds represents a current ERP approach. Mr. Garrett criticized Mr. Moul's use of data in creating a market risk premium, stating:

> there is substantial evidence showing that the current and forward-looking ERP is notably lower than the historical ERP (especially if one begins their historical ERP analyses before the Great Depression). In contrast to Mr. Moul's approach, I relied on a survey of thousands of unbiased experts in helping develop a reasonable estimate for the ERP. I also looked at the estimate published by Duff & Phelps, which is a respected, international corporate advising firm, and the estimate published by one of the world's leading experts on the ERP – Dr. Aswath Damodaran. The highest ERP from these sources is 5.5% (notably lower than Mr. Moul's 9.0% estimate). I used this 5.5% in my analysis.

OCA St. 3SR at 7-8. Mr. Garrett's use of the highest ERP among multiple unbiased sources is certainly a reasonable approach, and more reasonable than the reliance on century-old data.

According to OCA witness Garrett, the equity risk premium (ERP) is the "required return on the market portfolio less the risk-free rate ($R_M - R_F$). In other words, the ERP is the level of return investors expect above the risk-free rate in exchange for investing in risky securities." OCA St. 3 at 41-42. Mr. Garrett described the three methods of calculating the ERP, (1) calculating a historical average; (2) taking a survey of experts; and (3) calculating the implied ERP. OCA St. 3 at 42.

i. Mr. Moul's Use of the Historical Average is Unsupported.

According to OCA witness Garrett, "[t]he historical ERP may be calculated by simply taking the difference between returns on stocks and returns on government bonds over a certain period of time." OCA St. 3 at 42. However, for the CAPM model, what matters is not the risk premiums from the past but the current and forward-looking risk premium. *See* OCA St. 3 at 42;

see Corporate Finance: Linking Theory to What Companies Do, John R. Graham, Scott B. Smart & William L. Megginson (South Western Cengage Learning 2010) (3rd Ed.) at 330. There is also evidence that suggests "the prospective, forward-looking ERP is actually lower than the historical ERP." OCA St. 3 at 42-43. Because of these limitations in the Historical Average method, Mr. Moul's analysis is flawed and without merit. Mr. Garrett relies on the ERP in expert surveys and the implied ERP method discussed below. OCA St. 3 at 44.

ii. The IESE Business School Survey Indicates an Average ERP of 5.6%.

The expert survey approach involves using a survey of professors, analysts, chief financial officers, and other executives around the country and asking their determination of the ERP. OCA St. 3 at 44. According to OCA witness Garrett: "The IESE Business School conducts a periodic survey that asks experts around the country about their opinions on the ERP. Their 2020 expert survey reported an average ERP of 5.6%." OCA St. 3 at 44; *see Market Risk Premium and Risk-Free Rate used for 81 countries in 2020,* Pablo Fernandez, Eduardo de Apellaniz and Javier F. Acin (IESE Business School 2015) at 3.

iii. The Gordon Growth Model Indicates an Implied ERP of 5.0%.

According to OCA Witness Garrett, the implied ERP "relies on the stable growth model proposed by Gordon, often called the "Gordon Growth Model," which is a basic stock valuation model widely used in finance for many years." OCA St. 3 at 44. The implied ERP model uses the same underlying concept as the DCF model: the current value of an asset is equal to the present value of its future cash flows. OCA St. 3 at 45. Mr. Garrett employed the implied ERP model to arrive at an ERP of 5.0%.

Based on the foregoing, the Commission should disregard Aqua's equity risk premium as unreasonable and adopt the position of Mr. Garrett.

E. Mr. Moul's Addition of a Management Performance Adder Is Wholly Unsupported.

In Aqua's original filing, Mr. Moul did not quantify a management performance adder. In rebuttal testimony Mr. Moul attempts to shift the burden of proof away from Aqua, stating, "neither Messrs. Spadaccio nor Garrett have shown that AP is not entitled to some form of management performance recognition by the Commission." Aqua St. 7R at 26. Additionally, Mr. Moul's testimony in this case concerning his own inclusions of the management performance adder is inconsistent. Responding to OCA Witness' Garrett's point that Mr. Moul has proposed a management performance adder in every rate case in which Mr. Moul has testified in Pennsylvania since 2015, Mr. Moul stated, "Mr. Garrett misperceives my role with respect to management performance adjustments to equity. As I have made clear in this case, and in each of the cases identified by Mr. Garrett, I do not make an independent assessment of management performance of each utility." Aqua St. 7R at 26. Yet, in the previous sentence of Mr. Moul's testimony, Mr. Moul states, "Mr. Packer's testimony has established that the Company's management performance warrants recognition by the Commission." Aqua St. 7R at 26. Clearly Mr. Moul would have to make an assessment of Aqua's management performance to come to the conclusion that Mr. Packer's testimony warrants recognition by the Commission.

Importantly, Ms. Alexander and Mr. Colton addressed numerous areas where Aqua has failed to meet basic standards of utility performance pursuant to Sections 526 and 1501 of the Public Utility Code. *See* Sections IX and X, *infra;* 66 Pa. C.S. §§ 526, 1501. As such, the unsupported statements by Aqua are refuted by the OCA's expert witnesses' specific analyses of customer service and customer assistance measures.

OCA Witness Garrett testified, "Aqua has conducted no comparative analyses to determine if Aqua's management performance is any different than other regulated utilities (in or out of the proxy group). As such, there is no basis for awarding a rate of return higher than Aqua's estimated cost of equity." OCA St. 3SR at 10. Aqua has not met the burden of proof in showing that a management performance adder is warranted. An argument that we are really good because we say we are, in the absence of any comparison to the mean, is not a sufficient basis to add additional costs to ratepayers.

VII. TAXES

A. Income Tax Expense – Repairs Deduction

Aqua has been applying "flow through" treatment for its tax repairs deductions. This has reduced current income taxes. OCA St. 1 at 31. It also reduces Aqua's effective tax rate by treating tax deductions for repairs as if it were a permanent difference between tax and book amounts, rather than a temporary difference as is the case here. OCA witness Smith testified that the Company's current treatment is unusual in the utility industry and can result in large amounts of excess earnings between rate cases. OCA St. 1 at 31.

An alternative treatment that is far more common for regulated utilities with cost of service-based rates, is for the temporary book-tax differences related to repairs to be normalized, which involves establishing deferred income tax accounting. If that alternative treatment were to be applied to Aqua's repair deductions in the current rate case, deferred income tax expense would be increased, and an amount of ADIT would be established. OCA St. 1 at 31. The ADIT would provide a rate base offset. However, because the amounts of Aqua's repair deductions have been so large, it is not practical in the current Aqua rate case to fully transition to deferred income tax accounting for Aqua's repairs deductions. *Id.* OCA witness Smith testified as follows:

> As shown on Exhibit LA-2, Schedule C-3, for the calculation of FPFTY income tax expense, I recommend using an amount for Repairs Deductions of $167.3 million, per the Company's response to OCA-X-27, which updated the Repairs Deduction amount to $167.3 million from the $163.5 million amount that was identified in Aqua's direct testimony. Aqua witness Saball's direct testimony at page 5, lines 4-6, indicated that the $163.5 million amount is for the 2021 tax year; however, Aqua's response to OCA-X-27 indicated that the amount has been updated to $167.3 million. This is $8.24 million higher than the $159.06 million Repairs Deductions amount that was used by Aqua to compute its proposed income tax expense. This adjustment reduces FPFTY income tax expense by $2.38 million, as shown on Exhibit LA-2, Schedule C-3, line 10.
>
> …

> The allocation of the $167.3 million Repairs Deduction between water and wastewater was reflected on Schedule C-3 proportionately to Aqua's allocation of the Company's proposed $159.06 million deduction.

OCA St. 1 at 32. Mr. Smith's recommendation in this case, is to use a Repairs Deductions amount of $164.5 million, the updated 2021 amount identified by Aqua should be used in setting rates in this case. OCA Exh. LA-6, Schedule C-3. This is based on a three-year average of the $167.4 million for 2022 and the amounts that Aqua projected in its rate application for 2023 and 2024 of $163 million. OCA St. 1SR at 16-17. This produces reductions to income tax expense of $1.573 million as shown on Exhibit LA-6, Schedule C-3, line 10; Table II (Water); Table II (Wastewater Base).

Additionally, Aqua is proposing a "FIN 48" adjustment for uncertain tax positions to offset the benefits of its claimed income tax deductions for repairs in order to not reflect repairs deductions related to a reserve. OCA St. 1 at 32. When the OCA asked Aqua about the impacts of its "FIN 48" uncertain tax positions, Aqua identified $4,000,000 as a "FIN 48 removal" account. OCA St. 1 at 33. OCA witness Smith noted that Aqua appears to be attempting to not reflect the income tax impacts of the $4,000,000 portion of its repairs deductions that it considers uncertain tax positions in its proposed ratemaking income tax calculation. OCA St. 1 at 33. As such, OCA witness Smith recommends that the repairs deduction used in Aqua's income tax calculation for FPFTY income taxes should reflect the amount expected to be deducted for repairs without any offset for uncertain tax positions. OCA St. 1 at 34-35.

The OCA notes that the use of income tax deductions that are claimed, or are expected to be claimed, on income tax returns is consistent with the guidance that has been provided by the Federal Energy Regulatory Commission (FERC). *See* OCA St. 1SR at 18. While Aqua is a water and wastewater utility, not an energy utility, and while Aqua PA is regulated by the PA PUC and

not by FERC, the guidance provided by the FERC on the treatment of utility uncertain tax positions is very useful for reasonably addressing this issue for utility regulatory accounting and ratemaking purposes. OCA St. 1SR at 18.

As testified to extensively by OCA witness Smith, for utility ratemaking purposes, FIN 48 reserves should be disregarded and per the FERC's guidance, the recorded and ratemaking amounts for utility income taxes should be based on the positions taken or expected to be taken on the tax returns filed or expected to be filed. OCA St. 1SR at 18. The FERC guidance states that regardless of uncertainty, the "amounts recorded in the accounts established for accumulated deferred income taxes are based on the positions taken in the tax returns filed or expected to be filed." OCA St. 1SR at 19 (internal citations omitted). To be clear, reducing the impact of income tax deductions claimed or expected to be claimed on the federal income tax returns for the utility for uncertain tax positions has thus been rejected by the FERC. OCA St. 1 SR at 20.

Allowing a utility to increase its federal income tax expense in a rate case to remove deductions actually claimed or expected to be claimed on the basis of uncertainty overcharges ratepayers and could produce excessive after-tax income for shareholders by ignoring income tax savings associated with income tax deductions that are being claimed. Moreover, in Aqua PA's case, the repairs deductions that Aqua has claimed or has indicated that it expects to claim for federal income tax purposes clearly relate to the provision of water and wastewater utility service by Aqua in Pennsylvania. OCA St. 1SR at 20.

In response to OCA witness Smith's proposed treatment of uncertain tax deductions for repairs, Aqua witness Saball stated in rebuttal testimony that a reserve for potential disallowance of Aqua's uncertain tax positions should be provided. *See* OCA St. 1 SR at 20. Permitting a reserve to be recorded in the event that Aqua's "uncertain" tax deductions for repairs were

ultimately to be disallowed by the IRS could be appropriate for ratemaking purposes but only if all of the repairs deduction amounts that are claimed or expected to be claimed are reflected in the calculation of income tax expense for ratemaking purposes. OCA St. 1SR at 20-21. As noted by Aqua witness Saball, however, Aqua has no federal income tax audit history of its claimed repairs deductions being disallowed. OCA St. 1SR at 21.

In rebuttal testimony, OCA witness Saball proposes that, if the income tax benefit is not reduced by the reserve for the uncertain tax position, and the tax position is subsequently audited and disallowed, the Company would record a regulatory asset to recover the disallowed benefit that has been included in customer rates. *See* OCA St. 1SR at 21. The OCA submits that Aqua's position concerning the uncertain portion of its claimed repairs tax deductions is inequitable, one-sided and would be unfair to ratepayers because (1) Aqua does not want to fully reflect the tax benefits associated with the repairs deductions that it has claimed or is expected to claim on its income tax returns, and (2) Aqua then apparently wants to be able to record a regulatory asset if any of those repairs deductions are ultimately disallowed by the IRS. OCA St. 1SR at 21.

Aqua's position is inequitable and untenable because it would first deny ratepayers the benefit of reduced income tax expense from deductions claimed on its income tax returns. OCA St. 1SR at 21. Then, if some portion of Aqua's repairs deductions were to be ultimately disallowed by the IRS, Aqua would propose to record regulatory assets for those income tax disallowances and to charge ratepayers to recoup the income taxes related to the disallowed repair deduction amounts. OCA St. 1SR at 21-22. Aqua should not be provided the opportunity to collect higher rates now by refusing to recognize the value of the repairs deduction and reserve the right to collect even more if it turns out they should have never had the opportunity to earn these higher rates in the first instance.

Contrary to Aqua's proposal that would be a lose/lose for ratepayers, OCA witness Smith recommended to reflect all amounts of repairs deductions claimed or to be claimed on income tax returns in the calculation of income tax expense in the current Aqua PA rate case. *See* OCA Exh. LA-6, Sch. C-3. As long as Aqua's repairs deductions that are claimed on income tax returns are fully reflected for ratemaking purposes (without any offset for uncertain tax positions), however, OCA witness Smith is not opposed to allowing the regulatory asset treatment which would only apply in the event that some portion of the uncertain repairs deductions being claimed by Aqua were to be disallowed by the IRS. OCA St. 1SR at 22.

Reflecting the amounts of repairs deductions that Aqua has claimed or has indicated that it expects to claim for federal income tax purposes reflects appropriate ratemaking treatment. The OCA submits that the repairs deduction used in the income tax calculation for FPFTY income taxes should reflect the amount expected to be deducted for repairs without any offset for uncertain tax positions. As such, OCA witness Smith recommended that the deduction amounts, including amounts for repairs, reflect the Company's claimed income tax deduction amounts and that those not be reduced by any reserves for uncertain tax positions. OCA St. 1 at 33.[32]

B. Income Tax Expense – Interest Synchronization

OCA witness Smith recommends applying an interest synchronization adjustment to the Company's proposal, which applies the weighted cost of debt to the adjusted rate base in deriving the interest deduction applicable to the calculation of test year income tax expense. OCA St. 1 at 34. The OCA submits that doing otherwise would understate the tax deduction the Company

[32] OCA witness Smith noted that, while he did not make a specific adjustment to remove the attempt by Aqua to reduce the repairs deduction for a "FIN 48" reserve, Mr. Smith used a repairs deduction amount of $167.3 million based on the Company's response to OCA-X-27, which appears to be before Aqua's application of any "FIN 48" reserve for uncertain tax positions. As discussed above, an adjustment has been quantified to reflect a normal recurring level of repairs deductions as shown in Exhibit LA-2, Schedule C-3 for the water utility and wastewater utility. OCA St. 1 at 33.

receives on its actual filings, and overstate the tax expense the Company incurs to the detriment of its customers. As noted by OCA witness Smith, the interest synchronization method is widely used by other utilities and regulatory Commissions because it appropriately coordinates the elements of the ratemaking formula and is fair to all parties. OCA St. 1 at 34.

As such, OCA witness Smith's interest synchronization recommendation results in the following adjustment:

Aqua Pennsylvania, Inc.
Income Tax Expense - Interest Synchronization

Fully Projected Future Test Year Ending March 31, 2023

Exhibit LA-1
Schedule C-4
Docket Nos. R-2021-3027385 and R-2021-3027386
Page 1 of 8

Line No.	Description	Water (A)	Base Wastewater (B)	Limerick Wastewater (C)	East Bradford Wastewater (D)	Cheltenham Wastewater (E)	East Norriton Wastewater (F)	New Garden Wastewater (G)
1	Increase (Decrease) to State Income Tax Expense	$ (579,922)	$ (25,073)	$ (9,035)	$ (841)	$ (7,398)	$ (3,959)	$ (4,726)
2	Increase (Decrease) to Federal Income Tax Expense	$ (1,097,272)	$ (47,440)	$ (17,094)	$ (1,592)	$ (13,997)	$ (7,491)	$ (8,941)
3	Increase (Decrease) to Income Tax Expense	$ (1,677,195)	$ (72,513)	$ (26,129)	$ (2,433)	$ (21,395)	$ (11,450)	$ (13,667)

Notes and Source:
See pages 2 through 8 of this schedule

OCA Exh. LA-6, Schedule C-4; *see also* Table III (Water, Wastewater Base, Limerick, East Bradford, Cheltenham, East Norriton, New Garden).

C. Federal Tax Adjustment Surcharge

Aqua is proposing a new water and wastewater Federal Tax Adjustment Surcharge (FTAS) as part of its filing. The FTAS is designed to adjust base rates to reflect future increases or decreases in the federal corporate income tax rate. OCA St. 1 at 14-15. The FTAS is premised on Aqua's belief that the federal corporate income tax rate may be increased from 21% to 28%. The Company implies that the Commission's implementation of the tax rate change resulting from the TCJA was too slow. OCA St. 2 at 15.

Aqua's proposal to create a FTAS is unnecessary. Simply put, it is uncertain when the next change in the federal corporate income tax rate will occur and whether any future legislation enacting a change in the federal corporate tax rate would include other provisions which would

affect tax liabilities. For example, the TCJA included provisions affecting the tax treatment of net operating loss carrybacks and caps and limited the net interest deduction. OCA St. 2 at 15 (internal citations omitted). Additionally, Aqua witness Saball noted in her rebuttal testimony that "I fully agree that no one can say with any certainty if/when an increase to the federal corporate income tax rate will take effect." OCA St. 2SR at 13 *citing* Aqua St. 8R at 10. There is no evidence of, and to the best of the OCA's knowledge, there is no pending legislation proposing an increase to the federal corporate income tax rate. Aqua's position is purely speculative.

Further, Aqua's proposed FTAS has not been shown to be necessary or reasonable. The OCA submits that changes to the federal corporate income tax rate should be addressed by the Commission on a generic basis for all of the public utilities under its jurisdiction. As noted by OCA witness DeAngelo, in February 2018, the Commission initiated a generic proceeding to determine the effects of the Tax Cuts and Jobs Act (TCJA) on public utilities' tax liabilities and by July 2018 the Commission had set temporary rates and implemented surcredits to begin the flow through of the tax rate decrease.[33] OCA St. 2 at 15. As any future legislation changing the federal corporate income tax rates may impact other provisions which affect corporate federal income tax liabilities, the OCA submits that the Commission should deny Aqua's request to create an FTAS.

[33] *See Tax Cuts and Jobs Act of 2017*, Docket No. M-2018-2641242.

VIII. RATE STRUCTURE

A. Introduction

OCA witness Watkins' revenue allocations are at Aqua's proposed revenue requirement rather than OCA's recommended revenue requirement in order to permit an illustrative apples-to-apples comparison to Aqua's proposals. OCA St. 4 at 2. Mr. Watkins provided recommendations regarding the allocation of wastewater revenue requirement to water customers, rate design, and the scale back to the Act 11 shift and rates for water and wastewater customers if the Commission approves a lesser increase or a decrease to Aqua's revenue requirement. *Id.* at 3-22. Mr. Watkins also provided specific recommendations to address the concerns raised by active Formal Complainants and other customers who testified at the Public Input Hearings regarding Aqua's unmetered (flat) wastewater rates. OCA St. 4 Supp. at 1-2. Finally, Mr. Watkins recommended (1) an adjustment to Aqua's projected revenues for the FPFTY related to water negotiated rate contracts and (2) denial of Aqua's proposal to create two new surcharges for purchased water and energy costs. *Id.* at 22-25. The OCA submits that Mr. Watkins' recommendations should be adopted in this proceeding.

B. Class Cost of Service Study

Aqua prepared one water class Cost of Service Study (COSS). Aqua Exh. 5-A, Part I. Aqua prepared six wastewater COSSs: one for the legacy systems (proposed rate zones 1 through 6) and separately for the five systems acquired under Section 1329 (proposed rate zones 7 through 11).[34] Aqua Exh. 5-B, Part I; Aqua St. 1 at 7. The OCA recommends no changes to Aqua's water and wastewater cost of service studies. OCA St. 4 at 2.

[34] To date, and since its last base rate proceeding, Aqua has closed on the acquisition of five wastewater systems using Section 1329: Limerick, East Bradford, Cheltenham, East Norriton and New Garden.

As noted by I&E witness Kubas, this is the first Aqua base rate case to include separate COSS for systems acquired under Section 1329. I&E St. 5 at 66. Mr. Kubas recommended that newly acquired Section 1329 systems subsequent to this rate proceeding should continue to have a separate COSS included in the first base rate proceeding where those systems are included in Aqua's wastewater system. *Id.* This requirement has been adopted by the Commission for every Section 1329 acquisition approved to date.[35] Aqua St. 1 at 11-12. Consistent with that precedent, the OCA supports the imposition of this requirement to separately identify the cost of serving the wastewater systems acquired under Section 1329 in future Aqua base rate cases.

Mr. Kubas also recommended that, in its next base rate case, Aqua should combine Zones 7 through 11 into one COSS. I&E St. 5 at 66.

> Since these zones include systems that were acquired under Section 1329, they represent a unique group of zones and cost recovery requirements. Therefore, these zones should be grouped into one [cost of service study] in future cases. It is important to distinguish the difference between these systems and systems not acquired under 1329 because of the generally higher cost of providing service to customers in the system acquired under 1329.

Id. If Aqua continues to acquire systems under Section 1329, it could become unwieldy for Aqua to continue to provide separate COSSs and maintain them in separate rate zones. As stated by Mr. Kubas, there are commonalities between those systems, which support grouping their cost recovery requirements. The cost of serving the systems acquired under Section 1329 is generally higher and those acquired customers, as residents of the seller municipalities, are the beneficiaries

[35] *Application of Aqua Pennsylvania Wastewater, Inc.*, Docket No. A-2017-2605434, Order on Reconsideration at 16-17 (July 12, 2018) (*Limerick*); *Application of Aqua Pennsylvania Wastewater, Inc.*, Docket No. A-2018-3001582, Order at 2 (Sept. 20, 2018) (*East Bradford*); *Application of Aqua Pennsylvania Wastewater, Inc.*, Docket No. A-2019-3008491, Order at 86 (Nov. 5, 2019) (*Cheltenham*); *Application of Aqua Pennsylvania Wastewater, Inc.*, Docket No. A-2019-3009052, Order at 38-39 (May 21, 2020) (*East Norriton*); *Application of Aqua Pennsylvania Wastewater, Inc.*, Docket No. A-2016-2580061, Order at 2 (Dec. 3, 2020) (*New Garden*).

of the fair market value premiums.[36] I&E St. 5 at 66; OCA St. 4 at 7. In the absence of fairer alternatives, the OCA supports this recommendation.

C. Revenue Distribution

1. The OCA's Recommended Allocation of Wastewater Revenue Requirement to Water Operations Is More Reasonable than Aqua's because It Fairly Balances the Interests of Water Customers and Wastewater Customers Whose Municipalities Benefitted from Higher Acquisition Purchase Prices.

a. Introduction

This is the first Aqua rate case that includes Section 1329 acquisitions and a request to subsidize the revenue requirement related to the fair market value of those acquisitions by shifting costs to water customers pursuant to Section 1311(c) of the Public Utility Code. 66 Pa. C.S. §§ 1311(c), 1329. The ratemaking interplay, as proposed by Aqua, would require its water customers to pay a subsidy that is due in substantial part to the five acquisitions completed by Aqua to date under Section 1329. To put the proposed subsidy in perspective, Aqua is proposing that water customers pay for $20.8 million of its wastewater revenue requirement. Roughly one-third of that amount, or $7.39 million, will benefit wastewater systems acquired under Section 1329. As shown in the table below, one-third of the total wastewater revenue requirement would not be paid by wastewater customers:

[36] As discussed below, it is reasonable that the wastewater customers benefiting from the FMV premiums (purchase price above book value) should also bear the revenue requirement generated by the FMV premiums, to the largest extent practical. OCA St. 4 at 7.

TABLE 1
Aqua Proposed Cross-Subsidization Between Water and Wastewater

	(1) Present Revenues	(2) Aqua Proposed Revenues	(3) Full Cost of Service	(4) COS Required Increase (3) - (1)	(5) Act 11 Subsidy (Excess) (3) - (2)	(6) Percent Subsidy (Excess) (5) / (3)
Wastewater:						
Legacy Systems	$19,012	$22,485	$35,938	$16,926	$13,453	37.4%
Acquired Systems:						
Limerick	$3,979	$6,947	$9,926	$5,947	$2,978	30.0%
East Bradford	$1,015	$1,373	$1,831	$817	$458	25.0%
Cheltenham	$7,259	$9,800	$10,316	$3,057	$516	5.0%
East Norriton	$2,924	$4,082	$5,831	$2,907	$1,749	30.0%
New Garden	$2,872	$3,935	$5,623	$2,751	$1,687	30.0%
Total Wastewater	**$37,059**	**$48,623**	**$69,465**	**$32,406**	**$20,842**	**30.0%**
Total Water	**$509,679**	**$595,863**	**$575,026**	**$65,347**	**-$20,839**	**-3.6%**

OCA St. 4 at 4; Aqua Exhs. 5-A, Part I, 5-B, Part I. This subsidy is roughly 25% of the total increase proposed by Aqua in this case for water customers.[37] The Public Utility Code allows this to occur only if doing so is "in the public interest." 66 Pa C.S. § 1311(c). In this case, the OCA submits that this large of a subsidy by Aqua's water customers of the Company's 1329 wastewater acquisitions is not in the public interest. For the reasons set forth in Mr. Watkins' testimony and discussed below, the OCA recommends that the Commission allow a lower subsidy from water customers and assign a larger increase to the wastewater systems so as to recognize the revenue requirement generated by the systems' acquisitions under Section 1329. OCA St. 4 at 4-9.

[37] Subsidy of $20.839 million ÷ Aqua proposed increase $86.184 million ((2)-(1)) = 24.1%.

b. Because It Does Not Recognize the Impact of Section 1329 in Determining Whether the Section 1311(c) Subsidy Is in the Public Interest, Aqua's Proposal Would Unreasonably Require Water Customers to Subsidize 75% of the Wastewater Revenue Requirement Produced by Fair Market Value Premiums.

Again, Section 1311(c) allows, but does not require, the Commission to allocate a portion of the wastewater revenue requirement to a combined water and wastewater customer base if it is in the public interest. 66 Pa. C.S. § 1311(c). Section 1311(c) was enacted as part of Act 11 of 2012 and has been used by Aqua in its rate case filed in 2018 to propose a shift of wastewater revenue requirement to water customers. There, Aqua proposed to recover $8.1 million of the wastewater revenue requirement from its water customers. *Pa. P.U.C. v. Aqua Pennsylvania, Inc.*, Docket No. R-2018-3003558, Order at 2 (Feb. 8, 2019). In the Settlement of that proceeding, the parties agreed that $7.1 million would be allocated to water customers pursuant to Section 1311(c). *Id.* However, this is the first Aqua rate case in which a portion of the subsidy is related to acquisitions under Section 1329. 66 Pa. C.S. § 1329.

As noted in Mr. Watkins' testimony, on a collective basis, Aqua paid $75.9 million more than book value for the acquired systems which represented a fair market value (FMV) premium of 80.7%. OCA St. 4 at 6; OCA St. 4SR at 2.

TABLE 3
Aqua Wastewater
Acquisition Premiums in Rate Base
($000)

System	Net Book Value	Final Rate Base	Approved Amount Over Net Book Value	Acquisition Premium Percentage
Limerick	$46,153.9	$64,373.4	$18,219.5	39.5%
East Bradford	$5,473.9	$5,000.0	($473.9)	-8.7%
Cheltenham	$15,408.5	$50,250.0	$34,841.5	226.1%
East Norriton	$8,407.0	$20,750.0	$12,343.0	146.8%
New Garden	$18,567.7	$29,500.0	$10,932.3	58.9%
Total	$94,011.0	$169,873.4	$75,862.4	80.7%

Mr. Watkins calculated each of the five acquired wastewater systems' revenue requirement associated with its respective FMV premium. OCA St. 4 at 7-8; OCA Sch. GAW-2. These revenue requirements include the depreciation associated with the FMV premium and the return and taxes associated with the FMV premium plant amounts.[38] OCA St. 4 at 8. The following table provides a summary of the revenue requirements associated with the FMV acquisition premiums:[39]

TABLE 4
Revenue Requirement
Associated w/Wastewater
Acquisition Premiums

Limerick	$2,528,844
East Bradford	-$64,160
Cheltenham	$4,348,913
East Norriton	$1,750,565
New Garden	$1,491,817
Total	$10,055,979

In other words, by including $7.39 million related to the acquired wastewater systems' revenue requirement in its proposed subsidy,[40] Aqua is asking water customers to pay 74% of the $10.06 million FMV premium. This is unreasonable and Aqua's proposed subsidies must be reviewed under Section 1311(c) to determine if they are in the public interest.

[38] The return component is based on the Company's proposed capital structure and return on equity.
[39] The revenue requirements reflect only the amount of the fair market value premium and not the full fair market value revenue requirement. OCA St. 4 at 8.
[40] Total subsidy of $20.842 million less subsidy related to legacy systems' revenue requirement of $13.453 million. OCA St. 4 at 4, Table 1; Aqua Exhs. 5-A, Part I, 5-B, Part I.

c. Aqua's Proposed Subsidy Is Not in the Public Interest Because Shifting One-Third of the Total Wastewater Revenue Requirement to Water Customers Who Receive No Benefit from Its Wastewater Operations Is Unfair and Would Set Wastewater Rates that Are Not Reasonably Cost-Based.

Section 1311(c) does not contain any directive or guidelines for how the Commission should determine whether to use its discretion to permit an allocation of wastewater revenue requirement to water customers. 66 Pa. C.S. § 1311(c). In considering whether the proposed allocation is in the public interest, the OCA submits that it is appropriate to consider generally accepted objectives in setting cost-based rates. *A Guide to Utility Ratemaking* at 138-39. The regulatory principles provided by James Bonbright place emphasis on the principle of fairness in establishing and evaluating rates. *Id.* at 139 (citing *Principles of Public Utility Rates*, James C. Bonbright (P.U.R. 1988) (2nd Ed.)). The "fairness" of a utility rate is generally considered to mean that the rate bears a reasonable relationship to the utility's cost of serving the customer without exceeding the value of service to the customer. *See, e.g.*, *Principles of Public Utility Rates*, James C. Bonbright (New York, N.Y. 1961) (1st Ed.) at 82-92; *The Process of Ratemaking*, Leonard Saul Goodman (Arlington, V.A. 1998), vol. II, at 893-95.

Mr. Watkins observed that most of Aqua's water customers do not obtain wastewater service from Aqua. OCA St. 4 at 4-5. Aqua has almost eight times as many water customers as wastewater customers. Further, there are several Aqua wastewater systems whose customers do not purchase their water from Aqua. *Id.* Although Act 11 allows a discretionary cross-subsidization, Aqua's proposal that water customers should pay 30% of the total wastewater revenue requirement is not fair or reasonable when most customers receive no benefits from Aqua's wastewater operations and already pay for wastewater service from another provider.[41]

[41] There are some Aqua water customers who have septic systems and do not directly pay wastewater charges but must incur the capital and operating costs required for a septic system. OCA St. 4 at 5.

Moreover, establishing a subsidy close to one-third of the wastewater revenue requirement would mean that wastewater rates do not bear a reasonable relationship to the utility's cost of serving the customer. For these reasons, the OCA submits that Aqua's proposed subsidy is not in the public interest.

d. Section 1311(c) Should Be Applied Cautiously When There Is a Significant Fair Market Value Adjustment.

Section 1311(c) was enacted six years before fair market valuation was permitted under Section 1329 and, thus, based on the general premise that rate base in wastewater service areas would be based on the net original cost of property. Section 1329 authorizes the acquisition of wastewater (and water) systems at prices that could be – and often are – significantly more than the net original cost of property.[42] OCA St. 4 at 6. Indeed, as shown in Table 3 above, Aqua's purchase prices for acquisitions under Section 1329 have been as much as 2.26 times book value. OCA St. 4 at 6. Thus, the OCA submits that Section 1311(c) should be applied cautiously, if at all, when it is used in combination with Section 1329.

In trying to balance fairness to new and existing customers, and to try to control the magnitude of resulting rate increases, OCA witness Watkins found that it would be reasonable to require the wastewater revenue requirement generated by the Section 1329 premiums to be paid, to the extent possible, by customers acquired under Section 1329. OCA St. 4 at 7. This is in effect the same principle as applied to the cost of service study model proposed by Mr. Kubas for Aqua's next base rate filing. Mr. Watkins supported his conclusion as follows:

> As a result of these municipal systems being sold significantly above net book value, these municipalities received the proceeds from the sale of their municipal systems. The additional funds that went to each of the municipalities then provided benefits to its citizens who are now Aqua wastewater customers. To illustrate, in response to the current Aqua rate case, Limerick Township provided a Notice to

[42] Book value under Section 1329 does not exclude contributed plant or capital. 66 Pa. C.S. § 1329(d)(5).

Residents in August 2021[43] explaining several benefits from the sale of its system to its citizens such as:

- "Limerick sewer rates have not increased since 2014. If the Township had not sold the sewer system in 2018, projections show that rate increases would have been required by the Township for system repairs, higher system operating costs, and sewer capital upgrades";

- "Along with the above sewer rate increases, Township Real Estate Tax increases would have been necessary to fund Long-Term Capital Projects related to police, fire, and emergency response services, the expansion of township park, trails, and open space system, as well as, upgrades to Limerick's roadway infrastructure";

- "As a result of the sale of the sewer system to Aqua, Limerick Township has been able to maintain real estate taxes at their current level since 2016, and fund the Township's Capital Projects, while expanding all levels of services to the community."

Because the citizens of these acquired systems received the benefits of selling their respective municipal wastewater systems above book value and Section 1329 requires that acquisition premiums be included in rate base, I recommend that in addition to the wastewater increases proposed by Aqua, the revenue requirement associated with the acquisition premiums should also be borne by wastewater customers to the largest extent practical.

OCA St. 4 at 7.

i. The OCA's Recommended Wastewater Allocations More Fairly Assign Revenue Requirement Based on Cost-Causation and the Benefits Received from Fair Market Value Premiums.

As discussed above and shown in Table 4, Mr. Watkins calculated that the revenue requirement associated with the FMV premiums for the five systems at issue is $10.056 million. OCA St. 4 at 8; OCA Sch. GAW-2. Mr. Watkins then allocated that amount to the five systems based on current revenues, with constraints to ensure that the recommended increase to each system did not result in proposed revenues exceeding each system's cost of service (revenue

[43] https://www.limerickpa.org/DocumentCenter/View/4291/Aqua---Key-Points---Notice-of-Proposed-Wastewater-Rate-Changes

requirement) and limiting the New Garden increase to two times the system average, consistent with a prior Settlement. OCA St. 4 at 8; *New Garden* at 2-3. Mr. Watkins explained the remainder of his allocation as follows:

> The above increases result in an additional $5,591,600 assigned to the acquired systems. Remembering that the target additional increase is $10,055,979, I then doubled Aqua's proposed increases to each of the legacy systems. This then produced an additional $3,473,445 assigned to the legacy systems. On a total wastewater basis, I have assigned $9,065,045 more Act 11 increase to wastewater than that proposed by Aqua ($5,591,600 + $3,473,445).

OCA St. 4 at 8-9. Finally, Mr. Watkins explained why it is reasonable to assign an additional $3.454 million increase to the legacy wastewater systems related to the FMV premium revenue requirement. *Id.* at 9. He stated:

> The rationale for moving all wastewater systems to a statewide rate is that while there may be large rate increases to a particular system at any point in time, these systems will receive benefits from being part of a larger statewide wastewater network. In addition, as shown in Table 1, the cost of service required increase to the legacy systems is $16.926 million. My recommended increase to the legacy systems is $6.947 million ($3.473 million times 2) which is still significantly less than the full cost of service required increase.

Id. at 9. Mr. Watkins increased Aqua's proposed class increases for each division pro-ratably. OCA St. 4 at 10; OCA Sch. GAW-4. The details of Mr. Watkins' resulting recommended wastewater increases are summarized in the following table:

TABLE 5
Aqua Wastewater – Aqua & OCA Proposed Increases
($000)

Current Rate Zone	Division	Aqua Proposed Increase	OCA Increase	Aqua Pct. Increase	OCA Pct. Increase
RZ1	Media	$477,615	$955,230	20.2%	40.4%
RZ1-EDU	Bridlewood, Eagle Rock	$192,876	$385,751	20.3%	40.6%
RZ1A	Tres. Lake, Valley Forge, Bunker Hill	$717,746	$1,435,493	33.3%	66.6%
RZ1B	Penn Township	$78,677	$157,354	7.7%	15.3%
RZ2	Emlenton, River Crest, White Haven	$143,391	$286,781	7.9%	15.7%
RZ2	Pinecrest	-$3,282	-$6,565	-4.8%	-9.5%
RZ3	Beech Mtn, Deerfield Knoll, Laurel Lakes	$668,300	$1,336,600	20.7%	41.5%
RZ3	Woodloch Springs [44]	$20,920	$41,840	6.5%	13.0%
RZ4	Honeycroft, Lake Harmony, New Daleville	$761,910	$1,523,820	19.1%	38.2%
RZ5	Avon Grove, East Bradford, Little Washington	$165,759	$331,518	18.0%	35.9%
RZ5	Newlin Green	$4,906	$9,813	4.9%	9.7%
RZ6	Masthope	$155,015	$310,030	20.6%	41.1%
Bulk	Southdown Home	$0	$0	0.0%	0.0%
Bulk	East Brandywine	$0	$0	0.0%	0.0%
Bulk	Foster Township	-$92	-$185	0.0%	-0.1%
Bulk	Dennison	-$20	-$40	0.0%	-0.1%
Bulk	Upper Providence	$75,990	$151,979	14.0%	28.0%
Bulk	Elwyn	$13,794	$27,588	14.0%	28.0%
Bulk	Penn Lake	-$46	-$93	0.0%	-0.1%
Bulk	East Side	-$13	-$25	0.0%	0.0%
Total Legacy System		$3,473,445	$6,946,890	18.3%	36.6%
Acquired	Limerick	$2,968,877	$5,187,343	74.79%	130.67%
Acquired	East Bradford	$358,379	$833,254	35.90%	83.48%
Acquired	Cheltenham	$2,541,306	$3,077,711	35.11%	42.52%
Acquired	East Norriton	$1,157,851	$2,787,619	39.70%	95.59%
Acquired	New Garden	$1,063,739	$1,795,825	37.04%	62.54%
Total Newly Acquired Systems		$8,090,152	$13,681,752	44.96%	76.03%
Total Aqua Wastewater		$11,563,597	$20,628,642	31.27%	55.78%

As noted above, Mr. Watkins' proposed increases are at Aqua's full revenue requirement request. If the Commission authorizes a lower revenue requirement, as supported by the OCA's witnesses and the overwhelming evidence requiring significant downward adjustment, these percentage increases will be scaled back as discussed below. OCA St. 4 at 10.

[44] Excludes $19,046 increase to contract revenues.

ii. The OCA's Recommended Water Revenue Allocations Reflect the Impact of a More Reasonable Contribution toward the Costs of Aqua's Wastewater Operations.

Mr. Watkins' recommended $9.065 million additional increase to Aqua's wastewater operations reduces Aqua's proposed water revenues by the same amount. Stated otherwise, Aqua proposes that its water operations subsidize its wastewater operations by $20.839 million. Mr. Watkins' recommended Act 11 water subsidization is $11.774 million ($20.839 million minus $9.065 million). With regard to allocation to the water divisions and classes, Mr. Watkins decreased Aqua's total water increase of $86.185 million by the $9.065 million reduction to the wastewater subsidy and decreased Aqua's proposed class increases for each division pro-ratably. OCA St. 4 at 11; OCA Sch. GAW-5. The results of Mr. Watkins allocations are summarized in the table below:

TABLE 5.1
Aqua Water - Aqua & OCA Proposed Increases
($000)

Rate Zone	Division	Aqua Proposed Increase	OCA Increase	Aqua Pct. Increase	OCA Pct. Increase
RZ1	Main	$82,542	$73,863	16.71%	14.96%
RZ1	CC Gardens, Sand Springs	$284	$253	44.75%	39.95%
RZ1	Beech Mtn	$142	$126	37.36%	33.35%
RZ1	Bristol	$524	$468	37.38%	33.43%
RZ1	Mifflin	$154	$138	45.63%	40.80%
RZ1	Mt. Jewett	$62	$56	23.76%	21.28%
RZ1	Robin Hood Lakes	$49	$43	42.10%	37.59%
RZ2	Main	$832	$742	18.77%	16.76%
RZ2	Chalfont	$494	$444	26.72%	23.99%
RZ2	Concord Park	$61	$55	45.45%	40.60%
RZ2	Treasure Lake	$423	$378	39.20%	35.00%
RZ3	All Divisions	$549	$490	14.72%	13.14%
BH	Bunker Hill	$10	$9	37.83%	33.77%
PH	Phoenixville	$61	$55	37.28%	33.57%
Total Water Revenue		$86,185	$77,120	16.95%	15.17%

2. The OCA's Allocation Recommendations Would Increase Revenue Requirement Assigned to Wastewater Customers But Still Mitigate the Rate Impact that Would Result If Wastewater Customers Paid Their Full Cost of Service.

Under Aqua's proposal, its water operations would subsidize its wastewater operations by $20.839 million. Half of the value of that subsidy is driven by the purchase price paid above net book value for five acquisitions. In turn, much of that $10.056 million is driven by cost of capital. OCA St. 4 at 11-12. To the extent that the Commission authorizes a lower rate of return than requested by Aqua, that will help to reduce the revenue requirement burden that must be borne by Aqua's customers. In deciding how that burden will be allocated between customers, the OCA has achieved a more reasonable balance than Aqua's proposal, by assigning more of the revenue requirement generated by the Section 1329 premiums to the acquired customers in those territories. From a public interest perspective this is the most reasonable allocation of the burden given the FMV premium benefits inured solely to the communities in which those customers reside. It should be recognized, however, that even after assigning larger increases to wastewater, the acquired customers are still not paying the full cost for their wastewater service. OCA St. 4SR at 2-3. Thus, under the OCA's recommendation there remains an $11.774 million subsidy by water customers that would be allocated to them pursuant to 66 Pa. C.S. § 1311(c).

3. The OCA Scale Back Proposal Should Be Adopted because It Fairly Recognizes How the Commission's Authorization of a Lesser Cost of Capital and Other Adjustments to Aqua's Revenue Requirement Should Benefit Wastewater and Water Customers.

Mr. Watkins provided a scale back proposal to be used if the Commission reduces the proposed wastewater and water revenue requirements. OCA St. 4 at 11-12. For wastewater, the revenue requirement associated with the FMV premiums for the five acquired systems is based on Aqua's proposed capital structure and 10.75% return on equity. *Id.* The OCA's position is that

this cost of capital is unreasonable and the Commission should use a hypothetical capital structure and reduce the ROE to no more than 8.0% as calculated by OCA witness Garrett. To the extent the Commission adjusts Aqua's filed-for cost of capital, Mr. Watkins recommends that the acquisition revenue requirement also should be reduced and reapportioned to the five acquired wastewater systems, consistent with OCA Schedule GAW-2. *Id.* at 12. This would not impact the OCA's recommended amount of the Act 11 subsidy to water because the reduction to the premiums stays with and benefits the five acquired wastewater systems. To the extent the Commission authorizes a lower wastewater revenue requirement than that requested by the Company for reasons other than cost of capital, Mr. Watkins recommended that wastewater revenue allocation across all divisions and classes should be scaled-back proportionally. *Id.* This will, in turn, reduce the amount of the Act 11 subsidy to water.

This scale back proposal is reasonable because it is consistent with the basis for the OCA's recommendation for the Act 11 shift. It keeps the wastewater revenue requirement generated by the FMV premiums with customers of the five acquired systems but fairly recognizes that reductions to cost of capital and the benefit of the resulting reduction to revenue requirement should also stay with those customers. Reductions to revenue requirement for other reasons will benefit all wastewater customers proportionately and also serve to reduce the Act 11 subsidy to water.

To the extent the Commission authorizes a lower revenue requirement for Aqua's water operations, the OCA recommends that the water revenue allocation set forth in OCA Schedule GAW-5 should be scaled-back proportionally across divisions and classes. OCA St. 4 at 12. If and to the extent the Commission requires an overall revenue reduction for Aqua's water

operations, this reduction should be allocated to divisions and classes inversely proportional to Mr. Watkins' revenue increase allocation. As Mr. Watkins' explained:

> In other words, those divisions and classes that would receive a larger increase under an overall increase scenario will then receive a smaller decrease under an overall revenue decrease. Similarly, those divisions and classes that would receive a smaller increase under an overall increase scenario will then receive a larger decrease under an overall revenue decrease. Again, these decreases are inversely proportional to my revenue increase recommendation.

Id. at 12-13. The OCA's recommended proportional scale back for water revenue requirement is reasonable and should be adopted for the same reasons supporting the OCA's recommended recovery of revenue requirement between classes and divisions.

D. Rate Design

Aqua's proposed rate design for its water customers generally reflects continued movement of areas with year-round usage toward the Main division rates, continuation of an inverted-block usage rate structure, and proposed increases to fixed monthly customer charges. OCA St. 4 at 13. For wastewater, Mr. Watkins summarized Aqua's current rate design and proposals as follows:

> As a result of recent and prior acquisitions of wastewater systems, Aqua's Residential wastewater rates are comprised of several varying rate structures including fixed customer or EDU charges plus usage charges, unmetered flat rates, and structures with minimum usage allowances. Generally speaking, Aqua proposes to begin (or continue) movement to unified customer charges for metered customers. In this regard, the Company proposes to increase the current Rate Zone 1 5/8" meter customer charge from $31.00 to $39.10 per month.

OCA St. 4 at 17. OCA witness Watkins recommended several changes to Aqua's proposals including that the current water Main division and wastewater Zone 1 customer charges be maintained at their current levels. OCA St. 4 at 15-20.

1. Analysis of Direct Customer Costs Supports Maintaining the Current Level of Customer Charges for Residential Customers in the Main Division and Aqua's Proposal to Move Other Divisions toward That Rate.

Aqua's current and proposed 5/8" customer charges are summarized below:

TABLE 6
Aqua Water
Current & Proposed Residential 5/8" Customer Charges

Rate Zone	Division	Current	Proposed	Percent Change
1	Main	$18.00	$22.40	24.44%
2	Main	$18.00	$22.40	24.44%
3	Main	$28.00	$32.40	15.71%
BH	Bunker Hill	$8.00	$11.80	47.50%
PH	Phoenixville	$3.33	$4.90	47.15%

OCA St. 4 at 13; Aqua Exh. 5-A, Part I; Aqua St. 5 at 12. Upon review of Ms. Heppenstall's customer cost analysis, Mr. Watkins identified that Ms. Heppenstall's "direct customer cost" calculations include allocated overhead expenses that should not be considered customer costs. *Id.* at 14. As shown in OCA Sch. GAW-6, Ms. Heppenstall has improperly included $10,935,615 of indirect O&M expenses, $10,929,343 of indirect depreciation expenses and $29,437,120 of indirect rate base within her customer cost analysis. OCA Sch. GAW-6. Customer costs should only include those direct costs required to connect and maintain a customer's account.

Mr. Watkins' customer cost analyses provide a more reasonable evaluation of the customer charges. His direct customer cost analysis includes only costs required to connect and maintain a customer's account along with the required unrecovered public fire revenue requirement.[45] OCA Sch. GAW-7. His direct plus indirect customer cost analysis reflects the direct costs described

[45] Section 1328(b)(2) of the Public Utility Code requires that unrecovered public fire revenues be collected within fixed service charges or minimum bills. OCA St. 4 at 14; 66 Pa. C.S. § 1328(b)(2).

above plus allocations of employee benefits, workers compensation insurance, and payroll taxes associated with direct labor costs.

TABLE 7
Aqua Water
Residential Customer Costs
(5/8" Meter Equivalent)

	OCA Proposed Cost of Capital	Aqua Proposed Cost of Capital
Direct Costs	$17.07	$19.26
Direct + Indirect Costs	$17.36	$19.55

Mr. Watkins explained the impact of rate of return on his analyses as follows:

> As shown above, I have determined that a reasonable Residential 5/8" meter customer charge is in the range of $17.07 to $17.36 which is based on OCA's recommended capital structure and an 8.0% return on equity. In this regard, no weight should be given to my analysis based on the Company's requested capital structure and 10.75% return on equity simply because there is virtually no risk associated with fixed monthly customer charges because this is guaranteed revenue recovery for the Company. As such OCA witness David Garrett's recommended 8.0% return on equity is on the high side for evaluating customer charges.

OCA St. 4 at 16.

Mr. Watkins' analyses show that reasonable customer costs are in the range of $17.07 to $17.36, which is slightly less than the current Main division 5/8" customer charge of $18.00. Rather than decrease the existing residential customer charges, however, Mr. Watkins recommended no change for the Main Division and Zones 2 and 3. OCA St. 4 at 16. He did accept Aqua's proposed increases to the customer charges for Bunker Hill and Phoenixville because the current rates are significantly lower than the Main division rates ($8.00 and $3.33, respectively). *Id.*

2. Aqua's Wastewater Customer Cost Analysis Produces an Inflated Result Because It Includes Costs that Are Not Reasonably Related to Connecting and Maintaining Customer Accounts and Does Not Support Increasing Charges above Current Zone 1 Rates.

a. Zone 1 Rates

As noted above, Aqua proposes to increase the wastewater Zone 1 5/8" residential customer charge by $8.10 per month, from $31.00 to $39.10. Aqua Exh. 5B, Part I at 10. Mr. Watkins opposed this increase. OCA St. 4S at 17. As for her customer cost analysis for water, Ms. Heppenstall's analysis for wastewater includes numerous overhead costs that cannot reasonably be considered "direct costs" required to connect and maintain a customer's account. Rather, they are simply overhead costs that Aqua incurs in rendering service to its customers. OCA St. 4SR at 7. The fact that some of these costs may be fixed, does not in and of itself make them direct costs that should be collected from a customer charge.

Ms. Heppenstall claims that her approach was approved in a prior Aqua case. Review of the referenced case shows that the Commission did not approve the broad range of overhead costs utilized in Aqua's study. Rather, the Commission took a more limited approach in permitting "allocated portions of indirect costs, such as employee benefits, local taxes and other general and administrative costs, in a cost study." *Pa. P.U.C. v. Philadelphia Suburban Water Co.*, Docket No. R-00038805, Order at 72 (Aug. 5, 2004). Significantly, the Commission stated: "We caution that these are costs which may considered for inclusion in the customer charge, but such claims are subject to scrutiny on a case-by-case basis." *Id.*

Further the magnitude of Aqua's proposed increase to the Zone 1 wastewater customer charge is unreasonably large – an increase of 26% and nearly $100 per year. For these reasons, the OCA submits that Mr. Watkins' recommendation to maintain the existing Zone 1 customer charge is reasonable and should be adopted.

b. Other Division Rates

Aqua witness Heppenstall proposes to eliminate the current usage allowance of 2,493 gallons per month in the Limerick rate structure, such that all wastewater will be subject to usage charges. OCA St. 4 at 18; Aqua Exh. 5-B, Part II at 51. In addition, Ms. Heppenstall recommends increasing the current customer charge from $28.10 to $39.48. The OCA agrees with elimination of the usage allowance. As stated by Mr. Watkins:

> Eliminating the usage allowance is reasonable because it more fairly charges customers for their actual usage, sends proper price signals to customers and encourages conservation by giving customers greater control of their bill.

OCA St. 4 at 18. Mr. Watkins recommended, however, that the customer charge be increased from $28.10 to $31.00 which is the current Zone 1 residential customer charge. *Id.* This is a more reasonable level of increase than Aqua's proposal to increase the fixed charge by $11.38 per month or 40.4% but still serves to move the customer charge to the Zone 1 rate recommended by Mr. Watkins.

Currently, all of East Bradford's customers are charged a flat rate for service. OCA St. 4 at 18. Aqua proposes to implement metered rates for single family and townhouse customers of $39.10 plus a usage charge of $1.108 per 100 gallons. Aqua St. 5R at 12. This compares to current rates of $68.09 and $52.72 for the single-family homes and townhomes, respectively. OCA St. 4 at 18. For the remaining unmetered customers, Aqua proposes to increase the flat rate from $68.09 to $83.42. OCA witness Watkins raised a concern in his direct testimony that Aqua proposed to increase the fixed charges for townhome customers to $83.42 and recommended a lesser increase. OCA St. 4 at 18. Aqua witness Heppenstall clarified the Company's proposal. Aqua St. 5R at 12. With that clarification, consistent with Mr. Watkins' position for Limerick, the OCA recommends that the customer charge increase for the East Bradford customers moving to metered rates should be limited to $31.00.

For Cheltenham, the OCA recommends no adjustment to Aqua's proposal to maintain the current rate structure of a fixed customer charge plus a flat usage rate. OCA St. 4 at 19. The Company also requests to increase the current fixed customer charge from $20.89 to $28.21. Aqua Exh. 5-B, Part II at 58. Because the proposed charge is less than the current Zone 1 customer charge of $31.00, Mr. Watkins accepted the proposed increase. OCA St. 4 at 19.

Currently, East Norriton has a usage allowance of 1,333 gallons per month in its rate structure. Aqua proposes to eliminate this usage allowance such that all wastewater will be subject to usage charges. OCA St. 4 at 19; Aqua Exh. 5-B, Part II at 66. In addition, Ms. Heppenstall recommends increasing the current customer charge from $21.08 to $32.37. Consistent with his recommendations for Limerick, Mr. Watkins supported the elimination of the usage allowance and recommended that the increase to the customer charge be limited to his recommended Zone 1 customer charge of $31.00.

Aqua proposed different treatment for New Garden. Currently, New Garden has a usage allowance of 1,667 gallons per month in its rate structure along with an inverted-block usage rate above the allowance. Aqua Exh. 5-B, Part II at 71. Aqua proposes to maintain this usage rate structure and increase the fixed monthly customer charge from $37.64 to $51.71 per month. *Id.* Consistent with his support for elimination of the minimum allowance for other systems, OCA witness Watkins recommended that the usage allowance (1,667 gallons per month) should be eliminated, and this allowance be subject to usage charges in the first rate block. OCA St. 4 at 19. In addition, he recommend maintaining the current customer charge of $37.64 because it is higher than his recommended customer charge of $31.00. *Id.* For the reasons discussed in the context of Limerick and discussed further below, the OCA supports elimination of the usage allowance.

c. OCA Proposals to Address Flat, Unmetered Rates Respond to Concerns Raised by Customers Whether Aqua's Usage Assumptions and Resulting Rates Are Reasonable.

i. Lake Harmony Customers without Metered Water

During the Public Input Hearings in this proceeding, a number of customers raised concerns about flat wastewater rates. OCA witness Watkins summarized their testimony:

> Several customers that own homes in Lake Harmony voiced concerns over their flat wastewater rates at the public input hearings. As noted by various witnesses, Lake Harmony is largely a vacation area in which there are a multitude of exceptionally large vacation properties with a large number of seasonal tenants. A few of the witnesses are year-around Aqua wastewater customers while others are also seasonal tenants but have more modest homes with few occupants. These Lake Harmony wastewater customers testified that it is not fair for their wastewater bills to be the same as those from much larger homes with numerous occupants.

OCA St. 4 Supp. at 1 (citing Tr. 69-71, 112-13, 166-68, 199, 201-04, 323-25, 439-40). The OCA notes that two of the eight Lake Harmony customers who contributed to this testimony, Mr. Day and Mr. Weiner, are active Formal Complainants.

Flat rates provide customers with an unlimited minimum usage allowance. That is, flat rates are the most extreme form of minimum allowance because a customer's actual use of the utility system has no impact on rates. As stated on page 151 of *A Guide to Utility Ratemaking*, published by the Public Utility Commission and authored by two Commissioners: "The Commission's policy is to require the installation of meters and set usage rates to encourage conservation." *A Guide to Utility Ratemaking* (citing 52 Pa. Code § 65.7 (Metered Service)); *see also* 52 Pa. Code § 65.20(6) (Water Conservation Measures). The Commission's policy to encourage conservation by moving customers to metered, usage-based rates is also reflected in Commission Orders, including: *PPL 2004* at 461; *Pa. P.U.C. v. Total Envtl. Solutions, Inc. - Treasure Lake Water Div. and Treasure Lake Wastewater Div.*, 103 Pa. P.U.C. 110, 160-61 (2008) (*TESI 2008*); *Pa. P.U.C. v. Emporium Water Co.*, 95 Pa. P.U.C. 191, 213, 208 PUR4th 502, 524

(2001); *Pa. P.U.C. v. Lemont Water Co.*, 81 Pa. P.U.C. 392, 420-421 (1994). Assessing wastewater customers a flat rate is not consistent with this Commission policy to eliminate minimum allowances and move utility rates toward metered rates.[46]

That is why, for systems that have metered water service, Aqua "designs rates that include a volumetric portion" by obtaining volumetric usage information from the investor-owned utility or a municipality/municipal authority. Aqua St. 9R at 28; Day Exh. 1 at 7 (Aqua response to DW-I-15). Customers in Lake Harmony have private water wells on their property that are not individually metered. Aqua St. 9R at 28. As such, OCA witness Watkins recommended that Aqua be directed to begin a pilot program in Lake Harmony to install meters (at Aqua's cost) on an opt-in basis for those customers who request metered wastewater service. OCA St. 4 Supp. at 2. These opt-in customers will be billed based on the applicable and corresponding metered rate for their rate zone (Zone 4). *Id.*; *see* Aqua Exh. 5-C at 4.

Beyond the customers who request metered wastewater service, Mr. Watkins recommended the Company should also install water meters on a broader, random sample of 10% to 20% of the 995 unmetered wastewater customers in the Lake Harmony service area, or 100 to 200 customers. OCA St. 4 Supp. at 2; Aqua St. 9R at 28. For the random sample, Mr. Watkins recommended these customers should continue to be billed based on the approved flat rate but should be shadow-billed so that costs and usage and billing (actual and shadow) data for the pilot program can be reviewed by the OCA and other parties prior to Aqua's next base rate case. OCA St. 4 Supp. at 2.

With regard to timing, Mr. Watkins recommended that Aqua develop the pilot program within 60 days after the final order in this proceeding and provide that information to the OCA and

[46] In the current case, Aqua proposed to eliminate minimum allowance for customers in its Limerick and East Norriton systems. See Aqua Exh. 5-B, Part II at 51, 66.

other interested parties. Aqua and the interested parties would meet within 30 days to finalize the details and the pilot could commence within a few months of the final order. OCA St. 4 Supp. at 2. Mr. Watkins further recommended that, in its next rate case, Aqua should propose metered wastewater rates for customers in the pilot and propose to expand the metering program in Lake Harmony and other service areas where customers pay flat rates, or explain why it is not taking such steps. *Id.*

Aqua witnesses Duerr and Heppenstall object to Mr. Watkins' recommendation on the basis that it is standard practice to charge flat rates when water meters have not been installed but fail to explain why that practice is fair or equitable from a rate setting perspective. Aqua St. 5R at 18; Aqua St. 9R at 28-29. Installing and reading meters, or paying to obtain metered usage data from another provider, are considered acceptable and normal costs for providing utility service based on the principle that rates should be usage-based.[47] Aqua St. 9R at 28; Day Exh. 2 at 15; *see* 52 Pa. Code §§ 65.7, 56.12.

Aqua witness Heppenstall also contends that metered rates would likely increase bills for higher-usage customers, such that only lower-usage customers would opt-in for metered rates. Aqua St. 5R at 18. The OCA agrees that some customers would pay more under metered rates; some customers may pay the same and some may pay less. The OCA submits that all of those results may be reasonable if rates are usage-based and aligned with cost of service. The OCA disagrees, however, that rates could not be designed in the next base rate case, when data and experience is available, to incentivize higher-usage customers to opt for metered rates.

[47] Aqua witness Heppenstall raises the concern that the costs of installing meters could be "substantial," but provides no basis for that claim. Aqua St. 5R at 18. In response to DW-II-11, Aqua witness Packer stated that the Company had not analyzed what the cost would be to install meters for all Aqua PA customers in Lake Harmony/Kidder Township. Day Exh. 2 at 13. Mr. Packer indicated that the cost for installing a water meter can range from $170-$180 and that Aqua has generally recovered the costs for installing water meters through base rates and DSIC rates. Day Exh. 2 at 14-15 (Aqua response to DW-II-12, DW-II-13).

ii. Rate Zones with Metered and Unmetered Rates

OCA witness Watkins identified that nine current wastewater rate zones have both metered and unmetered residential rates. OCA St. 4 at 20. For each rate zone, he compared the current average residential bill (before Distribution System Improvement Charge) for metered customers to the corresponding residential flat rate. His analysis is provided in OCA Schedule GAW-8 and is summarized in the table below:

Comparison of Metered & Unmetered Wastewater Rates

		Current Rates	
Current Rate Zone	Division	Average Monthly Metered Revenue Per Cust.	Current Unmetered Rate
RZ1	Bridlewood	$52	$61
RZ1A	Treasure Lake	$51	$56
RZ2	Emlenton	$62	$68
RZ3	Beech Mtn	$71	$80
RZ4	Honeycroft	$104	$100
RZ5	Avon Grove	$113	$177
RZ6	Masthope	$41	$44
Limerick		$40	$28
East Norriton	East Norriton	$38	$39

As shown in the table, the metered and unmetered rates are very close in East Norriton and relatively close in Zone 1A and 6. There is a significant difference between the average metered rate customer and flat rate customer in Zone 5. OCA St. 4 at 20.

Mr. Watkins recommended that Aqua undertake a study of the reasonableness of its unmetered rates and provide the results in its next base rate case, as follows:

> If there are valid reasons for significant differences between metered and unmetered customers, the Company should fully explain why these differences are reasonable and if the study concludes that unmetered rates are unreasonably low or high, the

> Company should adjust the unmetered rates in its next rate case to the extent unmetered rates are expected to continue.

OCA St. 4 at 21.

As discussed above, assessing wastewater customers a flat rate is not consistent with the Commission's policy to eliminate minimum allowances and move utility rates toward metered rates. Moreover, Aqua's flat rates are based on assumed usage of 4,000 gallons per months, which correlates to the Company's average consumption for its existing systems. Day Exh. 1 at 7 (Aqua response to DW-I-13). As discussed in the testimony of John Day, a system-wide average may not be representative of usage in a particular area of Aqua's service territory. Day Exh. 1 at 3. Thus it is reasonable for Aqua to study and propose adjustments to its unmetered rates.

d. <u>OCA Proposals for Additional Study Are a Reasonable Way to Address Potential Inaccuracies in Calculating Wastewater Volumetric Charges based on Water Usage.</u>

In response to concerns raised in the testimony of customers and the OCA's rate structure witness in the Company's last base rate case, Aqua agreed to study the feasibility of implementing in Pennsylvania a summer wastewater usage cap similar to the method used by Aqua Illinois, Inc. OCA St. 4 at 21; *Pa. P.U.C. v. Aqua Pennsylvania, Inc.*, Docket No. R-2018-3003558, Settlement at 14-15, ¶ 34.c (Feb. 8, 2019). The basis for the cap is to address potential inaccuracies in the calculation of wastewater volumetric charges during the summer months when irrigation, swimming pool filling, and other outside watering activities are traditionally in use. *Aqua Illinois, Inc. Proposed Rate Increases for Water and Sewer Servs.*, 2018 Ill. P.U.C. LEXIS 385, *123 (Mar. 7, 2018). As stated by the Illinois Commerce Commission:

> Aqua states that its current methodology for calculating sewer volumetric charges bases the amount of sewer discharge, for billing purposes, on the total amount of water recorded at the premises as measured by the domestic water meter. However, because not all water used at a premise is discharged through the sewer, customers

> could be charged for sewer volumetric charges on water that never discharges into the sewer system or is treated by the Company.
>
> …
>
> Aqua explains that at the end of March, the average monthly usage from the previous four "winter" months, December through March, would be calculated and used to cap the volumetric component of the customer's sewer charges during the May through October period, called the "summer" months.

Id. at *123-24.

In the current proceeding, Aqua witness Heppenstall sponsored the results of the Aqua Pennsylvania study. Aqua St. 5 at 22. Aqua concluded that the capping mechanism would not be appropriate because it would reduce billed wastewater usage by 38% and increase the bill for the average metered wastewater customer using 4,000 gallons per month by about 10.6%. *Id.* at 22-23. OCA witness Watkins observed, however, that any wastewater capping mechanism may not be feasible for some of Aqua's wastewater rate zones due to the fact that there are both seasonal and year-round customers. OCA St. 4 at 21. Also, while higher use customers would benefit from a capping mechanism, it remains that some customers use a significant amount of water for irrigation that does not flow into the wastewater system. *Id.* Mr. Watkins recommended that Aqua continue to study ways to fairly treat those customers. He identified two possible approaches: (1) a capping mechanism with a summer multiplier greater than 100% of average winter usage and; (2) installing irrigation water meters on a customer-by-customer request basis.[48]

Aqua witness Heppenstall took the position that no additional study is needed because the first approach would produce a similar result to the study already performed. Aqua St. 5R at 15. Ms. Heppenstall did not address the second approach, which Mr. Watkins opined may be the most fair and equitable for Aqua. OCA St. 4 at 22. The OCA continues to recommend that Aqua study the feasibility of installing irrigation water meters on an opt-in basis. As addressed in the prior

[48] Under the second approach, wastewater bills are based on the net of total water usage less irrigation usage. OCA St. 4 at 22.

sections regarding Aqua wastewater customers who are not metered, rates are based on assumptions, e.g., a metered customer's wastewater and water usage are equivalent or an unmetered customer's wastewater usage is the same as the system-wide average usage. It is reasonable for Aqua to test those assumptions.

3. OCA's Proposed Bill Discount Program Changes Are Properly Reflected in the Design of Aqua's Base Rates.

OCA witness Colton recommended certain changes to the design of rates for the proposed Bill Discount Program. OCA St. 5 at 32-46. For the reasons stated in his testimony and discussed in Section IX.C of this brief, those changes should be reflected in the design of Aqua's base rates.

E. The Inflation Factors Used by OCA to Adjust Special Contract Revenue for the Impact of Escalation Clauses Are More Reasonable than Aqua's Because They Are Supported by Two Federal Agency Forecasts and More Closely Reflect Actual Inflation Rates.

As discussed above, in Section IV (Revenues), OCA witness Watkins proposed an adjustment to the revenues associated with negotiated rate contracts for sales for resale and for end-use Industrial and Public Authority customers. OCA St. 4 at 22. Specifically, Mr. Watkins observed that the revenues for the negotiated rate contracts were stated as of March 31, 2021 in Aqua's proof of revenues. OCA St. 4 at 23; *see* Aqua Exh. 5-A, Part II, Sch. 5. However, the fully projected future test year ends March 31, 2023 and several of the contracts contain annual rate escalation provisions. OCA St. 4 at 23. Therefore, Mr. Watkins recommended an adjustment to current revenues to reflect the contractual escalation rates through March 31, 2023. Aqua witness Feeney agreed that an adjustment was appropriate. Aqua St. 2R at 27-28. She also made one correction to Mr. Watkins' calculation to recognize that, for most of the contracts at issue,[49]

[49] Mr. Watkins noted that one of the seven contracts does have an escalation clause for the fixed monthly charge while the other six do not. OCA St. 4SR at 9.

the escalation provisions did not apply to the fixed monthly charge rate component (only to the volumetric rate component). *Id.*

The only remaining disagreement between the OCA and Aqua witnesses is with regard to which inflation factors should be used to escalate each contract's revenues to the end of the fully projected future test year. OCA St. 4SR at 9-10. Mr. Watkins used the average of the U.S. Office of Management and Budget's and the Federal Reserve's forecasted inflation rates for 2021, 2022, and 2023, which produced the following inflation rates:

TABLE 4

	Forecasted Inflation Change In Consumer Price Index (CPI)		
Year	Office of Mgmt. & Budget	Federal Reserve	Average
2021	4.80%	4.20%	4.50%
2022	2.50%	2.20%	2.35%
2023	2.30%	2.20%	2.25%

OCA St. 4SR at 9-10. Mr. Watkins' demonstrated that his estimates are reasonable and conservative because the actual annual rate of inflation through October 2021 has been 6.2% (October 2020 – October 2021) and, for the ten months ending October 2021, the CPI has increased by 5.5%. OCA St. 4S at 10; OCA Sch. GAW-1SR. In contrast, the inflation rates that Ms. Feeney used to escalate the contract revenues were considerably lower and Ms. Feeney did not identify the source or otherwise provide any basis for their use. OCA St. 4SR at 10; *see* Aqua St. 2R at 28.

For these reasons, Mr. Watkins' recommended adjustment, as updated to reflect his agreement that the escalation should not be applied to the fixed rate components of 6 of the 7 contracts, should be adopted. As such, Aqua's projected revenues should be adjusted upward by

$236,777. OCA St. 4SR at 11; OCA Highly Confidential Sch. GAW-2SR.[50] This adjustment is reflected by OCA witness Smith in OCA Exhibit LA-6, Schedule C-2; Table II (Water).

F. Aqua's Proposed Purchased Water and Energy Cost Surcharges Are Unnecessary and Contrary to Ratemaking Principles and Precedent Because the Costs Are Not Extraordinary nor Substantial.

Aqua proposed to add two new surcharges to water bills to guarantee recovery of its purchased water and purchased energy (electric and gas) costs for its water operations. Aqua St. 4 at 2-6. Under the Company's proposed Purchased Water Adjustment (PWA) and Energy Cost Adjustment Mechanism (ECAM), a base amount of purchased water and energy costs per unit of water consumption would be established in this case. Any increases or decreases would then result in surcharges or credits that would be trued-up. OCA St. 4 at 24. Witnesses for OCA, I&E and OSBA opposed the proposed surcharges. *Id.* at 24-25; I&E St. 4 at 14-24; OSBA St. 1 at 21-22, 24-25.

OCA witness Watkins summarized the reasons for rejecting the surcharges as follows:

> First, it is well established that in developing fair and reasonable rates, a utility should be afforded the opportunity to recover its costs of providing service but not guaranteed such cost recovery. This is particularly relevant for Aqua in this case in that the Company is utilizing a fully projected future test year that anticipates the Company's future costs of providing service. These costs include a provision for projected, future purchased water and energy costs.
>
> Second, Aqua's proposal clearly represents single-issue ratemaking. That is, the Company proposes to automatically change customers' prices (rates) due to changes in single cost components. Although a utility's "cost of service" is comprised of dozens of individual cost components, which can and will vary from expected values, single-issue ratemaking ignores the fact that as a single cost component changes in one direction, other components may change in the opposite direction. Under single-issue ratemaking, countervailing changes in cost are ignored with ratepayers bearing all the risk of such changes in the single-issue rate, with no corresponding reward.

[50] As noted in Section IV.B above, the OCA has confirmed with Aqua PA that the information discussed here and in the OCA's testimony regarding Highly Confidential OCA Schedules GAW-9 and GAW-2SR is not confidential.

> Third, Aqua's purchased water and purchased energy costs do not represent an extraordinarily large portion of the Company's total cost of service. Based on the Company's water cost of service study, Aqua projects purchased energy costs to be $8,264,734 and purchased water costs to be $4,148,780 for the fully-projected test year. Aqua's claimed total water cost of service is $575,026,137 (before Act 11 subsidy). As a result, Aqua projects that its purchased energy costs will amount to only about 1.4% ($8.265 million ÷ $575.026 million) of its total water cost of service and its purchased water costs will amount to only about 0.7% ($4.149 million ÷ $575.026 million) of its total water cost of service. Even though it may not be possible to perfectly predict future energy or water costs, the projected purchased energy and purchased water costs included in the Company's revenue requirement represents a very small portion of Aqua's cost of providing water service to customers.
>
> Fourth, any approval of the PWA or ECAM automatic pass-through mechanisms would virtually eliminate any incentive for Aqua to efficiently minimize these costs going forward, including diligent negotiations with water suppliers as well as diligent shopping for electric and natural gas suppliers.
>
> Finally, and with respect to the ECAM, if approved, there is no monetary incentive for Aqua to actively engage in conservation efforts in order to reduce its electricity or natural gas usages.

OCA St. 4 at 24-25 (emphasis in original); *see also* I&E St. 3 at 14-24 OSBA St. 1 at 21-22; 24-25. I&E witness Sakaya offered an additional reason for rejecting the proposed surcharges: that the PWA and ECAM would be discriminatory because they would not apply to customers that receive service under negotiated contract rates established under Aqua's Competitive Rate Riders. I&E St. 3 at 14, 17, 23-24.

The Pennsylvania Commonwealth Court has declared that "single issue rate making is prohibited if it impacts on a matter considered in a base rate case." *Popowsky v. Pa. P.U.C.*, 869 A.2d 1144, 1151 (Pa. Cmwlth. 2005) (*CSIC*), *appeal denied*, 895 A.2d 552 (Pa. 2006) (citing *Philadelphia Elec. Co. v. Pa. P.U.C.*, 502 A.2d 722, 727-28, 93 Pa. Commw. 410, 422 (1985) (*PECO 1985*) and overturning Commission's grant of a wastewater utility's request to implement a Collection System Improvement Charge). "The 'cursory' review undertaken for a surcharge is not a substitute for the review undertaken in a base rate case to determine whether a rate is just and

reasonable." *CSIC* at 1157. It is inappropriate to single out this cost for rate recovery without recognizing other possibly offsetting changes in costs and revenues that could ordinarily be thoroughly examined in a base rate proceeding, as Aqua's claims of expenses and offsetting savings and revenues are being examined in the instant case. *See* OCA St. 3 at 16. Moreover, to do so would violate the ratemaking principle of matching revenues, expenses, return and rate base. *Id*. at 15

Aqua witness Henkel contends, however, that the Commission has previously approved mechanisms similar to the PWA/ECAM as an exception to single issue ratemaking. Aqua St. 4R at 2-3. The OCA recognizes that the Commission has approved a PWA for Newtown Artesian Water Company. *Pa. P.U.C. v. Newtown Artesian Water Co.*, Docket No. R-2009-2117550, Order at 6-17 (Apr. 15, 2010) (*Newtown*) (affirmed by *Popowsky v. Pa. P.U.C.*, 13 A.3d 583 (Pa. Cmwlth. 2011). Newtown's situation was very different from that of Aqua. At the time its request, Newtown purchased nearly 60% of its water from other sources. *Newtown* at 3. Its purchased water expense represented about 25% of its annual revenues and 34% of its O&M expenses for the same period. *Id.*; *see also* I&E St. 3 at 18-19; I&E Exh. 3, Sch. 3 at 1-2. In stark contrast, Aqua's projected purchased water costs will amount to only about 0.7% of its total water cost of service. OCA St. 4 at 25. Similarly, Aqua's projected purchased energy costs will amount to only about 1.4% of its total water cost of service. *Id.* This is not the situation where a small utility's purchased water or energy costs constitute a significant portion of its cost of service. Aqua's costs are not so significant such that they would cause its overall cost of service to vary widely as a result of suppliers' price changes.

Aqua witness Henkel also references the Commission's implementation of the reduced tax associated with Tax Cuts and Jobs Act as an example of the Commission's authority to approve

surcharge recovery of costs like the PWA and ECAM. Aqua St. 4R at 2. The Commission's discussion of the standards for single-issue ratemaking in the TCJA proceeding, however, makes clear how Aqua's purchased water and energy costs differ from TCJA tax savings and do not meet those standards. *Tax Cuts and Jobs Act of 2017*, Docket No. M-2018-2641242, Order (May 17, 2018). Specifically, the Commission authorized a surcredit to flow back the savings to ratepayers on the basis that the savings represented "an extraordinary and substantial, non-recurring reduction in utility expenses." *Id.* at 15 (citing *PECO*).

As discussed above, the costs at issue meet none of these criteria. They are not extraordinary nor substantial. Significantly, they are also not unique, unexpected, or non-recurring. Rather, the PWA and ECAM would apply to costs that are normal, ongoing costs of providing water service, and as such, do not warrant special recovery separate and apart from other costs recovered through base rates. Purchased water costs are known and are subject to agreements with the provider. Aqua has voluntarily entered into its contracts to purchase water with various entities so those costs are not entirely beyond its control. *See, e.g.,* Aqua Exh. 1-A, Sch. C-7.1.i. Likewise, for purchased energy, Aqua has exercised some control through its selection of suppliers. *See* Aqua Exh. 1-A, Schs. C-6.1.i., C-6.1.ii. Moreover, Aqua has already captured the potential for future changes in purchased water and energy costs as part of its adjustments to its FPFTY claims. OCA St. 4 at 25; *see* Aqua Exh. 1-A, Schs. 6.1, 7.1. There is simply no need for the proposed PWA or ECAM to adjust rates between cases without scrutiny for some expenses that are the ordinary costs of doing business for a multi-billion dollar company.

The Commission should reject the proposed PWA and ECAM as unnecessary and contrary to ratemaking principles for all of the above reasons.

G. Summary

Based on the recommendations of OCA witness Watkins, the OCA recommends that Aqua's proposal for water customers to subsidize $20.8 million of its wastewater revenue requirement should be reduced by $9.1 million. If the Commission approves an increase in revenues less than what Aqua has requested, the OCA proposes how the revenue reduction should be scaled-back depending on whether (and to what degree) the reduction is related to cost of capital.

With regard to Residential rate design, the OCA recommends several changes to Aqua's proposal, including holding the current water Main division and wastewater Zone 1 customer residential customer charges at their current rates, moving other water customer charges toward the Main division rate, and moving other wastewater rate zone customer charges up to, but not above, the Zone 1 customer charge.

The OCA addresses Aqua's flat, unmetered wastewater rates and recommends a pilot program to install meters and to study and propose adjustments to its unmetered rates where they differ unreasonably from average metered rates. The OCA also recommends continued study for ways to recognize irrigation use in assessing wastewater usage.

The OCA recommends a small upward adjustment to the Company's proforma fully projected future test year water revenues to reflect escalation clauses in negotiated rate contracts.

Finally, the Commission should reject Aqua's proposed PWA and ECAM as unnecessary and contrary to ratemaking principles and precedent which require that costs be extraordinary and non-recurring.

IX. LOW-INCOME CUSTOMERS

A. Introduction

Aqua has proposed changes to its bill discount program, Helping Hand, in response to Paragraph 108 of the Settlement of the acquisition of the Peoples Companies by Essential Utilities, Inc. *f/k/a* Aqua America, Inc. *See Joint Application of Aqua America Inc., Aqua Pennsylvania Inc., Aqua Pennsylvania Wastewater Inc., and Peoples Natural Gas Co. LLC*, Docket Nos. A-2018-3006061, *et al.*, Order at 138 (Jan. 24, 2020) (*Merger Settlement*). Aqua witness Black testified regarding the Company's implementation of the terms of Paragraph 108 of the *Merger Settlement*:

> Paragraph 108 of the Aqua-Peoples Settlement pertains to low-income programming for Aqua PA. It notes that, through the Helping Hand Collaborative process, Aqua PA was to consider development of a comprehensive universal service and conservation program. The items for evaluation included a customer assistance program, hardship fund, water conservation program, low-income service repair program and a comparable funding mechanism as utilized by energy utilities in the Commonwealth. Following this evaluation, Aqua PA would propose a recoverable universal service plan in its next base rate proceeding using input from the Helping Hand Collaborative and best practices from the Peoples Companies.

Aqua St. 10 at 2-3; *see also* OCA St. 5 at 7.

Pursuant to the *Settlement*, Aqua has proposed to implement a new water and wastewater bill discount program and to offer a new conservation and repair program for its water and wastewater customers. Aqua St. 10 at 7-8, Exh. RFB-2. Aqua's proposed water customer discount program would provide the following discounts:

Income Level (Federal Poverty Level or FPL)	Water Discount
0-100% of FPL	100% discount on the fixed charges and 100% discount on the first 2000 gallons of consumption for customers
101-150% of FPL	100% discount on the fixed charges and 50% discount on the first 2000 gallons of consumption for customers
151-200% of FPL	100% discount on the fixed charges and 0% discount for customers

Aqua St. 10 at Exh. RFB-2. [51]

The proposed wastewater customer discount program would provide the following discounts:

Income Level (Federal Poverty Level or FPL)	Wastewater Discount
0-100% of FPL	75% discount on the fixed charges and 100% discount on the first 2000 gallons of consumption for customers
101-150% of FPL	65% discount on the fixed charges and 50% discount on the first 2,000 gallons of consumption for customers
151-200% of FPL	50% discount on the fixed charges and 0% discount on consumption for customers

Aqua St. 10 at Exh. RFB-2.[52]

Aqua also proposes to continue its current arrearage forgiveness program which forgives $25 for each in full and timely payment. Aqua St. 10 at 9. The Company also proposes to allocate $100,000 for an annual budget for assistance to include conservation kits and an emergency component for those with leaks requiring repairs. Aqua St. 10 at 8. Aqua proposes to recover the costs of the program through a reconcilable rider similar to the one used by Peoples to collect its

[51] Table was created for brief from data included in Exhibit RFB-2.
[52] Table was created for brief from data included in Exhibit RFB-2.

statutorily required universal service costs. Aqua St. 10 at 10. Aqua proposes to contract with Dollar Energy as its program administrator. Aqua St. 10 at 13.

OCA witness Colton examined the affordability provided by Aqua's low-income program and the reasonableness of Aqua's proposed low-income discount program and low-income arrearage forgiveness program. OCA St. 5 at 5-68. Mr. Colton recommended changes to the design and cost recovery mechanisms for the water and wastewater discount programs in order to improve the affordability and operation of the program. OCA St. 5 at 25-68; *see also* OCA St. 5SR at 12-13.[53] Mr. Colton also proposed modifications to Aqua's cost recovery mechanism and modifications to the proposed arrearage forgiveness program, including a proposed cost off-set. OCA St. 5 at 39-47, 64-68. Mr. Colton also recommended the development of a Customer Education and Outreach Plan (CEOP) to extend the programs' reach. OCA St. 5 at 47-50.

Finally, OCA witness Colton used customer service data, customer satisfaction data, collections performance data, and environmental compliance metrics to evaluate whether Aqua's performance merited a management performance adder. OCA St. 5 at 68-75. Mr. Colton based his analysis upon Aqua's customer satisfaction data, collections performance data, and customer service outcomes data presented in the Commission's own reports and Pennsylvania Department of Environmental Protection (PADEP) orders. *Id.* As noted in Section X. E., *infra*, the Company's record in these critical areas of customer service and collections <u>do not</u> support a conclusion of superior or exemplary performance that would merit a management performance adder. *Id.*

[53] As explained below, OCA witness Colton accepted in his Surrebuttal Testimony Aqua witness Black's assertions that the current customer information system is not capable of implementing Mr. Colton's proposed changes. The Company, however, plans to update its system to an SAP system and its SAP system should be designed to implement the OCA's proposed modifications to improve the affordability of the program and the operation of the program.

B. Aqua Has a Substantial Affordability Problem for Its Low-Income Customers.

1. Background

Unlike for natural gas and electric programs, there is not a statutory requirement for a water or wastewater affordability program and the Commission has not established a standard for affordability for water and wastewater customers. However, the Companies have contractually agreed, pursuant to the *Merger Settlement*, that they will implement a universal service program with a suite of low-income assistance programs. The OCA supports the further development of low income affordability measures by Aqua and submits that the proposed programs are not sufficient to address the affordability issues presented in the Company's service territory.

OCA witness Colton examined the affordability of bills for Aqua's low-income water and wastewater customers. Mr. Colton determined that Aqua has a substantial affordability problem facing its low-income water and wastewater customers.[54] OCA St. 5 at 5-7. Mr. Colton also examined Aqua's ability to collect the dollars which the Company is billing. OCA St. 5 at 5-7. The average low-income customer water bill for the 12 months ending September 2021 was $966.47, or $80.54 per month on average. OCA St. 5 at 5.[55]

OCA witness Colton utilized a burden of 4.0% (1.5% for water service and 2.5% for wastewater service) as his baseline of affordability for combined water and wastewater bills.[56] In his Direct Testimony, Mr. Colton explained the basis for his use of the 4% burden as a proxy measurement. OCA witness Colton testified:

> [m]y previous use of this burden as a demarcation of affordability was noted in the direct testimony of Aqua PA Rita Black (Aqua PA St. 10, at 6-7). This burden was

54 As OCA witness Colton explained, references to "water" are intended to reference "wastewater" as well unless otherwise identified. OCA St. 5 at 8.

55 OCA witness Colton noted that the 2021 average bill was "virtually identical to the average low-income bill for the twelve months ending September 2020 of $955.04 ($79.59/month) for water service only." OCA St. 5 at 5-6.

56 OCA witness Colton notes that "the OCA has not recommended, and the Pennsylvania PUC has not yet prescribed, a specific percentage of income by which to define an 'affordable' water and/or wastewater bill." OCA St. 5 at 6, fn. 2.

> accepted by Aqua PA as a reasonable basis for providing "background information" for purposes of their program planning. (OCA-V-33). Since the average bill provided by Aqua PA is for water service standing alone, however, that 4% threshold needs to be allocated to both water and wastewater. I allocate 1.5% to water service (thus leaving 2.5% for wastewater). In articulating this 4% metric, I note further that neither Aqua PA, nor myself, have proposed that Aqua PA adopt a percentage of income program, or a specific percentage of income water or wastewater burden, in this proceeding. Accordingly, while I will use this metric as the basis for much of my discussion below, the question of precisely what percentage of income burden may be the most appropriate measure by which to measure the affordability of water and/or wastewater service does not present itself in this proceeding as a question that need be resolved.

OCA St. 5 at 6.

OCA witness Colton agreed with some aspects of the Company's philosophies regarding the payment behaviors of low-income customers and found that there was some common basis for addressing affordability issues. As OCA witness Colton explained in his Direct Testimony, Aqua agreed that low-income customers pay a smaller percentage than residential customers do as a whole, with the caveat that "this statement is absolute and does not consider that some low-income customers pay their full bill while other low-income customers do not. While household income and payment compliance are often interdependent, broad categorization such as this statement are not fully accurate." OCA St. 5 at 8 (citing Aqua's response to OCA-V-17(a)). As OCA witness Colton testified, "[t]o this extent, we agree that some low-income customers pay their full bill while others do not, as well as that "household income and payment compliance are often interdependent." OCA St. 5 at 8.

As explained in Mr. Colton's testimony, OCA witness Colton and the Company also agreed as follows:

> Moreover, when asked whether Aqua PA agrees that low-income customers make less regular payments toward their bills than do residential customers as a whole, Aqua PA responded that "while payment trouble is more likely in low-income households generalizing payment patterns is not *fully* accurate." (OCA-V-17(b)(emphasis added). Aqua PA continued that "low-income households are more greatly impacted by unexpected expenses such as a car or home repair needs (sic)

> or medical expenses which can increase the likelihood of being unable to make payments in a given month."(Id.)
>
> Given agreement between myself and Aqua PA on observations such as the fact that household income and payment compliance are often interdependent; and that payment trouble is more likely in low-income households, there is a common basis for addressing the unaffordability problems of Aqua PA's low-income customers.

OCA St. 5 at 8-9 (emphasis in original).

OCA witness Colton has used the 4% (combined water/wastewater) as a metric against which to measure the affordability impacts of Aqua's proposed discount. OCA St. 5 at 9. Mr. Colton explained that he used the 4% as a measurement of affordability "because it is substantially consistent with international standards applicable to water and wastewater burdens, which sets a combined water/wastewater affordable burden at 3% of income." OCA St. 5 at 9. Aqua witness Black also discussed the Company's analysis of a standard for affordability. Ms. Black cited to the U.S. Environmental Protection Agency (EPA) guideline of 4 to 4.5% of the median household income but argued that the EPA's guideline should not be applied here because "the EPA's guideline did not consider the impact of water and wastewater bills for those living below median income." Aqua St. 10 at 6. Ms. Black then testified that she looked to OCA witness Colton's work for The Guardian newspaper regarding current trends in water and wastewater affordability. *Id.*

OCA witness Colton agreed that with Aqua witness Black that the 4.5% metric used by the EPA was not appropriate to use in this case as a measurement of affordability and identified the same 4% proxy measurement of affordability here as he did in his work on The Guardian study. OCA St. 5 at 9-10. In his Direct Testimony, OCA witness Colton provided additional information regarding why the EPA 4.5% measurement of affordability was not applicable. Mr. Colton testified:

> In contrast, the U.S. Environmental Protection Agency (EPA) uses an affordability metric of 4.5%. As Aqua PA acknowledges, however, the EPA metric is not intended to be applied at the household level, but rather at the community level.

> (OCA-V-32). Moreover, the EPA's 4.5% is not a low-income standard, but is rather a standard to be applied at a community's median income. There is a generally accepted belief that the affordability of bills declines as incomes decline (this is one reason the Pennsylvania PUC has tiered burdens for natural gas and electric CAPs).

OCA St. 5 at 9-10.

OCA witness Colton testified that using bills as a percentage of income as a measure of affordability is common. OCA St. 5 at 10. For example, the U.S. Housing and Urban Development uses the standard that "housing expenditures that exceed 30 percent of household income have historically been viewed as an indicator of a housing affordability problem." OCA St. 5 at 10 (footnote omitted); *see also* OCA St. 5 at 12, Table 1. As OCA witness Colton clarified, the "shelter costs" included in this 30% burden include rent or mortgage payments and all utilities, with the exception of telephone. OCA St. 5 at 10-11. Mr. Colton testified that he has found in other contexts that "a water/wastewater burden, when combined with other utility costs, should result in total utility costs that would be a reasonable proportion of total affordable shelter burdens." OCA St. 5 at 11.

Based upon the 4.0% metric of affordability, OCA witness Colton analyzed the affordability for Aqua's current program as discussed below.

2. <u>OCA Witness Colton's Analysis of Affordability</u>

OCA witness Colton examined the affordability of Aqua's current rates from three different perspectives to determine whether the current rates achieved the proxy total water and wastewater burden of 4.0% (1.5% for water service and 2.5% for wastewater service) that Mr. Colton identified. See OCA St. 5 at 6. First, he examined the water burdens associated with Aqua's existing rates at six different income levels, ranging from $5,000 per year to $20,000 per year. OCA St. 5 at 11-13. Second, he assessed the affordability of Aqua's existing and proposed

rates using the Federal Poverty Level rather than the absolute dollars of income as the measurement of low-income status. OCA St. 5 at 13-14. Finally, OCA witness Colton examined the affordability of Aqua's rates considering the bill burdens, or bills as a percentage of income, at the average income of the First Quintile of Income. OCA St. 5 at 14-16.

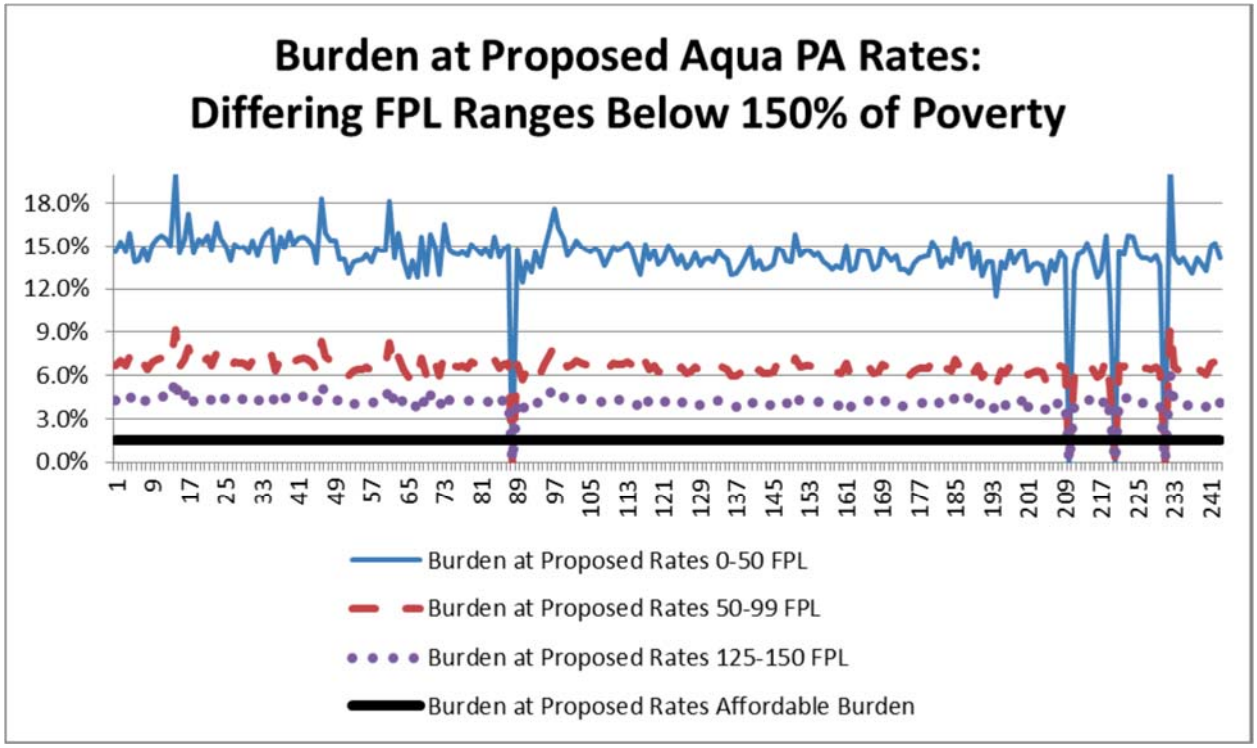
In the first method, OCA witness Colton examined the water burdens at six different income levels. OCA St. 5 at 11-13. Mr. Colton found that even at an annual income of $20,000, Aqua's current bills are more than three times higher than a 1.5% water burden, and at an annual income of $10,000, Aqua's current bills are more than six times higher than a 1.5% water burden. OCA St. 5 at 11. The proposed rate increase will exacerbate the existing affordability burdens under current rates. OCA witness Colton concluded that "[a]t Aqua PA's proposed rates, the average low-income bill for water service would be nearly 6% of income given an annual income of $20,000. At an annual income of $10,000, Aqua PA's proposed water rates would impose a burden of 11.3%." OCA St. 5 at 11.

OCA witness Colton testified that Aqua serves substantial numbers of low-income customers who have annual incomes at these levels. OCA St. 5 at 12-13. Mr. Colton performed a zip code analysis of Aqua's service territory and examined the number of residential customers receiving water-only service. OCA St. 5 at 12.[57] Based on this analysis, OCA witness Colton estimated that Aqua has approximately 46,277 water customers with income of less than $20,000, and that more than two-fifths of Aqua's customer base has an annual income of less than $10,000. OCA St. 5 at 13. He estimated that the number of Aqua customers who will have a water burden that is 11% to 23% of income or more is substantial. OCA St. 5 at 13.

[57] Mr. Colton noted that the water-only customer base is substantially larger than the wastewater-only residential customer base or the combined water/wastewater customer base. OCA St. 5 at 12.

Second, Mr. Colton assessed the affordability of Aqua's existing and proposed rates using the Federal Poverty Level rather than the absolute dollars of income as the measurement of low-income status. OCA St. 5 at 13-14. OCA witness Colton testified:

> In the Chart below, I track the Aqua PA water burdens that would exist for each Zip Code at the utility's proposed rates. The 4% burden, which is represented by the heavy black line, is clearly below the burdens experienced in each zip code having data. The dramatic difference between an affordable water burden (heavy black line) and the water burden that would exist at Aqua Pa's proposed rates at annual income of 0-50% of Poverty (the solid line) is evident.



OCA St. 5 at 13-14 (footnote omitted).

Finally, OCA witness Colton examined the affordability of Aqua rates by considering the bill burdens, or bills as a percentage of income, at the average income of the First Quintile of Income. OCA St. 5 at 14-16. As Mr. Colton explained the methodology:

> The Census Bureau rank orders households from those with the lowest income to those with the highest income. That rank ordering is then divided into five equal parts, each part of which is called a "quintile." The "First Quintile" (also sometimes

> known as the "Lowest Quintile" or "Bottom Quintile") is that one-fifth of households with the lowest income. The Census Bureau reports the average income for each quintile (ACS 5YR, Table B19081). I thus consider the average income for the First Quintile for each zip code comprising the Aqua PA service territory.

OCA St. 5 at 14-15.

When only examining the First Quintile of Income, OCA witness Colton found that Aqua's water burdens are significantly above an affordable level. OCA St. 5 at 15.[58] At the First Quintile of Income, four of Aqua's zip codes would have water bill burdens (at proposed rates) of more than 15% of income. OCA St. 5 at 15. He found that an additional five zip codes would have bill burdens between 12% to 15% of income and that the "the bulk of burdens would fall in the 85 zip codes with burdens between 6% and 9% of income (from four to six times higher than that which is affordable), while 90 have bill burdens of between 3% and 6% of income (from two to four times higher than that which is affordable)." OCA St. 5 at 15.

3. Increased Discounts Will Generate Positive Impacts for the Utility.

OCA witness Colton concluded that there is a cost to Aqua arising from the low-income customers' inability-to-pay their water and wastewater bills and that increasing the affordability of bills will generate positive benefits to the utility as well. OCA St. 5 at 16-17. In discovery, OCA witness Colton specifically asked about the impact on Aqua arising from the inability-to-pay. OCA St. 5 at 16. As OCA witness Colton testified, Aqua "agreed both (1) that much of the payment difficulty arising from a low-income inability-to-pay imposes costs on the Company, and (2) that those costs can be controlled by reducing the payment difficulties." OCA St. 5 at 16.

[58] OCA witness Colton noted that "[i]n making this observation, it is important to understand that simply because a household is in the First Quintile of Income for a particular zip code does not necessarily mean that household income is 'low-income.' In wealthy zip codes, the First Quintile of Income can be relatively high." OCA St. 5 at 15.

OCA witness Colton also asked Aqua about whether reducing the dollar level of arrears to a customer will, all else equal, reduce the working capital needed by the utility. OCA St. 5 at 16. OCA witness Colton further testified regarding Aqua's working capital witness, William Packer's, response to the discovery question:

> Aqua PA's working capital witness William Packer responded:
>
> Specifically, regarding the rate making calculation of cash working capital, it depends on the manner of the calculation. The Company's calculation of average outstanding accounts receivable includes the balance of reserve for doubtful accounts, thus the timing differences caused by arrearages has been netted with actual accounts receivable and results in a lower calculation of average days outstanding, thus reducing the cash working capital for ratemaking purposes. Offsetting this side of the calculation is the calculation of the Company's bad debt expenses, which do include reserves for uncollectible accounts on a normalized (non-covid) (sic) basis. *In that regard, shortening customer arrearages undoubtedly reduces cost-of-serve either through cash working capital or the collection of bad debt expense to the extent reserves recoded for customer accounts are reduced.*
>
> (OCA-V-18(a) (emphasis added).

OCA St. 5 at 16. Mr. Colton noted that in Mr. Packer's discovery response, Mr. Packer also agreed to several important principles. Those agreed-upon principles included: (1) reducing the time (in days or months) that an "arrearage remains outstanding will, all also equal, have the effect of reducing the capital needed by a utility;" (2) working capital is a cost component that has equity return associated with it; (3) "to the extent that working capital has equity return associated with it, it will have a tax component associated with it;" (4) "a higher dollar level of arrearages poses a greater risk of loss due to uncollectibles than a lower dollar level of arrearages;" (5) "reducing the number of customers who are off-system due to a disconnection of service will, all else equal, reduce lost sales to a utility;" and (6) "reducing the number of customers receiving final bills with an unpaid balance will, all else equal, have the effect of reducing costs to a utility." OCA St. 5 at 16-17.

In addition, OCA witness Colton found that there was a common basis for evaluating the non-payment of low-income bills. OCA St. 5 at 17. Mr. Colton testified:

> Aqua PA agreed that "a utility customer's 'success' in paying utility bills can be quantified and measured by using metrics measuring the completeness of payment, the timeliness of payments, and the regularity of payments." (OCA-V-14). Given this agreement, there is a basis for moving forward with an examination of the bill payment impacts of unaffordability of Aqua PA service to low-income customers.

OCA St. 5 at 17-18.

Mr. Colton reviewed the affordability of low-income customers' water and wastewater bills from the perspective of this common foundation. OCA witness Colton determined that "unaffordable bills to Aqua PA low-income customers have substantial adverse impacts on the ability of such low-income customers to pay their bills." OCA St. 5 at 18. In order to assess the degree to which unaffordable bills adversely impact low-customers' ability to pay, Mr. Colton examined Aqua's credit and collection information for its water and wastewater residential customers and for its identified low-income customers for the period January 2019 through September 2021. OCA St. 5 at 18.[59] Mr. Colton's review of the 31 month period found the following:

- Low-income customers are more likely to be sufficiently far in arrears to be threatened with the disconnection of service. For every 100 residential bills Aqua PA rendered, it issued 3.5 disconnection notices. In contrast, for every 100 bills Aqua PA sent to identified low-income customers, it issued 19.8 disconnection notices.

- Low-income customers receiving a disconnection notice were more likely to actually experience a disconnection. Aqua PA issued 28.3 disconnection notices for each residential nonpayment disconnection it actually performed. In contrast, Aqua PA issue only 22.0 disconnection notices for each nonpayment disconnection of an identified low-income account.

[59] Mr. Colton noted that "average monthly data for this time period, however, will skew somewhat lower due to the lack of collection activity during the COVID-19 months of April 2020 through October 2020.

- For every 100 residential monthly bills Aqua rendered, it received 91.4 monthly payments. In contrast, for every 100 bills Aqua PA sent to identified low-income customers, it received 63.0 payments.

OCA St. 5 at 18.[60]

Overall, low-income customers' bill payment performance has declined in comparison to the average residential customer payment performance. OCA St. 5 at 19-20. In order to assess the overall bill payment performance for low-income and residential customers, OCA witness Colton compared the number of payments made by residential customers, and by identified low-income customers, for each 100 bills rendered to customers by month for the time period January 2019 through July 2021. OCA St. 5 at 19-20. From review of this data, Mr. Colton was able to conclude:

> Even aside from the sharp difference in the number of payments made (per bills issued) between the two populations, it is evident, also, that the low-income performance is declining, while the residential performance as a whole is remaining relatively constant. Moreover, while it is evident that the identified low-income population never reaches even 75 payments for each 100 bills issued, the residential population reaches nearly 100 (or more) on numerous occasions.

OCA St. 5 at 19-20.

Mr. Colton directed his analysis towards the payment patterns of low-income customers rather than the collection activities directed towards low-income customers. OCA St. 5 at 20-21. The data for the payment patterns revealed the impact of low-income inability-to-pay that is attributable to unaffordable water bills. OCA witness Colton testified:

- On average for January 2019 through September 2021 (OCA-II-21, OCA-II-22), Aqua PA's identified low-income customers are more than two times further in debt than residential customers in general ($595.12 vs. $252.57);

[60] *See* OCA St. 5 at 19, Table 3.

- For that same time period, that greater debt is not solely attributable to higher underlying bills. Aqua PA's identified low-income customers are also more than two times further behind in their monthly payments (7.8 Bills Behind vs. 3.7 Bills Behind);

- For that same time period, the percentage of identified low-income customers in arrears is nearly six times higher than the percentage of residential customers in arrears (71.9% / 12.3% = 5.84x);

- For that same time period, Aqua PA's identified low-income customers are further behind on their bills at the time of a service disconnection for nonpayment, both in dollar terms ($667.10 vs. $481.90) and in terms of Bills Behind (8.9 Bills Behind vs. 7.2 Bills Behind).

OCA St. 5 at 20-21.[61]

OCA witness Colton examined six indicators of "vulnerability status" to apply to each zip code to examine the unaffordability of low-income customer bills across the Aqua service territory. OCA St. 5 at 21. The six indicators included: (1) the percentage of population with income less than 200% of Poverty Level is more than 25% higher than the percentage the Aqua service territory as a whole; (2) the percentage of population with income less than 50% of Poverty Level is more than 25% higher than the percentage for the service territory as a whole; (3) the percentage of households receiving Supplemental Nutrition Assistance Program (SNAP or food stamps) is more than 25% higher than the percentage for the service territory as a whole; (4) the percentage of population with income less than 100% of Poverty is higher than 15%; (5) the percentage of households with income less than $10,000 is more than 25% higher than the percentage for the service territory as a whole; and (6) the percentage of households with income less than $20,000 is more than 25% higher than the percentage for the service territory as a whole. OCA St. 5 at 22, Table 5. In order to assess the vulnerability status, Mr. Colton overlaid the percentage of bills paid

[61] *See* OCA St. 5 at 21, Table 4.

for each zip code and determined the percentage of bills paid by the number of vulnerability indicators in each zip code. OCA St. 5 at 23.[62]

The OCA submits that OCA witness Colton's data analysis demonstrated that "those zip codes with concentrations of vulnerable households present greater payment difficulties for Aqua PA." [63] OCA witness Colton found that the zip codes with fewer vulnerability indicators are over-represented in the zip codes with higher payment percentages. OCA St. 5 at 23 Zip codes with fewer vulnerability indicators are also under-represented in the zip codes with lower payment percentages. OCA St. 5 at 23-24.

For the reasons set forth in OCA witness Colton's analysis outlined above, it is clear that the development of a tailored and improved affordability program will generate benefits for both customers and the utility.

C. Aqua's Proposed Low-Income Bill Discount Program Does Not Adequately Address Affordability Concerns and Improve Payment Patterns.

1. Affordability Impacts of Aqua's Low-Income Bill Discount

a. Introduction

Aqua's proposed water customer discount program would provide the following discounts:

Income Level (Federal Poverty Level or FPL)	**Water Discount**
0-100% of FPL	100% discount on the fixed charges and 100% discount on the first 2000 gallons of consumption for customers
101-150% of FPL	100% discount on the fixed charges and 50% discount on the first 2000 gallons of consumption for customers
151-200% of FPL	100% discount on the fixed charges and 0% discount for customers

[62] *See* OCA St. 5 at 24, Table 6.
[63] *See* OCA St. 5 at 24, Table 6.

Aqua St. 10 at Exh. RFB-2. [64]

The proposed wastewater customer discount program would provide the following discounts:

Income Level (Federal Poverty Level or FPL)	**Wastewater Discount**
0-100% of FPL	75% discount on the fixed charges and 100% discount on the first 2000 gallons of consumption for customers
101-150% of FPL	65% discount on the fixed charges and 50% discount on the first 2,000 gallons of consumption for customers
151-200% of FPL	50% discount on the fixed charges and 0% discount on consumption for customers

Aqua St. 10 at Exh. RFB-2.[65]

For the reasons set forth above regarding the appropriate proxy water affordability burden, OCA witness Colton examined the extent to which Aqua's proposed low-income water bill discount achieves a proxy water burden of 1.5%. OCA St. 5 at 25. Mr. Colton concluded that the discount falls short of providing bills that achieve that burden for low-income customers. OCA St. 5 at 25. Aqua's stated objective is "not to achieve an affordable bill, but rather merely to 'improve affordability.'" OCA St. 5 at 25. As such, Mr. Colton concluded that "the discount cannot reasonably be expected to generate improvements in low-income bill payment patterns that can and should be sought through an affordability program." OCA St. 5 at 25.

In Rebuttal Testimony, Aqua witness Black maintained her position that the proposed design will improve affordability and opposes OCA witness Colton's recommendations for modifications to the program design. Aqua St. 10R at 10. She also appears to oppose his recommendation that the Company work towards developing a percentage of income program

[64] Table was created for brief from data included in Exhibit RFB-2.
[65] Table was created for brief from data included in Exhibit RFB-2.

design. Aqua St. 10R at 10; OCA St. 5SR at 13. As discussed below, Aqua witness Black does not specifically address the problems that OCA witness Colton identified with the program design as proposed by Aqua. OCA St. 5SR at 13-19.

b. OCA Witness Colton Determined that Aqua's Proposed Discount Program Design will not Achieve Bill Affordability for Low-Income Customers.

For the reasons set forth above, in order to assess the effectiveness of Aqua's proposed discount program in achieving improvements to payment patterns, OCA witness Colton used a proxy water-only affordability burden of 1.5% for the Company's lowest income customers. OCA witness Colton found that the proposed water-only discount does not achieve a bill burden of 1.5% for low-income customers, and in fact, with the proposed discount program, Aqua's water affordability burdens would still be significantly higher than 1.5% for water customers. As Mr. Colton testified "[t]he Aqua PA rate discount results in bill burdens substantially above an affordable level for those lowest income customers and bill burdens that are nearly affordable to the higher income (low-income) customers. At no income level do bills achieve the affordable percentage of income burden." OCA St. 5 at 26 (footnote omitted).[66]

When Mr. Colton examined the existing water affordability burdens, OCA witness Colton found that the existing burdens for water-only customers were significantly higher than the proxy 1.5% water affordability level. Mr. Colton testified:

> Aqua PA customers with income less than 50% of Poverty Level have a minimum water burden (without considering wastewater) of between 8% and 12% without a bill discount. Indeed, more than one-in-four (27%) of Aqua PA's zip codes have water burdens of 12% or more without a discount. Burdens improve, as one would expect them to do, as incomes increase, but at no point become affordable. At an annual income between 50% and 100% of Poverty Level, 194 zip codes have water burdens between 5% and 8% (from four to nearly six times higher than that which is affordable). At an annual income between 100% and 150% of Poverty, non-

[66] *See* OCA St. 5 at 26, Table 7.

> discounted Aqua PA bills result in water burdens from two to three times higher than that which is affordable (3% to 5%) in nearly all zip codes (234 of 239 for 100% to 125% of Poverty; 232 of 239 for 125% to 150% of Poverty). Undiscounted water bills come closest to being affordable for customers with income between 150% and 200% of Poverty. For customers with income between 185% and 200% of Poverty, undiscounted bills result in a burden of 1.5% to 3.0% of income, with somewhat fewer zip codes (n=191) with bills at those burdens for customers with income at 150% to 185% of Poverty.

OCA St. 5 at 25-26.

Mr. Colton concluded that Aqua's proposed low-income discounts would improve affordability for low-income customers but do not achieve an affordable burden that would be likely to materially improve payment patterns, particularly for the lowest income tier of customers. OCA witness Colton testified:

> For customers with income less than 50% of Poverty, water burdens in all zip codes remain at from two to nearly six times higher than (3% to 8%) than that which is affordable. For the remaining income levels, burdens in all zip codes range up to two times that which is affordable.

OCA St. 5 at 27.[67]

OCA witness Colton identified a concern that Aqua overstated the level of affordability facing its low-income customers. Mr. Colton testified:

> The data presented by Aqua PA regarding the calculation of its proposed discounts assumes a hypothetical bill given a hypothetical average use of 4,000 gallons. This average use results in a monthly non-discounted water bill (at current rates) of $64.51 (an annual bill of $774.17). (OCA-V-2). When asked for historical monthly water bills for Aqua PA's low-income customers, however, Aqua PA's data showed an average annual bill of $966.47 ($80.54/month) for the twelve months ending September 2021. If instead of using Aqua PA's hypothetical monthly bill of $64.51, I use the actual average low-income water bill for current service, escalated for the rates proposed in this proceeding, the affordability impacts of Aqua PA's proposed discounts are as presented in **Error! Reference source not found.** below. There is a serious deterioration in affordability given actual bills for current service as reported by Aqua PA. Bill burdens for the lowest income tier (0 – 50% of Poverty) are up to nine times higher than an affordable burden. Burdens for households with income between 50% and 125% of Poverty are up to nearly six times higher than that which is affordable. Only at the very high income range (185% to 200% of

[67] *See* OCA St. 5 at 26, Table 7.

> Poverty) do water burdens begin to approach an affordable level. Even then, they are as high as twice that which is defined as affordable.

OCA St. 5 at 28-29 (footnote omitted).[68]

2. Aqua's Proposed Discount Program Should Be Revised.

a. Introduction

OCA witness Colton has recommended changes to the proposed design of the discount program, but also recommended that the design not be static to this rate case and that it evolve towards a percentage of income program. Ultimately, the OCA submits that Aqua should adopt a percentage of income program similar to the percentage of income program operated by its sister utility, Peoples Gas. *See* OCA St. 5 at 31.[69] OCA witness Colton testified regarding the benefits of changing to a percentage of income program design:

> By making bills affordable through such a program, low-income payment patterns will improve. In addition, as agreed to be Company witness Packer, discussed in more detail above, improving affordability will not only have positive impacts for Aqua PA's low-income customers, it will have the impact of reducing specific costs to the utility ("shortening customer arrearages undoubtedly reduces cost-of-service either through cash working capital or the collection of bad debt expense to the extent reserves for customer accounted are reduced.")

OCA St. 5 at 31.

The OCA, however, does not believe that Aqua should immediately move to a percentage of income program design at this time. Instead, as OCA witness Colton testified, a series of policy decisions by the Commission would first be needed. OCA St. 5 at 31. These policy decisions would include what water and wastewater burden should be deemed affordable. OCA St. 5 at 31. In this proceeding, Mr. Colton has used as a proxy 1.5% for water and 2.5% for wastewater, but that policy decision of the appropriate water and wastewater burdens is best addressed in a

[68] *See* OCA St. 5 at 30, Table 8.
[69] Under a percentage of income program, bills would be capped at a percentage of income. OCA St. 5 at 31.

statewide proceeding "involving all water/wastewater utilities and related stakeholders or would involve additional analysis that would require more time and data than is available in this proceeding." OCA St. 5 at 31.

In Direct Testimony, Mr. Colton recommended that Aqua utilize the discount program design but amend the proposed design to achieve greater affordability for low-income customers. OCA witness Colton recommends that Aqua divide the first income block, now set at 0-100% of FPL for its water discount into two separate income blocks, 0-50% and 51-100% and increased water discounts be provided for customers at the lower income blocks. OCA St. 5 at 32. For wastewater, Mr. Colton recommended that Aqua similarly modify its wastewater discounts to divide the first income block into two separate income blocks, 0-50% of FPL and 51-100% of FPL and that an increased discount for customers with income at lower levels of FPL be provided. OCA St. 5 at 32. Finally, OCA witness Colton recommended that the costs of the proposed discounts be recovered through base rates instead of Aqua's proposed reconcilable rider. OCA St. 5 at 32.

The OCA continues to maintain that a four tiered program design as proposed by Mr. Colton would be the best approach to addressing affordability concerns. OCA witness Colton, however, modified his recommendations in response to technical limitations identified by Company witness Black in her Rebuttal Testimony. In Rebuttal Testimony, Company witness Black identified a current customer information system limitation with implementing the proposed four tier design and a percentage of income program design as well as proposed modifications to the arrearage forgiveness program design. Aqua St. 10R at 11. In response, OCA witness Colton acknowledged the system limitations and modified his recommendations from a four tiered design

to a three tiered design with income blocks from 0-50% of FPL; 51-100% of FPL; and 101-150% of FPL for water and wastewater customers. OCA St. 5SR at 24-27.

b. The Income Block from 0-100% of FPL for Water Discounts Should Be Separated into Two Income Blocks and the Water Discounts Should Be Increased.

Aqua's proposed water customer discount program would provide 100% discount on the fixed charge and 100% discount on the first 2000 gallons of consumption for customers from 0-100% of FPL. Aqua St. 10 at Exh. RFB-2. In his Direct Testimony, OCA witness Colton recommended that one income block is too large and should be divided into two income blocks from 0-50% of FPL and 51-100% of FPL. OCA St. 5 at 32-33. As OCA witness Colton testified, "the affordability impacts of Aqua PA bills on customers that have income between 0% and 50% of Poverty are qualitatively different [than] the affordability impacts of Aqua PA bills on customers with income between 50% and 100% of Poverty." OCA St. 5 at 32.

Mr. Colton explained his rationale for separating the income blocks as follows:

> No other income block has zip codes with undiscounted Aqua PA water burdens exceeding 8% of income, while the 0 – 50% income range has no zip codes with burdens that are less than 8% of income. Undiscounted water burdens (not including wastewater) substantially exceed 8% of income, with such burdens ascending to 12% or more in 65 (27%) of the zip codes. Even given Aqua PA's proposed discounts, water burdens for customers with annual income less than 50% of Poverty Level are from nearly six to eight times higher than the 1.5% burden I discuss above.
>
> It makes little sense to have the income block where affordability needs are the deepest to be twice as large, and thus more poorly targeted, than either of the two income blocks (100 – 150% of Poverty; 150 – 200% of Poverty) at higher incomes. Aqua PA witness Rita Black reports that the Company estimates that it has 106,823 total customers with income below 200% of Poverty (Exh. RFB-1). Of those, nearly half (44.4%) fall in the income block of 0 - 100% of Poverty. (OCA-V-37). The numbers of customers with income below 100% of Poverty are roughly equally split between the two ranges 0 - 50% of Poverty (22,667) and 50 - 100% of Poverty (24,792). For these reasons, the customers with income below 50% of Poverty should be included in a separate discount range.

OCA St. 5 at 32-33 (footnote omitted).

OCA witness Colton recommended that Aqua should add an additional discount on the utility's second block of consumption for customers with income at or below 100% of the Federal Poverty Level. OCA St. 5 at 33-34. Due to system limitations with the originally proposed four tiered system, OCA witness Colton modified his proposed recommendations for the income ranges for the three tiers as follows:

- Tier 1: 0 - 50% of Poverty: 100% discount on fixed charge; 100% discount on first 2000 gallons; 40% discount on second 2000 gallons. (This is what I recommended in my Direct Testimony).

- Tier 2: 50 - 150% of Poverty: 100% discount on fixed charge; 80% discount on first 2000 gallons.

- Over 150% of Poverty: I accepted this discount in my Direct Testimony and continue to recommend this discount for this income tier.

OCA St. 5SR at 26.

The OCA submits that the proposed modifications are designed to achieve the prescribed affordability impacts described above. In Direct Testimony, OCA witness Colton explained how his proposed modifications would achieve greater affordability for low-income customers. Mr. Colton testified:

> Under my recommended modified discounts, customers with income below 50% of Poverty have a water burden falling between 2% and 3% in 226 of the 239 zip codes, while customers with income between 50% and 100% of Poverty have water burdens falling between 1.5% and 2.0% in 218 of the 239 zip codes. At an income between 100% and 124% of Poverty, water burdens fall at less than 3% of income in 238 of the 239 zip codes, while at incomes of between 125% and 150% of Poverty, water burdens fall below 2% of income in 233 of the 239 zip codes.
>
> While I recommended no changes in the discounts for customers with income between 150% and 200% of Poverty, water burdens fall below 2% of income in 81 of the 239 zip codes, and between 2% and 3% of income in all 239 zip codes for customers with income between 150% and 184% of Poverty. Households with income at 185% to 200% of Poverty have water burdens of less than 2% of income in 233 of the 239 zip codes.

OCA St. 5 at 35-36.[70]

Even though the system limitations prevented a four tier discount, OCA witness Colton continued to recommend a specific tier designed to address the needs of customers between 0-50% of the FPL to address the affordability impacts identified in his Direct Testimony. OCA St. 5SR at 24-25. Aqua's proposed income range of 0-100% of the FPL is still too large under a three tier design. OCA witness Colton explained in Surrebuttal Testimony:

> As I document in my Direct Testimony, the three-tier system proposed by Aqua PA significantly under-serves those customers with income less than 50% of Poverty. The more homogenous group, when viewed from the perspective of need, involves the group of customers from 50% to 150% of FPL. As I document in my Direct Testimony, Aqua PA's proposed rates would result in undiscounted bill burdens as set forth in the Table below (OCA St. 5, at 28, Table 7). This data clearly shows that the population at 0 – 50% of Poverty is distinct from the higher income populations. The appropriate break-points for discounts, assuming a three-tier discount, should be 0 – 50% of Poverty (yellow-shaded cells); 50 – 150% of Poverty (green-shaded cells); and more than 150% of Poverty (blue-shaded cells). The point of establishing tiers is to group those customers with the most similar undiscounted burdens into the same tier.

Table 1. Number of Zip Codes By Aqua PA Water Burden
at Proposed Rates and Proposed Discounted Low-Income Rates by Range of Poverty Level

	Number of Zip Codes					
Burden Without discount	0 – 50% FPL	50-99% FPL	100 – 124% FPL	125 – 149% FPL	150 – 184% FPL	185 – 199% FPL
Less than 1.5%	0	0	0	0	0	0
1.5% to less than 3%	0	0	0	7	191	235
3% to less than 5%	0	45	234	232	48	4
5% to less than 8%	0	194	5	0	0	0
8% to less than 12%	174	0	0	0	0	0
12% - 15%	63	0	0	0	0	0
15% or more	2	0	0	0	0	0

[70] *See* OCA St. 5 at 36, Table 10.

OCA St. 5SR at 24-25.

c. OCA Witness Colton Calculated the Incremental Costs of the Proposed Changes to the Water Discount.

OCA witness Colton calculated the proposed cost of making the changes to the calculation of the total cost of providing the modified discounts. OCA St. 5 at 36-37.[71] In order to calculate the incremental cost, Mr. Colton subtracted from the proposed costs of his changes from the costs of providing the discounts proposed by Aqua to identify the incremental cost of the changes. Mr. Colton utilized three alternative estimated participation rates and set forth the incremental costs, before taking into account the reductions in cost of service such as working capital (and associated equity return and tax savings). OCA St. 5 at 36-37. Mr. Colton's Table 11 presents the incremental costs for modifications as follows:

Table 2. Incremental Cost of Modified Discounts (before cost savings) at Alternative Participation Levels

	Alternative Participation Rates		
	10%	15%	25%
Modified discounts	$4,016,770	$6,025,125	$10,042,488
Aqua PA Proposed discounts	$3,246,587	$4,869,881	$8,116,469
Incremental cost of modified discounts	$770,183	$1,155,244	$1,926,619

OCA St. 5 at 37, Table 11. The first year of incremental costs are $770,000, and if participation increases to 25% of the total eligible population, the total incremental costs of the modifications is less than $2 million. OCA St. 5 at 37.

[71] The OCA notes that Mr. Colton's cost estimates did not change as a result of his modifications from a four tier discount to a three tier discount.

The OCA submits that the incremental costs to the proposed modifications are reasonable and will achieve increased affordability. OCA St. 5 at 41.

d. The Income Block from 0-100% of FPL for Wastewater Discounts Should Be Separated into Two Income Blocks and the Wastewater Discounts Should Be Increased.

Aqua has proposed the following wastewater discount tiers:

Income Level (Federal Poverty Level or FPL)	**Wastewater Discount**
0-100% of FPL	75% discount on the fixed charges and 100% discount on the first 2000 gallons of consumption for customers
101-150% of FPL	65% discount on the fixed charges and 50% discount on the first 2,000 gallons of consumption for customers
151-200% of FPL	50% discount on the fixed charges and 0% discount on consumption for customers

Aqua St. 10 at Exh. RFB-2; *see also* OCA St. 5 at 39, Table 13.[72] OCA witness Colton, however, reached a slightly different conclusion from his water recommendation regarding Aqua's s proposed wastewater discounts. OCA witness Colton explained the difference in his recommendations for water discounts and wastewater discounts. Mr. Colton testified:

> unlike Aqua PA's proposed water discounts, with the exception of that lower income tier, the proposed wastewater discounts do a reasonably good job of achieving an affordable wastewater burden. If anything, the proposed Aqua PA low-income wastewater discounts generate bills that result in supra-affordable bill burdens for customers with income above 125% of Poverty Level. The data shows that customers with income or above 125% of Poverty experience burdens of less than 2% in most zip codes.

OCA St. 5 at 37-38.

As with water, in his Direct Testimony, OCA witness Colton recommended splitting the first tier of discounts into two separate income ranges, one for customers with income at or below

[72] Table was created for brief from data included in Exhibit RFB-2.

50% of Poverty and the other for customers with income at 50-100% of Poverty. OCA St. 5 at 37-38. Mr. Colton also proposed an increase of the discount on the Base Facility Charge from 75% to 100% for customers with income at or below 50% of FPL. OCA St. 5 at 39-30. OCA witness Colton, however, recommended no changes to Aqua' s proposed discounts for wastewater customers with income from 50%- 100% or above 100% of the Federal Poverty Level. OCA St. 5 at 38.

The same system limitation issue existed for the wastewater discounts, and as a result, OCA witness Colton modified his recommendations in Surrebuttal Testimony to the following:

> For wastewater, I recommend continuing to leave the discounts proposed for incomes at 100 - 150%, and for incomes over 150%, those recommended by Aqua PA. I would then recombine the 0 - 100% of Poverty into one tier. For that tier, I recommend an increase in Aqua PA's proposed discounts (75% off the fixed charge and 100% off the 1st 2000 gallons) to 100% off the fixed charge and 100% off the 1st 2000 gallons.

OCA St. 5SR at 26-27.

e. <u>OCA Witness Colton Calculated the Incremental Costs of the Changes to the Wastewater Discount.</u>

OCA witness Colton calculated the incremental costs of the wastewater discount program design changes in the same manner as he calculated the proposed incremental of the changes to the water discount program. OCA St. 5 at 40-41.[73] In Table 14, Mr. Colton presented the incremental costs of the modified wastewater discount:

[73] The OCA notes that Mr. Colton's cost estimates did not change as a result of his modifications to the wastewater discount.

Table 3. Incremental Costs of Modified Wastewater Discount			
Participation rate	10%	15%	25%
Participants	412	618	1030
Aqua PA (0 - 100% FPL)	$43.59	$43.59	$43.59
Participants	412	618	1,030
Total monthly cost	$17,959	$26,939	$44,898
Total annual cost	$215,508	$323,268	$538,776
Modified			
Participants	197	295	492
0 -50% FPL	$53.12	$53.12	$53.12
Sub-total cost	$10,465	$15,670	$26,135
50 - 100% FPL	$43.59	$43.59	$43.59
Participants	215	323	538
Sub-total cost	$9,372	$14,080	$23,451
Total monthly cost: modified	$19,836	$29,750	$49,586
Total annual cost: modified	$238,038	$357,000	$595,038
Incremental cost	$22,530	$33,732	$56,762

OCA St. 5 at 40.

For Year 1 participation levels, the incremental system wide costs is less than $23,000, and as participation increases to 25%, the projected incremental system wide costs is less than $57,000. OCA St. 5 at 41. The OCA submits that the incremental costs to the proposed modifications to the wastewater discount are minimal and will achieve improved affordability. OCA St. 5 at 41.

f. Income Verification

Aqua recommended that self-attestation of income be permitted for enrollment in the bill discount program. Aqua St. 10R at 4; OCA St. 5SR at 4-5. I&E witness Wilson recommended that Aqua require participants to submit income verification in order to participate in the programs in order to ensure the "legitimacy of applicants and reduce misuse of the program." I&E St. 1 at 45; I&E St. 1R at 5. Aqua witness Black disagreed with the recommendation as unnecessary, and

the OCA agrees that self-attestation of income should be permitted with one minor modification. OCA St. 5SR at 4-5, 38.

In response to I&E witness Wilson's concerns, Aqua witness Black noted that the theoretical problems with the use of self-attested income, when tested in the real world, did not occur. Aqua St. 10R at 4. Aqua witness Black recommended that the Company review and monitor necessary requirements for participation. Aqua St. 10R at 4. OCA witness Colton recommended one minor modification to the Company's monitoring proposal. Mr. Colton testified:

> Rather than merely committing to "continue to review and monitor" the situation going forward, it would not be unreasonable for Aqua PA to commit to engage in a review of a designated percentage of CAP participants, randomly selected, and report "error rates" (i.e., over-income customers who were enrolled) to the Bureau of Consumer Services (BCS). If error rates were higher than deemed to be reasonable, BCS and Aqua PA could develop appropriate remedial actions. In suggesting this, I note that this process may not only identify the presence (or absence) of high error rates overall, but also the presence (or absence) of high error rates for particular points of program entry. I do not propose a particular remedy because different types of error rates may well merit different remedial action.

OCA St. 5SR at 5.

The OCA submits that the Company should be permitted to use self-attestation of income and that income verification should not be required for participation in the program. The OCA recommends that the Company review the income qualifications for randomly selected CAP participants and report error rates to BCS. To the extent that error rates are not reasonable, BCS and Aqua should develop appropriate remedial action.

3. Aqua Should Be Required to Propose a Percentage of Income Program in its Next Base Rate Proceeding.

The OCA recommends that the proposed modifications discussed above be implemented for the water and wastewater discount programs. The OCA, however, also recommends that the

Company propose a percentage of income program in its next base rate proceeding in order to better address affordability issues. Even if the current system lacks the functionality to implement a percentage of income program, the new customer information system should have the capability by 2023. OCA St. 5SR at 23. In Rebuttal Testimony, Aqua witness Black appears to disagree with OCA witness Colton's recommendation that the Company move towards a percentage of income program in the next base rate proceeding. Aqua St. 10R at 11. In her testimony, Ms. Black summarily states without any quantitative support or analysis that "Percentage of income plans. . .are typically more expensive to implement and are more costly to ratepayers." Aqua St. 10R at 11. As OCA witness Colton discussed in his Surrebuttal Testimony, the OCA does not agree that a percentage of income plan would be more costly to ratepayers. OCA St. 5SR at 19-23.

The OCA submits that Aqua should propose a percentage of income program no later than its next rate case as it will more effectively target benefits to the customers that most need assistance and improve overall affordability. OCA St. 5 at 31. As OCA witness Colton testified in response to Aqua witness Black:

> while the Company's proposal does offer discounts that are tiered to provide larger discounts to those with lower incomes, this is true only to a degree. A three-person household with a 2021 income at 100% of Poverty ($21,960) receives the same discount as a three-person household with a 2021 income of 50% of Poverty ($10,980). A three-person household with a 2021 income at 100% of Poverty ($21,960) receives the same discount as a one-person household with a 2021 income ($6,440).

OCA St. 5SR at 13.

In Rebuttal Testimony, Aqua witness Black also argued that the discount program structure encourages conservation and would conserve costs. Aqua St. 10R at 11. As OCA witness Colton discussed in his Surrebuttal Testimony, Ms. Black's arguments are without merit. OCA St. 5SR at 14-18. Mr. Colton testified:

> In fact, the Table below shows the amount of the discount for usage in increments of 1,000 gallons, beginning with half (50%) of the average consumption and extending up to 200% of average consumption. As one can see, rather than "encouraging conservation," the amount of the discount that Aqua PA proposes is *identical* for every level of consumption both above and below average. Someone who consumes at a level ranging from 50% of average residential consumption to at 200% of average residential consumption (or more) will receive *exactly* the same dollar discount under Aqua PA's proposed discount structure.

Table 4. Amount of Dollar Discount (by Poverty Range) at Aqua PA's Proposed Discounts

(based on OCA-V-2)

	2000 Gallons (50% average)	3000 Gallons (75% average)	4000 Gallons (average)	5000 Gallons (125% average)	6000 Gallons (150% average)	7000 Gallons (175% average)	8000 Gallons (200% average)	Any Usage >8000 Gallons
0 – 100% FPL	$39.30	$39.30	$39.30	$39.30	$39.30	$39.30	$39.30	$39.30
100 – 150% FPL	$28.65	$28.65	$28.65	$28.65	$28.65	$28.65	$28.65	$28.65
>150% FPL	$18.00	$18.00	$18.00	$18.00	$18.00	$18.00	$18.00	$18.00

OCA St. 5SR at 14-15. As the Table demonstrates, the discount amounts within each FPL range do not change based upon the usage. *Id.* at 15, Table 3.

Ms. Black's testimony regarding the conservation impact of the percentage of income plan is refuted by the experience of Aqua's sister utility, Peoples. OCA witness Colton testified:

> In accordance with Commission regulations, Peoples engaged an external third party evaluator to assess its PIP; the most recent evaluation was published in 2017.[74] In that Evaluation, Peoples specifically considered the impact of its PIP on the natural gas consumption of PIP participants. By relying on the Peoples Evaluation, we can determine the impact of the PIP on participant usage using real information, rather than on supposition or on theory. As shown in the Table below, the Peoples Evaluation reported that nearly three times more Peoples PIP participants reduced their consumption under PIP than increased their consumption under PIP. While 25% of PIP participants reduced their usage, only 9% increased

[74] APPRISE, Inc. (Aug. 2017). Peoples Natural Gas, 2017 Universal Service Program Evaluation, Final Report, available at https://www.puc.pa.gov/General/pdf/USP_Evaluation-Peoples.pdf, last accessed December 12, 2021.

their consumption. More than half of all PIP participants reported no change in their consumption.

Table 5. Conservation Impacts of Peoples Percentage of Income Plan
(Peoples Universal Service Evaluation, 2017, at 50 – 51)

Was your gas usage higher, lower, or no change while participating than while not participating?	Percentage	Reason for Usage Increase	Percentage
Higher	9%	Cold winter	4%
Lower	25%	Household in need of weatherization	2%
No change	54%	Can use more gas because of CAP	1%
Don't know	11%	Additional household residents	1%
Refused	1%	Usage did not increase	91%
Total	100%	Don't know	1%
		Refused	0%

> As the Table above further shows, even amongst those PIP participants who reported an increase in their usage under PIP, the increase was not attributable to their program participation. Of the 9% who reported an increase in usage, 4% said the increase was due to a cold winter, while an additional 1% said the increase was due to an increase in the number of household residents. Only 1% (out of 9%) said that they increased their gas usage under PIP because they "can use more gas because of CAP."

OCA St. 5SR at 16-17.

In fact, the experience of CAP participants in Peoples' percentage of income plan has been shown to *decrease* usage. OCA witness Colton testified:

> The Peoples Evaluation found that 25% of PIP participants reported using less natural gas after they began their PIP participation than they did before they began their PIP participation. The Peoples Evaluation asked those customers using less natural gas why their usage decreased. As the Peoples data reports, two-thirds of those reporting lower usage (16% of 25%) said their consumption decreased because they were trying to reduce or conserve. An additional 3% said their usage decreased because they received services through an external program (i.e., a program for which they had to apply). Only 3% said they "didn't know" why their usage decreased.

Table 6. Reason for Conservation Impacts of Peoples Percentage of Income Plan (Peoples Universal Service Evaluation, 2017, at 50 – 51)	
Why do you feel your usage decreased	Percentage
Trying to reduce/conserve	16%
Weather	5%
Received weatherization/WAP/LIURP	2%
Other services received	1%
Usage did not decrease	75%
Don't know	3%
Refused	0%

OCA St. 5SR at 17-18.

OCA witness Colton discussed the economic price theory about why the experience is reflective of the principle. Mr. Colton testified "in economic price theory, the viability of sending a price signal assumes that the customer has the ability to *receive and to act upon* the signal." OCA St. 5SR at 18 (emphasis in original) (footnote omitted). For example, if a customer has the ability to pay $50 per month, in other words, the price signal sent to a customer by receiving a bill of $75 rather than $65 may be negligible, if any signal exists at all. OCA St. 5SR at 18. In contrast, however, the price signal received by the customer with an ability to pay $50 through a bill for $49 rather than a bill for $55 is much more significant. OCA St. 5SR at 18-19. As OCA witness Colton explained, "the closer that a utility can tailor bills to reflect affordability, the more efficacious any price signal will be. A low-income discount program that reduces bills to an affordable level actually *improves* the price signaling of utility rates." OCA St. 5SR at 19 (emphasis in original).

Aqua witness Black also argues that the tiered discount program would have the effect of controlling program costs more than the percentage of income program. The OCA submits that Ms. Black's arguments are without merit. As OCA witness Colton testified:

> The program cost of the tiered discount is identical whether a program participant has usage at 50% of average residential consumption, at 100% of average residential consumption, or at 200% of residential consumption, or at any other usage above 200% of average residential consumption.

OCA St. 5SR at 15-16.

In his Surrebuttal Testimony, Mr. Colton set forth five reasons why the costs of the program would not be impacted by the percentage of income program. First, the percentage of income program will deliver benefits to only those customers in need, and only in the amount needed for affordability. As OCA witness Colton testified:

> In contrast, Aqua PA's tiered discount proposes to deliver dollars of benefits to customers irrespective of whether they need such discounts to achieve an affordable water burden. Because customers at higher ranges of the Federal Poverty Level (e.g., 150% to 200% of FPL) tend to have affordable bills even without receiving ratepayer-funded assistance, for example, maximum income eligibility for PIP participation is effectively set at 150% of FPL (even if, on paper, maximum income eligibility might exceed that level). It is not possible to know whether PIPs are "more expensive to implement and more costly to ratepayers" in the absence of this information. It is entirely possible, however, that a PIP would reduce, rather than expand, the costs of providing assistance because that assistance is better targeted to unmet needs on the Aqua PA system.

OCA St. 5SR at 19

The second reason is that the costs of providing bill assistance that might increase due to a move to a percentage of income plan for bills for current service may be offset by cost reductions in other program components. As a result, the total program costs could well decrease through adoption of a percentage of income program, OCA witness Colton testified:

> For example, moving to a PIP for bills for current service could, and should, be coupled with using a percentage of income approach for arrearage forgiveness. Under this approach, PIP participants would not receive forgiveness of 100% of their pre-existing arrears. Instead, just like their bills for current service, PIP

> participants would be required to pay an affordable percentage of income (e.g., .5% for water; 1.0% for combined water/sewer) toward pre-existing arrearages. The decreased costs associated with moving to a PIP-based arrearage forgiveness could be more than sufficient to offset any increased costs of moving to a PIP for bills for current service. With Aqua PA's sister utility Peoples, for example, nearly 30% of total CAP costs are associated with its arrearage forgiveness. In contrast, only 60% of its total CAP costs are associated with the CAP credits for current service. It is not only possible, but likely, that even if the costs for bill assistance for current service increased through a PIP, controlling arrearage forgiveness costs through a PIP-based program would result in an overall decrease in serving low-income customers.

OCA St. 5SR at 20-21 (footnote omitted).

The third reason is that many percentage of income programs in Pennsylvania have adopted a series of "cost control mechanisms" that would not be applicable to a tiered discount program, such as minimum payment. OCA St. 5SR at 21. As OCA witness Colton testified:

> Given Aqua PA's proposed discounts on the fixed customer charge, as well as the first consumption block, no minimum payment is available through the Company's tiered discount program. Indeed, if a customer with income at or below 100% of the Federal Poverty Level has consumption at or below 2000 gallons per month, that customer will receive a bill of $0 under the Company's tiered discount proposal (100% off the fixed customer charge plus 100% off of the first 2000 gallons of consumption). That would not happen under a PIP.

OCA St. 5SR at 21.

The fourth reason is the conservation effect discussed above. OCA St. 5SR at 21. With every gallon of reduced water consumption that occurs, it will yield reduced program costs to non-participants. OCA St. 5SR at 21. As OCA witness Colton testified:

> If certain customers impose a higher cost on the program, either because of high bills or because of low incomes (yielding low burdens), the program cost can be substantially reduced through targeted conservation investments. With the tiered discount, however, as shown in Table 4, the amount of the discount is the same whether a customer has usage at half of the average residential usage or has usage at twice the average residential usage.

OCA St. 5SR at 21; *see also* OCA St. 5SR at 15, Table 3.

Finally, Aqua witness Black's conclusion does not acknowledge that the tiered discount does not achieve the same objectives as the percentage of income program. OCA St. 5SR at 22-23. The assertion does not include the impact of the program on cash working capital. As discussed in Section IX(B)(3) above and in OCA witness Colton's Direct Testimony, Aqua witness Packer agreed that:

> *In that regard, shortening customer arrearages undoubtedly reduces cost-of-serve either through cash working capital or the collection of bad debt expense to the extent reserves recoded for customer accounts are reduced.*

OCA St. 5 at 16 (emphasis added); *see also* OCA St. 5SR at 22. In his Direct and Surrebuttal Testimonies, OCA witness Colton noted that Mr. Packer also agreed to several important principles in discovery responses. Those agreed-upon principles included: (1) reducing the time (in days or months) that an "arrearage remains outstanding will, all also equal, have the effect of reducing the capital needed by a utility;" (2) working capital is a cost component that has equity return associated with it; (3) "to the extent that working capital has equity return associated with it, it will have a tax component associated with it;" (4) "a higher dollar level of arrearages poses a greater risk of loss due to uncollectibles than a lower dollar level of arrearages;" (5) "reducing the number of customers who are off-system due to a disconnection of service will, all else equal, reduce lost sales to a utility;" and (6) "reducing the number of customers receiving final bills with an unpaid balance will, all else equal, have the effect of reducing costs to a utility." OCA St. 5 at 16-17; OCA St. 5SR at 23. OCA witness Colton concluded:

> Given that Aqua PA's tiered discount leaves the Company's low-income customers with excessive water burdens (i.e., bills as a percentage of income), the tiered discount will not yield these corresponding cost reduction impacts.

OCA St. 5SR at 23.

For the reasons set forth above and the demonstrated improvements to affordability, the Commission should direct Aqua to implement a percentage of income program as a part of its next base rate proceeding.

4. The Costs of the Water and Wastewater Discount Programs Should Be Recovered in Base Rates.

Aqua has proposed to recover the costs of the water and wastewater discount program through a reconcilable rider like the Company has for its sister company, Peoples Gas. Aqua St. 10 at 10. OCA witness Colton has recommended that only the net costs be recovered rather than the gross costs and that those costs should be included in base rates including a cost offset to reflect the benefits of the program to Aqua's uncollectible expenses. OCA St. 5 at 42.[75] In Rebuttal Testimony, Aqua witness Black and I&E witness Wilson both opposed the OCA's proposal for recovery of the costs through base rates. Aqua St. 10R at 12-14; I&E St. 1R at 3-5. The OCA submits that the proposed cost recovery should not mirror the electric and natural gas universal service programs and should be recovered through base rates.

First, OCA witness Colton recommends that Aqua be allowed to recover only the net costs of the program rather than the gross costs of the program. OCA St. 5 at 42. Mr. Colton recommends that an offset of the costs be incorporated into base rates. OCA St. 5 at 42. OCA witness Colton testified:

> Aqua PA should not be allowed to recover billings that it would not have collected even in the absence of the program. When Aqua PA was asked to "provide, by year for the three most recent years available, all collectability studies assessing the rate at which the Company converts billings into collected revenue, whether for water or wastewater, "it responded that it "does not have any studies." (OCA-II-45). Moreover, Aqua PA states that it has not studied the source of bad debt to the

[75] As set forth in OCA witness Smith's testimony, Mr. Colton's recommendations "concerning the expansion of customer bill discounts and changes to Aqua's proposed Universal Service Programs relate to prospective rate design for Aqua's water and wastewater utility operations, rather than adjustments to Aqua's FPFTY cost of service and revenue requirement." OCA St. 1 at 39; *see also* OCA St. 4 at 22 (OCA witness Watkins identifies Mr. Colton's rate design adjustments.)

> Company disaggregated by socio-economic status of the customer (for residential bad debt)(OCA-II-52); nor has it studied that disaggregated the source of arrears to the Company by socio-economic status of the customer (for residential arrears).(OCA-II-52). Aqua PA does state, however, that it has collections contracts which provide contingency fees of from 18% to 40% of the amount collected. (OCA-II-47). I recommend an offset in the middle of that range (28%). The costs of Aqua PA's bill discount program as identified above should be reduced by this lost revenue adjustment.

OCA St. 5 at 42.

Aqua witness Black opposes recovery of the net costs of the program. Aqua St. 10R at 13-14.[76] Aqua witness Black testified that "over time, as participation in the program grows and matures to a stable level, bad debt levels will adjust accordingly, reflecting appropriate levels of collectability for the Company." Aqua St. 10R at 14. Ms. Black also testified that the "basis for the proposed adjustments is the Company does not have a collection study to reflect the historical percentage of billings collected from low-income customers." Aqua St. 10R at 13 - 14.

The OCA submits that Ms. Black's testimony does not provide a justification for denying the lost revenue adjustment that OCA witness Colton identifies. As OCA witness Colton testified:

> The "basis" for my recommended lost revenue adjustment is not that Aqua PA has performed no collectability analysis. The basis for my adjustment is that, in the absence of such an adjustment, Aqua PA will recover some parts of low-income rates twice. Aqua PA's proposal to include 100% of its low-income discount through rates assumes that, in the absence of the discount, 100% of the billed revenue to discount participants would have been collected. Only given this assumption is it reasonable to say that the dollar amount of the discount needs to be replaced by separately including that discounted revenue in rates. We know, however, that Aqua PA does not collect 100% of its low-income billings in the absence of the discount.

OCA St. 5SR at 30-31 (emphasis in original).

As OCA witness Colton explained in Direct Testimony:

- Nearly three-of-four (71.9%) of Aqua PA's low-income customers are in arrears;

[76] I&E witness Wilson does not dispute that the costs recovered should only be net costs. *See* I&E St. 1R at 5; OCA St. 5SR at 37-38.

- Of those low-income customers in arrears, the average arrears is $595.12.
- Of those low-income customers in arrears, the customers are 7.8 bills behind;
- Of the low-income customers who are disconnected, the average arrears at the time of disconnection is $667.10.

OCA St. 5 at 31. These unpaid dollars are currently reflected in base rates. OCA witness Colton testified "What Aqua PA proposes to do is to *continue* to reflect those unpaid dollars in rates and, *in addition*, to collect 100% of its discounted revenues *again* as though all of the discounted revenue would have been collected in the absence of the discount program." OCA St. 5SR at 31 (emphasis in original). The OCA submits that given that the Company concedes that it has performed no collectability study for its low-income customers, the only way to prevent the double collection is to adopt the OCA recommended lost revenue adjustment.

Aqua witness Black also argued that the use of a reconcilable surcharge renders the lost revenue adjustment unnecessary. Aqua St. 10R at 14. OCA witness Colton testified:

> Those unpaid dollars are currently reflected in rates. What Aqua PA proposes to do is to continue to reflect those unpaid dollars in rates and, in addition, to collect 100% of its discounted revenues again as though all of the discounted revenue would have been collected in the absence of the discount program. My adjustment reflects the principle that Aqua PA cannot have it both ways. And, given that the Company concedes that it has performed no collectability study for its low-income customers, the only way to prevent the double collection is to adopt my recommended lost revenue adjustment.

OCA St. 5SR at 32.

The OCA submits that the reconcilable surcharge does not prevent the double recovery. For example, PGW had a reconcilable surcharge for its universal service costs, and the Commission agreed that double recovery was still a possibility. In PGW's base rate proceeding at Docket No. R-0006193, the Commission upheld the ALJs' determination that double recovery is a possibility. *PGW 2007*.

Second, OCA witness Colton recommends that Aqua's proposal to collect the low-income programming costs through a reconcilable rider not be approved in this proceeding. OCA St. 5 at 42. The Company is the first water/wastewater utility in Pennsylvania to propose a reconcilable rider for its low-income discount program costs. OCA St. 5 at 42. Aqua witness Black has modeled the proposal after the riders in place at the Peoples Companies. Aqua St. 10 at 9. The OCA submits that the riders at the Peoples Companies and for other natural gas and electric distribution utilities are not appropriate models to base the cost recovery for these programs at this time. The OCA does not agree that the ratemaking treatment for water/wastewater utilities should be governed by the treatment in the Electricity Generation Customer Choice and Competition Act or the Natural Gas Choice and Competition Act, acts which are not applicable to water and wastewater utilities.

The reconcilable riders for natural gas and electric distribution utilities are based upon the specific statutory language applicable only to energy utilities and would not apply to Aqua's proposed discount programs. The Commission has previously addressed the rationale for the use of a reconcilable rider for natural gas and electric universal service programs, and that rationale is tied to the statutory requirements of the Electricity Generation Choice and Competition Act and the Natural Gas Choice and Competition Act. *Customer Assistance Programs: Funding Levels and Cost Recovery Mechanisms*, Docket No. M-00051923, Order at 14-16 (Oct. 19, 2006) (*2006 PUC Final Investigatory Order*). The Commission provided in the *2006 PUC Final Investigatory Order*:

> Requiring recovery of universal service costs through base rates cannot be reconciled with the statutory mandate of full cost recovery. As demonstrated below, requiring utilities to recover CAP costs through base rates would be returning to the cost recovery policy followed by the Commission prior to the General Assembly's requirement of full cost recovery.

> When an expense is recovered through base rates (as the great majority of utility expenses are) the utility does not have an assurance of "full recovery." The amount of an expense built into rates is based upon the level of expense incurred during the test year, with adjustments for any "known and measurable" changes occurring shortly after the test year. *See, Pa. PUC v. West Penn Power Co.*, Docket No. R-00942986, 1994 Pa. PUC Lexis 144 (Order entered December 29, 1994). Following the establishment of rates, if the actual level of an expense turns out to be higher than the amount built into the rates, the utility is not entitled to recover this additional expense except in narrowly-prescribed circumstances. This rules put the utility at risk for increases in expenses between rate cases. Normally, that is considered to be beneficial as it gives the utility an incentive to manage those costs.
>
> Because a utility is not guaranteed that it will recover all of its prudently incurred costs, in establishing base rates it is said that "…a utility is allowed a reasonable opportunity to recover the costs incurred in providing service." Cawley and Kennard, *Rate Case Handbook*, p. 177 (1983) (Emphasis added).

2006 PUC Final Investigatory Order at 14; *see also Popowsky v. Pa. P.U.C.*, 642 A.2d 648 (Pa. Cmwlth. 1994), *appeal denied*, 673 A.2d 338 (1996) (*Popowsky*).

In its *2006 Final Investigatory Order*, the Commission concluded that "the usual treatment of expenses in setting base rates is properly characterized as creating an "opportunity to recover," not as "complete" or "full" recovery." *2006 PUC Final Investigatory Order* at 14. The Commission further provided:

> With these ratemaking principles in mind as we proceed forward, the statutory requirements that the Commission allow "full recovery" of CAP costs cannot be effectuated by a policy of including these costs in base rates. Base rate treatment of universal service costs puts the utility at risk of not recovering the full amount of its prudently-incurred costs, which conflicts with the direction given by the General Assembly in the Competition Acts. In addition, the policy arguments for base rate recovery of most utility expenses provided by some of the commenting parties cannot override the policy decision of the General Assembly in the Competition Acts. In addition, the policy arguments for base rate recovery of most utility expenses provided by some of the commenting parties cannot override the policy decision of the General Assembly to require "full recovery of universal service costs. Allowing recovery through a surcharge rather than a base rate will establish a charge which tracks the actual amount spent and allows customer rates to be adjusted on a regular basis to recover the actual costs. Accordingly, the Commission must allow recovery through a surcharge that is either reconciled or adjusted frequently to track changes in the level of CAP costs consistent with the direction given in the Competition Acts.

2006 PUC Final Investigatory Order at 14.

The OCA submits that the costs of Aqua's proposed low-income programs are normal operating costs of the utility and the costs of the current Helping Hand program have been previously treated as normal operating expenses. As OCA witness Colton testified:

> The amount of that expense should be built into rates based upon the level of expense incurred during the test year, including the Fully Projected Future Test Year Aqua PA should not be guaranteed cost recovery for all low-income programming costs. Rather, as with any other Aqua PA expense, it is ensured, it is allowed a reasonable opportunity to recover the costs incurred in providing service. As the Commission noted with respect to the energy CAP cost recovery, this was "the cost recovery policy followed by the Commission prior to the General Assembly's requirement of full cost recovery" specifically for energy CAPs.
>
> Whether costs should be subject to a reconcilable recovery through a rate rider is not based on the total costs to be recovered. Rather, it is based on the magnitude of the variability of the costs that fluctuate outside of the utility's control. That variability simply does not exist with the Aqua PA proposal. Whether the Aqua PA program ultimately is based on the discount levels proposed by the Company, or is ultimately based on the discounts I recommend herein, the discounts are a small portion of the total revenues experienced by the Company.

OCA St. 5 at 44-45.

Section 1307(a) of the Public Utility Code does not authorize the Commission to approve surcharges other than in limited circumstances. *See* 66 Pa. C.S. § 1307(a); *CSIC* at 1160; *see also Pennsylvania Indus. Energy Coal. v. Pa. P.U.C.,* 653 A.2d 1336, 1349 (Pa. Cmwlth. 1995), *aff'd per curiam*, 670 A.2d 1152 (Pa. 1996) (*PIEC*). The general rule for expense items is that if the item in question is normally considered in a base rate case, then singling that item out for recovery outside of a base rate case is not appropriate. *CSIC* at 1157; *PIEC* at 1350.[77]

[77] In *CSIC* and *PIEC*, the Commonwealth Court cautioned against an overuse of automatic adjustment clauses that would tend to "disassemble" the general ratemaking process. *CSIC* at 1157; *PIEC* at 1349. As explained in *CSIC*, the General Assembly has authorized the Commission to approve automatic adjustment clauses only in limited circumstances, for easily identifiable expenses beyond a utility's control, such as tax rate changes (§1307(g.1)) or changes in the cost of fuel (§1307(c), (d), (f)). *CSIC* at 1156.

Moreover, cost recovery through a reconcilable surcharge is not necessary because Aqua does not anticipate that there will be substantial fluctuations in costs. OCA St. 5 at 45. OCA witness Colton testified:

> The variability in costs, such as would be found in the energy CAPs, would also not be present in the Aqua PA program because, except for a small portion attributable to discounts on Tier 2 consumption for the lowest income, the vast bulk of discounts provided –whether using Aqua PA's proposed discounts or mine—are discounts applicable only to the base facility charge and to the first tier of consumption (i.e., the first 2,000 gallons of use). Program costs, in other words, will not vary widely based on changes in total consumption as would occur with the energy CAPs (whether the discounts are applicable to the total bill).

OCA St. 5 at 45-46.

In Rebuttal Testimony, Aqua witness Black and I&E witness Wilson oppose the OCA's recommendation to recover the costs through base rates. Aqua St. 10R at 10-14; I&E St. 1R at 3-5. Ms. Black discussed the Commission's *2006 PUC Final Investigatory Order* on CAP cost recovery in support of her arguments and argued that she would "consider these surcharges to be so common as to be a standard for cost recovery" for universal service programs. Aqua St. 10R at 12. The OCA submits, however, that Ms. Black only selectively quotes from the *2006 PUC Final Investigatory Order*, citing only pages 13 to 14 of the Order. *2006 PUC Final Investigatory Order* at 13-14. On pages 13 to 14, the Commission references the role of a surcharge to recover actual costs, but Ms. Black leaves an important part out of her discussion of the Order. As OCA witness Colton testified:

> What she leaves out, however, are the two sentences that immediately precedes the sentence she chooses to quote. In those two sentences, the PUC explained: "Base rate treatment of universal service costs puts the utility at risk of not recovering the full amount of its prudently-incurred costs, which conflicts with the direction given by the General Assembly in the Competition Acts. In addition, the policy arguments for base rate recovery of most utility expenses provided by some of the commenting parties cannot override the policy decision of the General Assembly to require 'full recovery' of universal service costs." (Final Investigatory Order, at 14-15). In the absence of that statute, the Commission said:

> When an expense is recovered through base rates (as the great majority of utility expenses are) the utility does not have an assurance of "full recovery." The amount of an expense built into rates is based upon the level of expense incurred during the test year, with adjustments for any "known and measurable" changes occurring shortly after the test year. *See, Pa. PUC v. West Penn Power Co.*, Docket No. R-00942986, 1994 Pa. PUC Lexis 144 (Order entered December 29, 1994). Following the establishment of rates, if the actual level of an expense turns out to be higher than the amount built into rates, the utility is not entitled to recover this additional expense except in narrowly-prescribed circumstances. (internal notes omitted).

> Final Investigatory Order, supra, at 13-14. The statute cited by the Commission as requiring "full recovery" of universal service costs applies only to the energy utilities, not to water utilities.

OCA St. 5SR at 28; *see 2006 PUC Final Investigatory Order* at 13-14.

Similarly, I&E witness Wilson argued that OCA witness Colton does not explain how Aqua "would not potentially over or under-recover associated net costs if projections are incorporated as a component of base rates which would not be updated until a future base rate case is filed with the Commission." I&E St. 1R at 3-4. The OCA submits that this is contrary to fundamental ratemaking principles. As OCA witness Colton testified:

> As I discuss above in response to Ms. Black's testimony, the Commission has accurately stated Pennsylvania law to be: "When an expense is recovered through base rates (as the great majority of utility expenses are) the utility does not have an assurance of "full recovery.". . .Following the establishment of rates, if the actual level of an expense turns out to be higher than the amount built into rates, the utility is not entitled to recover this additional expense except in narrowly-prescribed circumstances." (internal notes omitted). Final Investigatory Order, supra, at 13-14. Those "narrowly-prescribed circumstances" for the universal service costs of Pennsylvania's energy utilities, involves a statutory mandate of "full recovery" that does not exist for water utilities.
>
> Neither have either I&E or Aqua PA presented a justification for why Aqua PA's universal service costs should be treated in the same way as the corresponding energy utility costs, given that the energy utility cost recovery is dictated by statute which does not apply to Pennsylvania's water utilities.

OCA St. 5SR at 36-37.

No other Pennsylvania water utility recovers the costs of its discount programs through a reconcilable surcharge. Every other water utility with a discount program recovers through its costs through base rates. As OCA witness Colton notes, both Pittsburgh Water and Sewer Authority (PWSA) and Pennsylvania-American Water Company (PAWC) recover the costs of their respective programs through base rates. OCA St. 5SR at 28-29. In particular, PWSA offers a tiered discount and arrearage forgiveness program with additional benefits to customers with income at or below 50% of Poverty similar to what Mr. Colton has proposed in this proceeding. OCA St. 5SR at 29.

Aqua has proposed to allocate the costs of the program design changes for the water and wastewater low-income program only to residential customers. Aqua St. 10 at 10. The OCA does not agree with this proposed approach, but does not think that the issue should be resolved at this time through this proceeding. OCA witness Colton testified:

> While increasing vaccination rates appear to be helping Pennsylvania to gain greater control of the public health crisis associated with the novel coronavirus pandemic (COVID-19), the economic crisis continues. A discussion of the appropriate allocation of Aqua PA's universal service program costs should occur once Pennsylvania has moved past the economic hardships that are being imposed on all customer classes. Moreover, one reason the PUC has previously noted for allocating universal service charges over all customer classes involves the increasing burden which imposing those costs exclusively on the residential class has on residential ratepayers. Given that Aqua PA projects a participation rate of only 5% in Year One of its bill discount program, and only 15% in Year Two, it is clear that Aqua PA is not yet at the point where it can expect to experience any type of normal universal service expenditures. Accordingly, I take no position on Ms. Black's recommendation in this proceeding. I recommend that final resolution of the cost allocation issue be addressed in a future rate case. Further, I reserve the right to challenge any future recommendation that low-income programming costs be allocated exclusively to residential customers in a future rate case.

OCA St. 5 at 46-47 (footnote omitted).

The OCA respectfully reserves the right to address the allocation of the costs in a future base rate proceeding and submits that it is unnecessary to resolve the issue at this time.

5. Aqua Should Develop a Community Education and Outreach Plan.

OCA witness Colton determined that the current Helping Hands' outreach does not sufficiently address the areas with the greatest need for assistance. OCA St. 5 at 47-50. The OCA submits that the Company should also improve the targeting of its outreach for low-income customers through a Community Education and Outreach Plan (CEOP) and that the Company incorporate a strategy of reaching low-income customers "where the community, lives, works, plays and prays and to be present at those locations rather than to sponsor "events" that community members must attend." *See* OCA St. 5 at 49; *see also* OCA St. 5 at 47-50.

In order to review the success of Aqua's current outreach, OCA witness Colton performed a zip code analysis to examine whether: (1) the zip code has more than 20% of households living at or below the FPL and (2) "the percentage of households in a zip code with annual income of $20,000 or less is more than 25% higher than the percentage of households with that income in the service territory as a whole." OCA St. 5 at 47. For those areas of identified need, Mr. Colton determined the percentage of identified low-income customers who are already enrolled in Aqua's Helping Hands program. OCA St. 5 at 48.

In examining these factors, OCA witness Colton found that the percentage of low-income customers enrolled in the Helping Hands arrearage forgiveness program in zip codes with a concentration of households having income of $20,000 or less is not substantially different from the percentage when no concentration exists. OCA St. 5 at 48, Table 15. Mr. Colton testified that "[w]hile 3.6% of identified low-income customers are enrolled in areas of concentration, 3.3% of identified low-income customers are enrolled in areas with no such concentration." OCA St. 5 at 48, Table 15. Mr. Colton reached a similar conclusion when he examined zip codes to determine

whether the zip code represents a "Poverty Neighborhood." OCA St. 5 at 48.[78] For those zip codes that represent a "Poverty Neighborhood," Mr. Colton found that:

> While the 3.5% of customers identified by Aqua PA as being low-income, have been enrolled in the Helping Hands program when they live in Poverty neighborhoods, 2.9% of customers that have been identified as low-income have been enrolled in Helping Hands if they do not live in Poverty neighborhoods.

OCA St. 5 at 48. OCA witness Colton concluded that "[i[f Aqua PA were targeting neighborhoods with concentrations of low-income customers for outreach and enrollment, a higher concentration of Helping Hands participants would be present in neighborhoods that have higher concentrations of identified low-income customers." OCA St. 5 at 48.

OCA witness Colton recommended that Aqua be directed to develop a CEOP that is directed toward areas within the Company's service territory with identified concentrations of low-income need. OCA St. 5 at 49-50. Mr. Colton recommended that the CEOP incorporate the following elements:

> (1) the outreach should focus on community-based outreach; (2) the outreach is best implemented through "trusted messengers" that are part of the community toward which outreach is directed; (3) the outreach should be focused through boots-on-the-ground grassroots strategies. This boots-on-the-ground grassroots outreach out-performs outreach such as that provided through mass media, social media, utility-sponsored efforts, and top-down sponsored events; and (4) the outreach should be focused on efforts to go to where the community is rather than making the community come to the utility.

OCA St. 5 at 49. The CEOP should include a strategy to provide outreach "where the community, lives, works, plays and prays and to be present at those locations rather than to sponsor "events" that community members must attend." OCA St. 5 at 49. OCA witness Colton that these elements of an effective outreach strategy were missing from Aqua's current outreach efforts. OCA St. 5 at 49. As a result, Mr. Colton recommended that Aqua's CEOP should be designed to

[78] "Poverty Neighborhood" is defined as more than 20% of occupants have income below 100% of Poverty. OCA St. 5 at 48.

"identify the community partners with which it proposes to work;" "identify the grassroots community organizations that will provide boots-on-the-ground efforts;" and identify those times and places Aqua proposes to meet the community members where they "live, work, pray and play." OCA St. 5 at 49-50. Similarly, CAUSE-PA witness Geller examined Aqua's outreach and recommended that the Commission require Aqua to establish a "comprehensive and coordinated consumer and education plan, expand its outreach to payment troubled customers, actively screen and solicit callers for enrollment in available assistance programs, and set concrete target enrollment numbers for all low income programs." CAUSE-PA St. 1 at 6; *see* CAUSE-PA St. 1 at 33-34, 45-48, 54, 57, 61-66.

In Rebuttal Testimony, Aqua witness Black responded to OCA witness Colton and CAUSE-PA witness Geller regarding the need for a CEOP. Aqua St. 10R at 5-6. Ms. Black testified that she "agree(s) that community education and outreach plans are an important component of universal services programs as it increases awareness among customers as well as agencies and organizations supporting our customers." Aqua St. 10R at 5. She specifically references the need to focus on "customer touchpoints." *Id.*

OCA witness Colton testified that he agrees with each of these concepts, but where Ms. Black and Mr. Colton diverge is the implementation of the "customer touchpoints." OCA St. 5SR at 10. Mr. Colton explained, however, that Ms. Black's definition of "customer touchpoints" is too limited and does not address the shortcomings identified in his Direct Testimony. OCA St. 5SR at 10. Aqua witness Black defined "customer touchpoints" as touchpoints with the utility while OCA witness Colton expanded that definition beyond the utility because "utility-based 'customer touchpoints' does not succeed in adequately reaching areas with high concentrations of customers in need." OCA St. 5SR at 10.

Mr. Colton testified regarding what touchpoints should be included in a successful outreach plan:

- the outreach should focus on *community-based* outreach as well as utility-based outreach. "Touchpoints" can involve a presence at community centers, senior centers, local houses of worship, and local schools.

- the outreach is best implemented through "trusted messengers" that are part of the community toward which outreach is directed. In addition to having utility customer service representatives or collection staff promoting the programs, there should be representatives from within the community who are involved.

- the outreach should be focused through boots-on-the-ground grassroots strategies. Research consistently demonstrates that this boots-on-the-ground grassroots outreach out-performs outreach such as that provided through mass media, social media, utility-sponsored efforts, and top-down sponsored events; and

- the outreach should be focused on efforts to go to where the community is rather than making the community come to the utility. The strategy is to identify where the community lives, works, plays and prays and to be present at those locations rather than to sponsor "events" that community members must attend.

OCA St. 5SR at 11. Each of these elements is missing from Aqua's proposed outreach approach. *Id*.

The OCA submits that the Commission should direct Aqua to develop a Community Education and Outreach Plan the above-identified elements. The outreach plan should be focused on information to identify the community partners with which the Company proposes to work; to specifically identify the grassroots community organizations that will provide boots-on-the-ground efforts; and to identify those times and places where the Company proposes to meet the community where members of that community live, work, pray and play.

D. Aqua's Proposed Arrearage Forgiveness Program Should Be Revised.

1. Introduction

As a part of the *Merger Settlement*, Aqua also agreed to develop a low-income arrearage forgiveness program. *Merger Settlement* at ¶ 108. Aqua proposes to extend the current arrearage forgiveness program to its pilot universal services program. Aqua St. 10 at 9. OCA witness Colton recommends the following modifications to Aqua's proposal:

- First, Aqua PA proposes to grant bill credits of $25 toward pre-existing arrears for each timely payment made by a program participant. This proposed level of bill credits results in an unreasonably long period over which low-income customers would earn sufficient credits to reduce their pre-existing credits to $0. Aqua PA should increase its arrearage forgiveness credits so that program participants will reduce their pre-existing arrears to $0 over a three-year period.

- Second, Aqua PA proposes to grant arrearage forgiveness credits only to the extent that program participants make "timely" payments on their bills for current service. The Aqua PA arrearage forgiveness program should be modified such that arrearage forgiveness credits will be granted for full payments as those payments are made, even if those payments have not been paid in a timely fashion.

- Third, the Aqua PA arrearage forgiveness program, and the Aqua PA bill discount program, should be completely integrated. Separate applications should not be required for the two programs. Participation in one program should automatically result in participation in the other.

OCA St. 5 at 50-51.

2. The Current Arrearage Forgiveness Program Design Is Insufficient.

a. Introduction

Aqua's current arrearage forgiveness program provides for a bill credit for pre-existing arrears of $25/month for each full and timely payment. Aqua St. 10 at 9. Aqua has not proposed any changes to the arrearage forgiveness program component. The OCA submits that the current $25 level of bill credit is not sufficient to improve affordability and payment behavior for customers. The $25 bill credit results in an unreasonably long period over which the customer

would reduce their pre-existing arrears to a $0 balance. Moreover, Aqua proposes to maintain the bill discount program and arrearage forgiveness component as two separate programs with two separate applications.

b. The Current Arrearage Forgiveness Program Design Does Not Achieve the Desired Objectives.

OCA witness Colton examined the effectiveness of Aqua's current arrearage forgiveness program for its 875 current participants (as of August 2021) by looking at the history of the payments and balances of its current participants. Mr. Colton found:

> Of those participants:
>
> - 347 (40%) had a pre-existing arrearage greater than $1,200 (Confidential Response to OCA-V-28), which would take 48 months (or more) to retire at $25 per month, assuming that all payments in that four year period were made in a timely fashion;
>
> - 277 (32%) had pre-existing arrearage greater than $1,500 (Id.), which would take 60 months (or more) to retire at $25 per month, assuming that all payments in that five year period were made in a timely fashion;
>
> - 170 (19%) had a pre-existing arrearage greater than $2,100 (Id.), which would take 84 months (or more) to retire at $25 per month, assuming that all payments in that seven year period were made in a timely fashion.
>
> The average pre-existing arrears for participants in the Aqua PA arrearage forgiveness program as of August 2021 was $1,393. (Id.). Given Aqua PA's proposed arrearage forgiveness credit of $25, therefore, it would take 56 months for program participants to reduce their pre-existing arrearages to $0, assuming they could make 56 timely payments in a row. The August 2021 average is not atypical. According to Aqua PA, as Table 17 below shows, its average arrears ranged from roughly $1,200 to more than $1,300 throughout 2021.

OCA St. 5 at 51-52 (footnote omitted); *see also* OCA St. 5 at 53, Table 17.[79] Mr. Colton's analysis showed that, on average, it would take approximately 48 months to 60 months to reduce the balance to $0. OCA St. 5 at 53, Table 17.

Mr. Colton also compared the arrearage forgiveness program participants' payment history with the payment history across Aqua's low-income customer base. In order to assess the arrearages for all low-income customers, OCA witness Colton examined the number of low-income involuntary disconnections for the most recent five months of data available (May 2021 through September 2021). OCA St. 5 at 53. He found that Aqua disconnected service to approximately 1, 571 low-income customers with an average arrearage of $1,000 or more. OCA St. 5 at 53, Table 18. His analysis showed the same level of arrearages was common across all of Aqua's low-income customer base and not just those low-income customers enrolled in the arrearage forgiveness program. OCA St. 5 at 53. The OCA submits that the current arrearage forgiveness program would also not address the needs of Aqua's general low-income population.

c. Upon Implementation of the New Customer Information System, Aqua Has Agreed to Eliminate the "Timely" Payment Requirement to Receive Arrearage Forgiveness.

In Direct Testimony, the OCA identified a concern that the design of the program does not take into account the potential instability of the working poor's income. *See* OCA St. 5 at 54-56. In particular, OCA witness Colton identified a concern with Aqua's policy of requiring "timely" payments in order to receive arrearage forgiveness. OCA St. 5 at 53-54. In Rebuttal Testimony, Aqua witness Black agreed that providing arrearage forgiveness upon a customer making a full payment, irrespective of whether the payment is "timely" "is more beneficial to the customer,

[79] The OCA has confirmed with Aqua PA that the "confidential" nature of the response was limited to the customer-specific information contained therein, and not the data aggregated and discussed without reference to that personal information.

particularly in the cases of customers that may miss their due date on a regular basis due to the timing of their income or irregular income." Aqua St. 10R at 9. Ms. Black, however, noted that the current information system was unable to implement this element, but that "upon conversion to SAP, Aqua PA's program will provide arrearage forgiveness benefits for each full CAP payment made, regardless of timeliness." Aqua St. 10R at 10. OCA witness Colton accepted this commitment as a resolution to his concern. OCA St. 5SR at 5-6.

d. The $25 Credit Proposed Should Be Increased to $45.

In his Direct Testimony, OCA witness Colton recommended the Company modify its arrearage forgiveness program to allow customers to achieve a $0 balance after three years. OCA St. 5 at 61. In Rebuttal Testimony, Aqua witness Black testified that the Company's current billing system did not have the capability to implement a three-year timeframe for arrearage forgiveness. Aqua St. 10R at 8-9. OCA witness Colton accepted this assertion and modified his recommendation to increase the level of the bill credit provided to customers from $25 to $45. OCA St. 5SR at 6-8.

Even though the substance of Mr. Colton's recommendation changed as a result of the Company's identified system limitations, the foundation for the need for increased assistance remains the same. In Direct Testimony, OCA witness Colton examined two aspects of the operation of the arrearage forgiveness program to determine whether the program design reasonably allowed customers to have arrearages forgiven in a timely manner. Mr. Colton specifically analyzed: (1) the number of months that a low-income customer participated in the arrearage forgiveness program before exiting the program (Schedule RDC-1) and (2) the number of months from the date a low-income customer enrolled in the arrearage forgiveness program to

the date a low-income customer exited the arrearage forgiveness program (Schedule RDC-2). OCA St. 5 at Sch. RDC-1, RDC-2. OCA witness Colton's Schedule RDC-1 showed:

> of the 1,884 low-income customers who enrolled in Aqua PA's arrearage forgiveness program, only 646 (34%) remained participants as of October 2021. Nearly two-of-three of program enrollees, in other words, failed to remain in the program. Of the 1,490 low-income customers who enrolled in 2020, only 445 remained in the program as of October 2021. Of the 683 who enrolled in the program in the first six months of 2020, only 168 (25%) remain in the program as of October 2021.

OCA St. 5 at 58, Sch. RDC-1.

Schedule RDC-2 examined the number of months after enrollment that the low-income customer exited the program. OCA St. 5 at 58, Sch. RDC-2. As OCA witness Colton testified:

> Schedule RDC-2 shows that, as of October 1, 2021:
>
> - None of the 30 customers who had enrolled 20 or 21 months prior to October 2021 remained in the program as of October.
> - Of the 191 customers who enrolled 19 months prior to October 2021, only 46 (24%) remained (145 had exited the program). Of the 145 who exited the program, 74 had exited the program in the first twelve months of participation.
> - Of the 264 customers who enrolled in the program 15 months prior to October 2021, only 66 (25%) remained in the program (198 had exited the program). Of those 198 who exited the program, 102 had exited the program in the first ten months of participation.

OCA St. 5 at 58-59, Sch. RDC-2 (footnotes omitted).

OCA witness Colton found that the current program design, including the timeliness requirement, significantly impacts the ability of low-income customers to earn arrearage forgiveness credits. *See* OCA St. 5 at 59-60, Sch. RDC-1, RDC-2. Even assuming that 100% of participants made a single "timely" payment during the months they participated before they exited the program, most participants earned only a small fraction in arrearage forgiveness compared to the debt that they owed. Mr. Colton testified that of the participants enrolled in 2020:

- 106 participants would have earned a total of only $25 in credits (1 month before exiting);
- 93 participants would have earned a total of only $50 in credits (2 months before exiting);
- 81 participants would have earned a total of only $100 in credits (4 months before exiting);
- 59 participants would have earned a total of only $150 in credits (6 months before exiting).

> Schedule RDC-1 shows us that while 1,496 low-income customers enrolled in arrearage forgiveness in 2020, 305 of those customers earned $100 or less in forgiveness credits (at maximum, assuming they made all their payments in a timely fashion during their participation before exiting the program); 377 earned $150 or less in forgiveness credits (at maximum); 486 earned $200 or less in forgiveness credits (at maximum).

OCA St. 5 at 59-60, Sch. RDC-1, RDC-2. In fact, for at least 24 program participants in August of 2021, the $25/month credit would require more than 200 months' of payments, or *17 years* of timely payments, in order to earn the full credits provided through the program. OCA St. 5 at 61 (referencing Aqua's Confidential response to OCA-V-28).[80]

Moreover, OCA witness Colton also found that a substantial number of low-income customers enrolled in the Helping Hand program *continued* to accrue arrears. OCA St. 5 at 60. For those customers that incurred arrears while enrolled in Helping Hands from January 2021 through August 2021, the number of customers in arrears and average arrears increased from 52 customers with an average arrears of $953 in January 2021 to 257 customers with an average arrears of $1,315 in August 2021. OCA St. 5 at 60, Table 18.[81] OCA witness concluded that it is "clearly evident that the Aqua PA arrearage forgiveness program as it is currently structured is not providing reasonable benefits to low-income customers." OCA St. 5 at 61.

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[80] *Ibid. at 167.*
[81] *Ibid.*

OCA witness Colton's analysis demonstrates that the current $25/month arrearage forgiveness credit is not sufficient. In consideration of the system limitations, OCA witness Colton modified his recommendation to increase the proposed credit from $25 to $45. Aqua witness Black testified that the $25/month credit would allow a Helping Hand participant with arrears less than $900 to pay off their debt within three years. Aqua St. 10R at 9. The problem presented, however, is that Aqua's data shows that the average arrears at the time its existing Helping Hands customers entered the program was never as low as $900. OCA St. 5SR at 6. OCA witness Colton's Table 1 shows the average arrears from May 2020 through August 2021:

Table 7. Average Arrears at Time of Helping Hands Enrollment

(CAUSE-PA 1-27 Supplement)

Month of Enrollment	Avg Arrears at Time of Enrollment	Credit	Months to Retire
May-20	$983.56	$25	39
Jun-20	$1,311.36	$25	52
Jul-20	$1,049.92	$25	42
Aug-20	$1,074.20	$25	43
Sep-20	$1,087.46	$25	43
Oct-20	$1,113.41	$25	45
Nov-20	$1,133.69	$25	45
Dec-20	$1,155.82	$25	46
Jan-21	$1,177.78	$25	47
Feb-21	$1,212.91	$25	49
Mar-21	$1,248.55	$25	50
Apr-21	$1,254.71	$25	50
May-21	$1,415.81	$25	57
Jun-21	$1,404.57	$25	56
Jul-21	$1,337.26	$25	53
Aug-21	$1,311.36	$25	52

OCA St. 5SR at 7 (footnote omitted).

According to Mr. Colton's Table 1, even at the average arrears, the $25/month credit would require between four and five years to retire. OCA St. 5SR at 7, Table 1. Mr. Colton testified:

> The $25/month credit proposed by Aqua PA is not reasonable. It would be unreasonable to structure a monthly credit to address only those program participants on average. That would mean that the credit is unreasonable in half of the instances (i.e., those customers with arrears exceeding the average).

OCA St. 5SR at 8.

OCA witness Colton calculated that a $45/month credit would allow customers for this same time period to have arrearages forgiven from between 27 months to 39 months. OCA St. 5SR at 8, Table 2. Mr. Colton testified that this $45/month credit "allows a three-year forgiveness for customers with arrearages up to 25% greater than the average." OCA St. 5SR at 8, Table 2. The OCA submits that given the Company's system limitation, the proposed increased credit would allow participants to receive an approximate three year arrearage forgiveness.

e. The Application Process Should Be Modified.

Finally, both OCA witness Colton and CAUSE-PA witness Geller recommended that Aqua streamline its application process and require only a single application process. OCA St. 5 at 62-63; CAUSE-PA St. 1 at 6, 46-48. Aqua explicitly identified that enrollment for the arrearage forgiveness program would require a separate application for the discount program and the arrearage forgiveness program. *See* OCA St. 5 at 63. The OCA submits that this process would be unnecessarily difficult for consumers. OCA witness Colton recommends:

> First, customers who are currently participants in Aqua PA's arrearage forgiveness program should be automatically enrolled in the low-income bill discount program that is approved by the Commission. Participation in the arrearage forgiveness program already indicates that the customer has demonstrated their low-income status to the satisfaction of the Company. They should not be required to separately negotiate administrative hurdles to enrollment in the bill discount program.
>
> Second, customers who enroll in Aqua PA's bill discount program should be automatically enrolled in the Company's arrearage forgiveness program as well. It makes no sense to make bills for current service affordable on a going-forward basis if customers are burdened with pre-existing arrears from a time in which their bills were not affordable. Customers do not separately pay their bills for current service and their bills for pre-existing arrears. Instead, they receive, and are held accountable for, their payment toward their total bill.

OCA St. 5 at 62.

In Rebuttal testimony, Aqua witness Black clarified that the proposal in this proceeding was to replace the existing bill discount program, Helping Hand, with a discount program that

includes both affordability and arrearage forgiveness components. Aqua St. 10R at 2. Ms. Black testified that participants who entered the program with an arrearage would receive the arrearage forgiveness benefit. Ms. Black clarified that there would not be two separate applications or programs. Aqua St. 10R at 2. In Surrebuttal Testimony, OCA witness Colton supported this approach. OCA St. 5SR at 2.

The OCA submits that this does not resolve the OCA's concerns regarding the application process. While applicants to the bill discount program would not be required to separately apply to receive arrearage forgiveness, current participants in the existing Helping Hand would have to separately apply to be enrolled in the bill discount program. *See* Aqua St. 10R at 3. While the Company plans to mail a letter to existing Helping Hand participants to encourage customers to apply, the existing Helping Hand arrearage forgiveness would no longer exist once the bill discount program is established. *Id.*; OCA St. 5SR at 2-3. As OCA witness Colton summarized:

> Under the process proposed by Ms. Black, in other words, there will be a group of customers who had been participating in the existing Helping Hand program; who have arrears that have not yet been completely forgiven (given the combined impact of the "timely payment" requirement, and the limitation to a $25/monthly credit, both of which Aqua PA has agreed to replace when able to do so); who will not (for whatever reason) apply to the new CAP and gain access to new arrearage forgiveness; and who will no longer have a Helping Hand program forgiveness through which they may complete reducing their arrearage balance.

OCA St. 5SR at 3. Arrearage forgiveness and the discount are designed to work hand-in-hand to address affordability issues. Separate enrollments and applications mean that not all low-income customers currently enrolled in the arrearage forgiveness program will continue to receive assistance either through the to-be-defunct arrearage forgiveness program or the new bill discount program.

While it makes sense to not run a parallel discontinued program, the OCA submits that there is no need to require existing participants to affirmatively enroll in the new bill discount

program. This would unnecessarily confuse customers and perhaps even penalize customers who have otherwise been current on their payment obligations. As OCA witness Colton testified:

> at a minimum, losing their existing Helping Hand arrearage forgiveness benefits would also cause confusion on the part of existing Helping Hand participants, particularly if those existing participants were current on their payment obligations. Moreover, it would foreseeably impede future enrollment in the "new" CAP once word got out that the "old" Helping Hands program did not fulfill its obligations to provide arrearage forgiveness for no reason other than that Aqua PA decided to discontinue that program and implement a new substitute program.

OCA St. 5SR at 3.

The OCA recommends that existing Helping Hands participants automatically be migrated to the new bill discount program. OCA witness Colton testified that if Aqua needs to ensure only customers who enroll are eligible, "it could limit the participation of those automatically migrated exclusively to the CAP arrearage forgiveness program component unless and until those customers submit a new application." OCA St. 5SR at 3. The OCA submits, however, that this limited migration may generate confusion and would be less ideal that automatically migrating existing Helping Hand program participants to the new bill discount program.

f. A Similar Cost Recovery Mechanism Should Be Established for Arrearage Forgiveness as Set Forth for the Discount Program.

The OCA recommends a similar cost recovery mechanism as set forth for the discount program. Aqua has proposed a 70% payment compliance rate, and based upon experiences with the energy universal services program, Mr. Colton proposes utilizing an 85% payment compliance rate. OCA St. 5 at 65. As with the discount program, OCA witness Colton recommends that Aqua should only be permitted to recover the net costs of the arrearage forgiveness program. OCA witness Colton identified the proposed costs with 85% payment compliance as follows:

Table 8. Estimated Incremental Cost Increases Due to Arrearage Forgiveness Modifications			
Water	**10%**	**15%**	**25%**
Projected Arrearage Forgiveness at 85% Payment Compliance	$1,239,908	$1,859,862	$3,099,770
Projected Arrearage Forgiveness at 70% Payment Compliance	$1,021,101	$1,531,651	$2,552,752
Incremental Cost of Increasing to 85%	$ 218,807	$328,211	$47,018
Wastewater	**10%**	**15%**	**25%**
Projected Arrearage Forgiveness at 85% Payment Compliance	$122,029	$183,043	$305,072
Projected Arrearage Forgiveness at 70% Payment Compliance	$100,494	$150,742	$251,236
Incremental Cost of Increasing to 85%	$21,535	$32,302	$53,836

OCA St. 5 at 65, Table 21.

OCA witness Colton has also projected the offset to be utilized. OCA St. 5 at 66. Aqua also garners a benefit from the program, and that benefit should be factored into base rates. In particular, Aqua saves on collection costs for customers that are enrolled in the arrearage forgiveness program. As Mr. Colton testified:

> For qualified Aqua PA customers who participate in the arrearage forgiveness program, pre-program arrears are frozen at the time of enrollment. Once enrolled in the program, Aqua PA no longer pursues collection of the customers' existing (or pre-program) arrears. Given that even though the pre-program arrears remain part of the customer's balance even though they are not enforced upon, those arrearages are included in the Aqua PA billings against which actual collections (i.e., receipts) will be compared to determine the total Company collection factor. By definition, however, those pre-program arrearages are no longer being subject to collection once the customer enrolls in the arrearage forgiveness program. If they are not removed from the billings in the calculation of the total Company collection factor, rates will be increased to reflect the resulting reduced collection factor. Accordingly, an adjustment needs to be made, as I have done, to the arrearage forgiveness credits that are allowed to be separately included in rates.

OCA St. 5 at 66.

The OCA submits that the purpose of the offset factor is to prevent Aqua from double-collecting a portion of the arrearage forgiveness credits and reflects the fact that even in the absence of the arrearage forgiveness program, Aqua would not collect 100% of its low-income arrears.

OCA St. 5 at 66. As OCA witness Colton testified, Aqua has not prepared a collectability study. OCA St. 5 at 66. Mr. Colton explained the impact:

> Without having prepared a collectability study, it is not possible for Aqua PA to have adjusted rates to prevent a double-collection. If it does not know what percentage of its billed revenue it is collecting in the first place, it has no baseline against which to compare how much *less* billed revenue it provides arrearage forgiveness credits.

OCA St. 5 at 66.

The offset proposed is similar to the offset that Mr. Colton proposed in Philadelphia Water Department's 2021 rate proceeding. OCA St. 5 at 66. As OCA witness Colton testified:

> In its rate filing, PWD proposed to include the costs of its low-income (Tiered Assistance Program, or TAP) arrearage forgiveness credits through its TAP Rate Rider. PWD's own consultant, Black and Veatch (PWD St. 7B, 2021 base rate case) stated that: "The proposed AF-Factor is intended to allow the Water Department the ability to recover *a portion* of the costs (in dollars) of providing arrearage forgiveness to eligible TAP Customers." (PWD St. 7B, at 10, emphasis added). Black and Veatch explained: "At the time of the annual TAP-R reconciliation, AF will be determined based upon the actual amount of arrears forgiven in accordance with Section 206.7 of the Water Department's regulations. The total amount of arrearage forgiveness included in determining the TAP-R surcharge rates *will be adjusted by applying a proposed TAP Lost Revenue Adjustment Factor of 9%*." (Id., at 10 – 11, emphasis added). The "lost revenue adjustment factor of 9%" is an acknowledgement of the fact that PWD would fail to collect 91% of the billed revenues included in the pre-program arrears even in the absence of the TAP arrearage forgiveness. Rather than using the same 91% used by PWD, I have adjusted that figure downward to reflect the fact that the age of Aqua PA arrears subject to forgiveness, while substantial, are not nearly as substantial as the age of PWD arrears subject to forgiveness. Rather than applying a 9% Lost Revenue Adjustment Factor, therefore, I apply a 25% Lost Revenue Adjustment Factor (which is an acknowledgement that Aqua PA would fail to collect 75% of the arrears subject to forgiveness).

OCA St. 5 at 66-67.

OCA witness Colton also based the 75% on his experience with other water utilities such as his work completing a Water Affordability Plan for the City of Toledo, Ohio. OCA St. 5 at 67-68. Mr. Colton testified:

> For example, in October of this year, I completed a Water Affordability Plan for the City of Toledo (OH). Toledo Water establishes an allowance for uncollectible account balances based on the age of arrears. According to the 2020 *Financial Overview* for Toledo's Department of Public Utilities (December 2020), Toledo establishes its uncollectible expectations for Toledo Water based on the age of arrears. For arrearages between 60 and 90 days old, Toledo projects a 20% uncollectible, while for arrearages 90 to 180 days old, Toledo projects 40% uncollectability. For arrears between 180 and 365 days old, Toledo projects an uncollectable factor of 75%. As the dollars of arrears falling into older aging buckets increases, in other words, Toledo Water finds it increasingly more difficult to collect the dollars that it bills. As can be seen, the lost revenue adjustment I propose for Aqua PA arrearage forgiveness has an empirical basis and is well within a range of reasonableness. The arrearage forgiveness costs set forth in Table 8 should be adjusted by my recommended lost revenue adjustment.

OCA St. 5 at 67-68.

E. Aqua's Customer Complaints, Customer Satisfaction, Collections Performance, and Environmental Compliance Metrics Data Do Not Support a Conclusion of Superior or Exemplary Performance.

OCA witness Colton used customer service data, customer satisfaction data, collections performance data, and environmental compliance metrics to evaluate whether Aqua's performance merited a management performance adder. OCA St. 5 at 68-75. Mr. Colton based his analysis upon Aqua's customer satisfaction data, collections performance data, and customer service outcomes data presented in the Commission's own reports and PADEP orders. *Id.* The record in these critical areas of customer service and collections do not support a conclusion of superior or exemplary performance that would merit a management performance adder. *Id.*

a. Customer Complaints

OCA witness Colton examined Aqua's performance regarding customer complaints. OCA St. 5 at 69-70. Mr. Colton review the Company's data presented in the 2020 UCARE Quarterly

Update and found that Aqua has a high rate of "justified" complaints[82] that were handled by the Commission's Bureau of Consumer Services. OCA St. 5 at 69. OCA witness Colton testified:

> Its 2020 justified complaint rate of 15% was nearly two times higher than the average for all regulated Class A water utilities (8%) and three times higher than either Pennsylvania American Water Company (PAWC) (5%) or "Other Class A" water utilities (5%). While Aqua PA's performance was somewhat better through the Third Quarter of 2021 (justified rate of 10%), that rate was still higher than all other Pennsylvania Class A water utilities. In contrast, the number of justified payment arrangement request (PAR) complaints against Aqua PA substantially increased in the first three quarters of 2021. As of the end of September 2021, 22% of the reviews of Aqua PA PAR decisions were "justified," compared to 12% for PAWC and to 8% for all other Class A water utilities.

OCA St. 5 at 69 (footnotes omitted).[83] Although the number of justified complaints declined in the first three quarters of 2021, the OCA notes that the number of customer complaints was significantly higher in 2021 than in 2020. OCA witness Colton testified that "[t]he number of Aqua PA consumer complaints had increased 72% through the Third Quarter of 2021 (compared to 33% for PAWC and negative-2% for all other Class A water utilities)." OCA St. 5 at 70.

In Rebuttal Testimony, Aqua witness Black responded to Mr. Colton's discussion of high "justified complaints" by arguing that Aqua's justified complaint rate of 10% in 2021 for the third quarter was lower than the justified complaint rate in 2020. Aqua St. 10R at 24. As OCA witness Colton testified, Ms. Black did not respond "to the fact that, even after the improvement, Aqua PA's justified complaint rate was higher than every other Pennsylvania Class A water utility." OCA St. 5SR at 33.

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[82] A "justified" complaint is a "consumer complaint where, prior to BCS intervention, the company did not comply with Commission Orders, policies, regulations, reports, Secretarial Letters, tariffs or guidelines when the consumer brought the complaint to the company's attention." OCA St. 5 at 69 (citing 2020 UCARE Quarterly Report, Glossary of Terms, at 20).

[83] A "justified" Payment Arrangement Request is defined as one "where, prior to BCS intervention, the company did not comply with Commission regulations, reports, Secretarial Letters, tariffs or guidelines."(Id.) OCA St. 5 at 69 (citing 2020 UCARE Quarterly Report, Glossary of Terms, at 20).

Aqua witness Black ignored several of Mr. Colton's issues. Ms. Black did not respond to Mr. Colton's testimony that while the Company's justified complaint rate declined from 15% to 10% from 2020 to 2021, that the total number of complaints increased by 72% through the third quarter of 2021. OCA St. 5SR at 33; OCA St. 5 at 70. Mr. Colton compared this increase to the 33% increase for PAWC and the negative 2% for all other Class A utilities. OCA St. 5SR at 33; OCA St. 5 at 70. The Company's overall performance on justified complaints did not improve in 2021. *See* OCA St. 5SR at 33; OCA St. 5 at 70. Ms. Black also did not respond to Mr. Colton's observation that "aside from its justified complaint rate, as of the end of September 2021, 22% of the reviews of Aqua PA payment arrangement request (PAR) challenges presented to BCS were "justified," compared to 12% for PAWC and to 8% for all other Class A water utilities." OCA St. 5SR at 33; *see* OCA St. 5 at 69.

Moreover, Aqua also takes the longest time to respond to consumer complaints and payment arrangement requests than any other water utility. OCA St. 5 at 70. OCA witness Colton testified:

> In 2020, Aqua PA took 14.6 days to respond to consumer complaints, higher than the 12.8 days of water utilities generally. Aqua PA's 16.0 day response time to payment arrangement requests (PARs) was two times longer than the average response time for PA Class A water utilities generally (7.5 days), and nearly three times longer than PAWC's response time (5.6 days). Through the Third Quarter of 2021, while Aqua PA's performance improved relative to other water utilities, it did not perform well with respect to those other utilities. Aqua PA's 16.4 day response time to consumer complaints compares to 15.7 days for all water utilities; Aqua PA's 8.7 day response time to PARs compares to 9.4 for all water utilities.

OCA St. 5 at 70. OCA witness Alexander echoed Mr. Colton's concerns. In response, Aqua witness Black argued that the Company is complying with a commitment to reduce the number of days to respond to complaints and that the Company has showed improvement by reducing the number of average days. Aqua St. 10R at 19.

The OCA submits that Aqua witness Black misses the point of the concerns identified by OCA witness Colton and OCA witness Alexander. The Company is arguing that it is providing exemplary service that merits a management performance adder. A utility that leads in the number of justified customer complaints and justified payment arrangement requests should not be found to exhibit exemplary management. Nor should a utility that takes the longest amount of time to respond to consumer complaints and payment arrangement requests.

b. Customer Satisfaction

Mr. Colton examined the customer satisfaction data for the time period from April 2020 through the present as provided by Aqua. OCA St. 5 at 71. OCA witness Colton testified:

> Significant numbers of Aqua PA customers were less than "very satisfied" with Aqua PA's performance in that time period. Only 72% of customers having contact with the utility since April 1, 2020 were either "very" or "extremely" satisfied with respect to their "overall satisfaction." That means that nearly one-of-three persons who had contact with the Company were less than very satisfied. Indeed, nearly one-in-five expressed that they were "not satisfied" (either "not very satisfied" or "not at all satisfied"). One of the areas in which customers were less than satisfied was in the area of "customer effort." Nearly one-in-three customers (29%) having contact with the utility either disagreed or neither agreed nor disagreed with the Aqua PA's customer effort when they had contact with Aqua PA.

OCA St. 5 at 71.

In Rebuttal Testimony, Aqua witness Black only responded to OCA witness Alexander's testimony regarding customer satisfaction and did not address Mr. Colton's testimony directly. *See* Aqua St. 10R at 17. As discussed in Section X, *infra,* Ms. Alexander raised concerns related to the Company's customer satisfaction rate as compared to natural gas and electric utilities and the level of call abandonment rates. *See* OCA St. 6 at 10-14. Ms. Black argued that service level and call abandonment rates do not "directly impact customer satisfaction scores." Aqua St. 10R at 17. As OCA witness Alexander testified, Ms. Black's assertions are not reasonable given that the

primary point of contact for customers is the Company's toll-free telephone number and call center. *See,* OCA St. 6SR at 6.

The OCA submits that in the area of customer satisfaction, Aqua has not exhibited superior or exemplary management performance.

c. Collections Performance

In his examination of the collections performance of Aqua, OCA witness Colton found that the Company's performance does not stand out relative to the performance of other Pennsylvania water utilities. Mr. Colton examined the Company's Sixth Report to the General Assembly and the Governor Pursuant to Section 1415.[84] OCA witness Colton found:

> For example, while Aqua PA performs better than PAWC in the percentage of residential customers in debt (14.23% vs. 18.15%), it performs substantially less well than other Pennsylvania water utilities. The average percentage of residential customers in debt for other Class A water utilities was 10.62% in 2018 (the last year for which data is available), compared to 14.23% for Aqua PA. The average dollars of arrears for active residential customers was virtually the same for Aqua PA and PAWC as well. As of 2018, while active Aqua PA residential customers had an average arrears of $176, active PAWC customers carried an average arrearage of $160.

OCA St. 5 at 72 (footnote omitted).

Moreover, OCA witness Colton found that Aqua is not improving its management over residential customer arrears. OCA St. 5 at 72-73. OCA witness Colton testified:

> According to the PUC's Sixth Report to the General Assembly (regarding Chapter 14), for example, while 3.16% of Aqua PA's residential billings were in debt in 2012, 3.47% of residential billings were in debt in 2018. As shown in Table 9, the average arrearage of both active and inactive residential Aqua PA customers has increased during that time period. In 2017 and 2018, average arrears were substantively higher than they were in 2012 for both active and inactive accounts.

[84] OCA St. 5 at 72 (citing Pennsylvania PUC, Sixth Report to the General Assembly and the Governor Pursuant to Section 1415, at 42 (Jan. 30, 2020), available at https://www.puc.pa.gov/filing-resources/reports/biennial-report-pursuant-to-section-1415/ (last accessed Oct. 30, 2021)).

Table 9. Average Arrears by Year (active and inactive customers) (Aqua PA 2012 – 2018)							
	2012	2013	2014	2015	2016	2017	2018
Active	$158.09	$152.84	$208.64	$151.85	$169.19	$180.10	$176.00
Inactive	$242.89	$226.02	$268.59	$238.57	$237.23	$223.77	$248.55

OCA St. 5 at 72 (footnote omitted).

In addition to the level of arrears, the Commission also has recommended the use of the Bills Behind statistic which shows how many average bills are included in an arrearage balance. OCA St. 5 at 72. Mr. Colton explained that "two customers, each of which has $200 in arrears, for example, are not equally behind if Customer A has an average bill of $100 (2 Bills Behind) and Customer B has an average bill of $50 (4 Bills Behind)." OCA St. 5 at 72-73. OCA witness Colton's Table 23 shows the bills behind by year from 2012 through 2018.

Table 10. Bills Behind by Year (active and inactive customers) (Aqua PA 2012 – 2018)							
	2012	2013	2014	2015	2016	2017	2018
Active	2.4	2.7	3.5	2.6	2.8	3.1	2.9
Inactive	3.6	4.0	4.5	4.0	4.0	3.9	4.1

OCA St. 5 at 73.

In Rebuttal Testimony, Aqua witness Black testified that increases in Aqua's average arrears for active customers "are likely attributable to those rate changes rather than lack of collection success." Aqua St. 10R at 25. She stated that water rates increased over the same time period as the increases in arrears. *Id.* The OCA submits that the rate increases do not explain the

increase in arrears. As OCA witness Colton's analysis demonstrated, both the level of arrears and the Bills Behind increased during that same time period. OCA witness Colton testified:

> As I explain in my Direct Testimony, Pennsylvania's Bureau of Consumer Services (BCS) developed its Bills Behind statistic precisely to allow a comparison of arrears between companies with differing rate levels and between time periods with differing rate levels. With Aqua PA, not only did the level of arrears increase, but as I document in my Direct Testimony (which Ms. Black did not respond to), the Aqua Pa Bills Behind increased by 21% during that same time period (from 2.4 Bills Behind to 2.9 Bills Behind). (OCA St. 5, at 73). Aqua PA's collection outcomes had deteriorated, in other words, even after taking into consideration any increase in bills due to rate increases such as those posited by Ms. Black.

OCA St. 5SR at 33-34.

In addition, OCA witness Colton examined the number of disconnections for this same time period. He found that:

> this deterioration in Aqua PA arrears has occurred despite the fact that Aqua PA has increased the number of accounts it disconnects more than ten-fold since 2012. In 2018, Aqua PA disconnected more than 7,400 residential customers. Its rate of residential nonpayment disconnections (1.85 per 100 customers) was the highest of the seven years reported to the legislature.

OCA St. 5 at 73 (footnote omitted). The OCA submits that even though Aqua has increased its number of residential customer disconnections, arrearages in absolute dollars and Bills Behind, has increased. OCA St. 5 at 73.

In Rebuttal Testimony, Aqua witness Black argued that Mr. Colton's testimony regarding the ten-fold increase in the number of accounts disconnected was misleading because Aqua has increased the number of its customers due to the acquisition of other water companies. Aqua St. 10R at 25. OCA witness Colton noted, "what Ms. Black did not address, however, is that my observation applied not only to the *total* number of disconnections, but also to the number of disconnections *per 100 customers*." OCA St. 5SR at 34 (emphasis in original). Mr. Colton explained:

> In 2012, Aqua PA disconnected 0.14 residential accounts for each 100 residential accounts it had. By 2018, that rate of disconnection had increased to 1.85 disconnections for each 100 accounts, an increase of more than 1300% (i.e., more than ten-fold). (OCA St. 5, at 73). Contrary to Ms. Black's rebuttal, while the growth in the total number of disconnections may be affected by the growth in the size of the utility (due to acquisition), the growth in the *rate* of disconnections (per 100 customers) would not be so affected.

OCA St. 5SR at 33 (emphasis in original).

The OCA submits that in the area of collections performance, Aqua has not exhibited superior or exemplary management performance.

d. Environmental Performance Metrics

OCA witness Colton also reviewed the extent to which Aqua has been notified by the Department of Environmental Protection on numerous occasions of violations of Aqua's National Pollutant Discharge Elimination System (NPDES) permit. OCA St. 5 at 74-75. OCA witness Colton testified regarding a number of permit violations:

- On May 12, 2020, PADEP notified Aqua PA that "A review of Aqua Pennsylvania's Wastewater, Inc.'s Discharge Monitoring Reports (DMRs) has indicated a pattern of effluent violations with respect to the limitations set forth in NPDES Permit No. PA0061719." The violations cited in this May 12, 2020 notice occurred over an extended period of time, beginning in September 2015 and continuing through June 2019.

- On November 30, 2020, PADEP again notified Aqua PA that "A review of Aqua Pennsylvania Wastewater, Inc., Mast Hope Development's (Aqua-Mast Hope) Discharge Monitoring Reports (DMRs) has indicated a pattern of effluent violations with respect to the limitations set forth in NPDES Permit No. PA0060496." The notice cited violations occurring from February 2019 to August 2020.

- On July 16, 2021, PADEP notified Aqua PA that it had "conducted an administrative review of the discharge monitoring reports" submitted pursuant to Aqua PA's NPDES permit (PA0228061). The correspondence identified "effluent results exceeding limitations set forth in. . .your NPDES Permit." DEP told Aqua PA that "these effluent exceedances. . .constitute violations [of] your NPDES

> Permit and Section 202 of the Clean Streams Law. . ." The list of violations cited in the July 16th correspondence began in October 2018 and continued December 31, 2020. PADEP told Aqua PA that "the above noted violations constitute unlawful conduct under Section 611 of the Clean Streams Law. . ."
>
> - As recently as October 12, 2021, PADEP notified Aqua PA that an administrative review of the DMRs submitted in accordance with NPDES Permit PA0228061 revealed effluent results that continue to exceed limitations set forth in the Permit. PADEP again informed Aqua PA that "the above noted violations constitute unlawful conduct under Section 611 of the Clean Streams Law. . ."

OCA St. 5 at 74-75.

In Rebuttal Testimony, Aqua witness Todd Duerr argued that "as with any wastewater system, violations may occur due to weather events or aging infrastructure of a system." Aqua St. 9R at 40. As OCA witness Colton testified, however, Mr. Duerr does not identify that any of the violations noted by Mr. Colton were related to weather events or aging infrastructure. OCA St. 5SR at 35.

Aqua witness Duerr also argued that "superior management includes how the Company responds to non-compliance events." Aqua St. 9R at 40. The OCA submits that Mr. Duerr's argument is circular. As OCA witness Colton testified:

> If superior management can be found from a utility's response to environmental non-compliance, then environmental non-compliance becomes a non-factor in reviewing management performance. If the Company maintains compliance, it argues it is engaging in superior management. If it fails to maintain compliance, it argues that its response involves superior management.

OCA St. 5SR at 35.

Moreover, Aqua witness Duerr does not explain why its environmental violations exhibited exemplary management. As OCA witness Colton testified:

> Indeed, Mr. Duerr states in three of the four instances of non-compliance which he discussed that after the violations had been found, Aqua PA found that one necessary response was to modify its own internal procedures. It would seem inappropriate to find that a utility finding the need to modify procedures only when

> those procedures contribute to environmental non-compliance is not well-positioned to argue that it is routinely engaging in exemplary management.

OCA St. 5SR at 35.

The OCA submits that the environmental performance metrics and related permit violations do not demonstrate that Aqua PA has exhibited superior or exemplary service.

e. Conclusion

The OCA submits that Aqua's performance in the areas of customer service, collections, and environmental compliance does not demonstrate superior or exemplary management performance that would support a higher return on equity.

X. CUSTOMER SERVICE ISSUES

Aqua agreed to meet certain quality and customer service requirements in the 2018 Settlement of the Aqua-Peoples Merger. *Merger Settlement*. Aqua has failed to meet several of these requirements. OCA also has identified other customer service issues that Aqua should address. The OCA submits that due to Aqua's failure to meet these obligations, the Commission should reject Aqua's claim for exemplary management consideration and adopt the OCA's recommendations as discussed below.

A. Aqua's Commitments from the Merger Settlement

The following quality and customer service requirements from the *Merger Settlement* are relevant to this proceeding:

> **E. Service Related Commitments**
>
> 83. Aqua commits to improve Aqua's call center performance to meet or exceed the same performance standards that the Peoples Companies agreed to meet in the 2013 Settlement concerning the acquisition of Equitable Gas Company (Docket No. A-2013-2353647 et al.) for the following three metrics in each of the five calendar years (2020-2024) following closing:
> i. percent of calls answered within 30 seconds of at least 82%,
> ii. busy-out rate of no more than 0.25%,
> iii. average call abandonment rate that is no higher than 4% for 2020-2021, no higher than 3% for 2022-2023, and no higher than 2.5% for 2024.
>
> 84. Aqua America will maintain, at the minimum, the Peoples Companies capital expenditures at pre-acquisition budgeted levels, and will provide to the OCA, I&E and OSBA with projected expenditures for 2019 and 2020.
>
> 85. Aqua PA will develop a system to track Aqua PA customer complaints in a live Excel spreadsheet, consistent with Paragraph 47 in the Joint Petition for Settlement submitted in Aqua PA's recent base rate case (Docket Nos. R-2018-3003558 and R-2018-3003561). Aqua PA will review this information and conduct a root cause analysis of adverse trends at least annually.
>
> 86. Aqua PA will commit to a significant reduction in the number of days to respond to customer complaints so that, within 24 months, the average is less than 10.

> 87. Aqua PA will develop and adopt a methodology to track whether appointments are made and kept for field operations in a manner similar to that used by the Peoples Companies within 18 months and adopt internal performance standards that meet or exceed those of the Peoples Companies for this performance standard for five years.
>
> 88. Aqua PA will meet its internal 2019 performance objectives as listed below and will continue to establish and strive to meet comparable or more strict performance objectives for five years:
> i. Estimate read rate – less than 0.5%
> ii. Actual read rate – 99%
> iii. Lost time accidents – 19
> iv. Responsible vehicle accidents – 4.1
> v. Compliance with water regulations – 99.5%
> vi. Compliance with wastewater regulations – 94.5%
>
> 89. Aqua PA will provide a report to OCA, I&E, and OSBA each calendar year for a period of five years following closing regarding its achievement of the service quality metrics listed in Paragraphs 83-88. The report will outline the actual metrics achieved and additional actions expected to be taken in the following year to further improve customer service. If Aqua PA has not achieved an identified metric, the report must also include the reasons for the failure and Aqua PA's plan to reach the service quality metric. Aqua PA must then convene a collaborative with OCA, I&E, and OSBA to discuss such report.

OCA St. 6 at 8.

As discussed below, several of these obligations have not been met. Additionally, none of Aqua's witnesses who testified on the behalf of the Company as part of this base rate case discuss Pennsylvania customer service performance, consumer protection policies, or otherwise referenced the service quality requirements of the Aqua-Peoples merger. OCA St. 6 at 3.

Aqua witness William Packer testified that Aqua should receive performance factor consideration, specifically, that "an increment for exemplary management effectiveness has been fully supported and should be adopted if, for any reason, the Commission were to consider adopting an ROE of less than 10.75%." Aqua St. 1R at 26. The only effort identified by Mr. Packer related to customer service performance was the "introduction of a new customer service interactive system map." *Id.* In light of Aqua's failure to meet several obligations related to the

customer service performance requirements discussed below, the OCA submits that the ALJ and the Commission should reject Aqua's claim for performance factor consideration.

B. Aqua's Customer Service Performance

1. Call Center Performance

Aqua agreed to annual average performance levels in three areas: (a) answer at least 82% of customer calls within 30 seconds, (b) maintain a busy-out rate of no more than 0.25%, and (c) meet an abandonment call rate (measured by customers who hang up after entering the queue to speak to a representative) of no higher than 4% for 2020-2021, no higher than 3% for 2022-2023 and no higher than 2.5% for 2024. *Merger Settlement* at ¶ 83; OCA St. 6 at 9. Aqua has met the busy-out rate standard, but for the following reasons has not met the standards for calls answered and abandonment rate.

In response to discovery, Aqua stated that it utilizes two call centers located in Illinois and North Carolina which handle calls from Pennsylvania customers. OCA St. 6 at 9. The *Merger Settlement* requires annual average performance standards in the three areas mentioned above that can be measured to reflect the performance provided to Pennsylvania customers. Since both call centers handle calls from all of Aqua's customers in several states, the performance standards reflect the average of all calls at both call centers. OCA St. 6 at 9.

a. Calls Answered

Regarding calls answered, OCA witness Alexander points out that Aqua has never met the 82% call answering standard as measured by the typical measurement of the percentage of calls in which the customer affirmatively seeks to talk to a live representative. OCA St. 6 at 10; (*See* Exh. BA-2 for calculation of annual average results for each of the performance standards using monthly information provided by Aqua). As measured by the calls in which the customer selects the option

to speak with a representative, the annual calls answered average for 2019 was 70.56%, for 2020 was 72.86%, and for 2021 through July was 50.64%. *Id.*

Additionally, Ms. Alexander notes that Aqua calculates the percentage of calls answered within 30 seconds based on the combination of the results for customers seeking to speak to a representative with all calls handled without that request through its automated menu Interactive Voice Response system, describing this calculation as an "aggregate." OCA St. 6 at 10. Ms. Alexander disagrees that compliance with these settlement standards should but measured by these "aggregate" calculations because the aggregate does not actually measure a customer's experience with attempting to reach a representative. OCA St. 6 at 10-11. She also notes that this performance may explain Aqua's below average customer satisfaction with Aqua's telephone service documented by its customer surveys relative to other Pennsylvania electric and gas distribution companies. Recent data shows that only 73% of Aqua customers with recent telephone call center transactions rated satisfaction as "excellent" or "very good." OCA St. 6 at 11 (this level of satisfaction is low compared to Pennsylvania electric and gas companies where over 80% of customers typically express that they are "very satisfied" with their interaction with the utility's representative).

In rebuttal, Aqua witness Rita Black stated that "[i]t is appropriate to include Interactive Voice Response contacts and report an aggregate percentage of calls answered for its contact center service level" claiming that "[t]his is a standard calculation in the contact center industry for service level performance…" without providing any support for this claim, either from the perspective of the contact center industry or from the *Merger Settlement*. Aqua St. 10R at 16; OCA St. 6SR at 4. As OCA witness Alexander notes, the *Merger Settlement* does not refer to the "aggregate" measurement. OCA St. 6SR at 4-5. Therefore, the OCA submits that Aqua's use of

"aggregate" calculations in determining its calls answered average is inappropriate from the perspective of customers who seek to speak to a customer service representative and as a measure of Aqua's compliance with requirements from the *Merger Settlement*, and Aqua's argument should be rejected.

b. Abandonment Rate

Ms. Alexander also noted that Aqua's annual call abandonment rate has not been met. OCA St. 6 at 10. She stated that the rates were 4.56% in 2019, 4.32% in 2020, and significantly deteriorated in 2021 to 13.15% through July. *Id.* Again, Aqua measures the abandonment rate by combining the performance when customers affirmatively seek to speak with a customer service representative with *all* calls handled via the Interactive Voice Response system. This results in an inaccurate measurement of customer experience for those attempting to reach a CSR. As explained above, Aqua's use of "aggregate" calculations should be rejected.

In rebuttal, Aqua witness Ms. Black testified that "the acquisition settlement [*Merger Settlement*] containing service commitments recognized that unanticipated circumstances could affect the Company's ability to meet individual service commitments in a year." However, nowhere in the 2018 Settlement were any "unanticipated circumstances" discussed. Additionally, Ms. Black stated that "United States Postal Service delays and severe weather events impacting our customers resulted in higher-than-normal call volumes at the end of 2020…" and "the United States Postal Service delays caused a significant delay in customers receiving their bills and delays in the Company receiving customer payments." Aqua St. 10R at 16-17.

Ms. Black's testimony fails to acknowledge the very high abandonment rate of over 9% for November 2020 and 10% for December 2020. Additionally, Ms. Black's testimony claims that USPS delays in December are responsible for Aqua's inability to meet the annual standard.

However, Aqua has demonstrated a pattern of repeated failure to meet the standard as evidenced by abandonment rates exceeding 4% for the past three years, as noted above.

c. Customer Satisfaction Scores

Ms. Black testified that "[i]n [her] opinion, service level and abandonment rate do not directly impact customer satisfaction scores." Aqua St. 10R at 17. The OCA disagrees with this statement, specifically because at this time, Aqua does not have any walk-in customer service centers in Pennsylvania resulting in the vast majority of customer interactions with Aqua occurring via the toll-free telephone number and call center. OCA St. 6SR at 6.

For these reasons, the OCA submits that Aqua has failed to meet its obligations under the *Merger Settlement* related to call center performance.

2. Live Customer Complaint Spreadsheet and Root Cause Analysis of Customer Complaint Data

In the *Merger Settlement*, Aqua agreed to develop a "live" customer complaint spreadsheet and perform a root cause analysis of customer complaint data. In response to discovery, Aqua indicated that it is still working on meeting this requirement. OCA St. 6 at 12. Pennsylvania public utilities are required to inform customers on how to file informal and formal complaints. OCA St. 6 at 11; 52 Pa. Code § 56.201(b)(7). Utilities are also required to investigate and respond to disputes received directly from customers in accordance with 52 Pa. Code § 56.151. OCA witness Alexander highlights the importance of maintaining live customer complaint data:

> Tracking and evaluating disputes and informal or formal complaints are key to ensuring ongoing improvements in customer service because that evaluation is likely to spot the "red flag" that indicates a systemic issue or concern that requires management's attention and, in some cases, a change in policy or procedure.

OCA St. 6 at 12. In response to discovery in this proceeding, Aqua provided a confidential spreadsheet which listed customer complaints with a column listing the "root cause" instead of

providing an actual analysis of the root causes of each complaint. Ms. Alexander explains what is required in a root cause analysis:

> A root cause analysis requires a fundamental review of the policies and practices that resulted in the complaint and the internal evaluation of how to prevent the complaint or fix the underlying cause.

OCA St. 6 at 12. Aqua has not provided the requested information on the methodology and timetable for the completion of this root cause analysis. *Id.* Aqua also has not indicated a methodology for tracking whether its responses to customer disputes or complaints were incorrect or improper, which is a key component of any root cause analysis of customer complaints. *Id.* As Ms. Alexander notes, this lack of analysis of complaint trends and root cause is especially concerning given the volume of "justified" complaints and "notices of infractions" from the Commission's Bureau of Consumer Services (BCS) after that office's handling of informal complaints submitted by Aqua customers. OCA St. 6 at 13. According to BCS, a justified consumer complaint is one where, "prior to BCS intervention, the company did not comply with Commission Orders, policies, regulations, reports, Secretarial Letters, tariffs, or guidelines when the consumer brought the complaint to the company's attention." *See e.g.,* 52 Pa. Code §§ 54.152 and 62.32.

In rebuttal, Aqua witness Black admits that the spreadsheet has not been finalized but that "[a]s part of the informal complaint process, RCA [root cause analysis] occurs informally on a daily basis[,]" explaining generally how Aqua assesses and handles informal complaints. This is not the type of process contemplated by the OCA through its recommendation that Aqua perform a root cause analysis. Additionally, the spreadsheet alone, even when final, does not constitute a root cause analysis. Therefore, Aqua's argument should be rejected and Aqua should be required to complete its root cause analysis consistent with the steps outlined in OCA witness Alexander's

surrebuttal testimony and in accordance with the requirement in the *Merger Settlement*. OCA St. 6SR at 6-7.

3. Requirement to Significantly Reduce Number of Days to Respond to Customer Complaints

In the *Merger Settlement*, Aqua agreed to significantly reduce the number of days to respond to customer complaints so that within 24 months, the average is less than 10. Aqua has not met this requirement. OCA witness Alexander notes that Aqua's response time to customer complaints averaged 15 in 2020 and 13 in 2021 through October. OCA St. 6 at 14; OCA Exh. BA-5.

Aqua witness Black stated that Aqua was in compliance with the requirement to reduce the number of days to respond to customer complaints because of the fact that the response rate has decreased since the *Merger Settlement*. She notes that Exhibit BA-5 shows that the Company's response rate in September and October 2021 is 10 and 6 respectively, as if to say since the rate has declined, Aqua has complied with the requirement. She states that "[t]he commitment [in the *Merger Settlement*] provides that the number of days will be significantly reduced by 2022," but this does not negate the fact that Aqua failed to comply with the requirement to reduce the number of days to respond to customer complaints so that the average is below 10 within 24 months of the *Merger Settlement*. The OCA recognizes Aqua's efforts in reducing the rate and encourages the Company to continue to maintain an average of under 10 days going forward consistent with the settlement obligation.

C. Aqua's Promises for Customer Service Benefits in Section 1329 Acquisition Proceedings

In addition to the above obligations, Aqua made statements regarding customer service in the New Garden, Limerick, East Bradford, Cheltenham, and East Norriton Section 1329

proceedings. OCA St. 6 at 8. In those proceedings, Aqua promised "enhanced customer service" and the ability of its new customers to obtain services via its unified call center to handle customer service matters, respond to outages and set up online accounts to pay bills. Aqua St. 1 at 17-18; OCA St. 6 at 8.

The call center is not performing according to these promised standards. According to Aqua's response to OCA-IX-20, it appears that municipal offices are not available for customers to pay Aqua bills and handle routine customer service requests and other issues. Therefore, the OCA submits that Aqua is not meeting its promises to provide "enhanced customer service."

D. Aqua's Compliance with Consumer Protection Regulations and Best Practices Pursuant to Chapter 56

1. Oversight of Call Center Compliance with Pennsylvania Consumer Protection Rules and Policies

Aqua employs call center representatives in Illinois and North Carolina to handle calls from Aqua customers in Pennsylvania. Aqua has provided internal training documents that reflect Pennsylvania consumer protection policies and requirements but has not provided any documentation demonstrating that the training is accompanied by routine oversight and auditing to ensure compliance. OCA St. 6 at 16. OCA witness Alexander recommends that Aqua be required to develop a submit a plan that describes specific auditing and oversight policies applicable to its call centers with regular reporting on the results of such evaluations and audits. OCA St. 6 at 24.

When asked by OCA witness Alexander to provide support for how Aqua monitors and oversees its call center employees to ensure compliance with Pennsylvania regulations, Aqua witness Black referred to a supplemental response to OCA-IX-36 which focuses only on standard training of call center staff. OCA St. 6SR at 9. This supplemental response does not reflect any

monitoring or oversight by Aqua to ensure that customer protection policies and requirements are being met. Aqua has not provided any evidence that it has a program or process in place to regularly review compliance with the training materials it provides to its employees. Therefore, it is unclear to the OCA the extent with which Aqua's call center is complying with Pennsylvania's customer protection requirements.

2. Termination of Service

Aqua is obligated to attempt personal contact with a responsible adult at a property immediately prior to termination of service. 52 Pa. Code §§ 56.94, 56.334. OCA witness Alexander states that this interaction is required to ensure that the customer's rights are recognized in the event of:

> (1) allegation of payment; (2) presence of medical emergency; (3) assertion of rights pursuant to victims of domestic violence or abuse; and (4) availability of universal service programs.

OCA St. 6 at 17. Although Aqua was asked to provide any internal training materials or documentation that it meets this regulatory requirement, it has failed to do so. As no materials or other documentation was provided, it is unclear whether Aqua is in compliance with this requirement. OCA witness Alexander recommends that Aqua be required to develop specific training programs for its field personnel authorized to terminate service that explicitly includes the obligation to attempt personal contact with a responsible adult immediately prior to termination of service, as well as the recognition and response to the consumer protection rights associated with contact. OCA St. 6 at 24.

Aqua witness Black stated that the Company's field service representatives (FSRs) are instructed to attempt personal contact with a responsible adult prior to terminating service. She agreed that the FSR training documentation provided to the OCA in this proceeding should be

updated to clearly reflect this requirement and it will update its process. Aqua St. 10R at 20. At this point, the updated training documentation has not been provided. OCA St. 6SR at 10. Aqua should be directed to provide updated training documentation that meets all requirements related to personal contact prior to terminating service as part of the final order in this proceeding.

3. Reconnection of Service

Aqua reported a significant difference between accounts it terminated for nonpayment and the reconnections of service for those customers. In response to discovery, Aqua stated that 14,101 disconnections were documented between January 2019 and September 2021 but only 8,973 reconnections were made. OCA St. 6 at 19. When asked about the difference of approximately 5,000 residential customers who were not identified as reconnected following termination for nonpayment in the last several years, Aqua stated that "after a certain time" their customer information system treats customers who were terminated as a "move in" or a new customer account rather than a reconnection. OCA witness Alexander stated that, in order to ensure that customers who are terminated for nonpayment are reconnected, Aqua should respond with internal documentation of how the rights of customers who are seeking reconnection at the same location are met. OCA St. 6 at 19. OCA witness Alexander recommends that Aqua be required to either revise its procedures and document compliance with restoration of service rights and remedies or describe how its current policies reflect these obligations. OCA St. 6 at 24.

In rebuttal, Ms. Black stated that the number of terminations related to reconnections is not one for comparison because there are a "number of factors that come into play" when determining whether a customer is considered a "reconnection." Aqua St. 10R at 21. A terminated customer who moves to a different location and requests service in their name would constitute a "move in" in Aqua's system. Additionally, in response to OCA-IX-27, Aqua stated that "after a certain time"

Aqua's system treats a terminated customer as a "move in" even if they have not changed location. According to Aqua, the Company's current customer information system "cannot easily distinguish between reconnected service and a "move in" for service for customers who are activating water service after a period of time." Aqua St. 10R at 21-22. The problem with Aqua's process is that it is impossible to accurately track whether a customer whose service has been terminated has been reconnected, whether it be as a "move in" in the same location or in a new location resulting in the OCA's inability to assess whether termination and reconnection customer protection requirements are being met. Aqua should be required to file a follow up report, with the Commission and the parties, when its new customer information system is in place this year, that addresses the distinctions between a "move in" and a "reconnection" which the Company states exist because of limitations with its current system.

4. Best Practices in Identifying Customer Disputes

Aqua's training materials provided in response to discovery do not reflect an obligation to affirmatively ask whether a customer is satisfied with the resolution of their contact with Aqua when reporting an issue. OCA St. 6 at 20. Instead, it appears that Aqua relies on a customer's indication that they are not satisfied with the resolution or explanation provided during the transaction. *Id.* As OCA witness Alexander pointed out, this approach is not best practice for the following reason:

> This approach may significantly undercount the actual customer disputes because unless a customer is affirmatively informed that their "satisfaction" is crucial to the resolution of the transaction, customers who are speaking to a monopoly utility may not understand their rights and fail to express their views. Customers do not routinely know or have detailed knowledge of their rights and remedies. Aqua should affirmatively seek to determine whether a customer is satisfied.

OCA St. 6 at 20. Ms. Alexander recommends that Aqua be required to adopt a policy that explicitly asks customers if they are satisfied with Aqua's response to an inquiry or concern to identify potential customer disputes. OCA St. 6 at 24.

In rebuttal, Aqua witness Black stated that the "Company does ask if the customer is satisfied with the call and the Company's dispute procedure provided during discovery in response to OCA-I-2(5) states that if the customer is not satisfied, then the call is treated as a dispute, investigated and the customer is provided with a utility report which clearly gives the customer dispute rights." Aqua St. 10R at 23. But as OCA witness Alexander notes, this document does not explicitly require Aqua's customer service representative to ask the customer if they are satisfied with the Company's response. Rather, the documentation leaves it to the customer to indicate their dissatisfaction by stating that: "[a] dispute is *when the customer indicates* they are not satisfied with the resulting resolution/explanation pertaining to the subject of the bill" (emphasis added). OCA St. 6SR at 11. There is no evidence to support Aqua's statement that it affirmatively asks the customer if they are satisfied with the Company's response to the customer's issue. A customer may not be willing to speak up about whether they are satisfied with a response unprompted. Therefore, the OCA recommends that Aqua be required to ask if the customer if they are satisfied following the Company's response.

5. Third Party Payment Fees

Aqua promotes bill payment by methods which require payment of fees to third-party vendors. OCA St. 6 at 20-22. Aqua's website and Interactive Voice Response system promote the option for a customer to pay via credit/debit card or check. *Id.* at 20. Additionally, Aqua's termination notices promote payment by this method with a separate toll-free number printed in bold that connects the customer to Aqua's payment processing center. *Id.* at 20-21. This option

requires the customer to pay a $2.25 processing fee which is charged by Aqua's third-party vendor, Speedpay. *Id.* at 21. Aqua's web portal also offers payment at a variety of retail locations via Western Union for a fee not identified on its web portal. *Id.* Aqua received about 27,000 customer payments via Speedway per month in 2021 which amounts to around $60,750 per month in processing fees. OCA St. 6 at 21.

Because it promotes these payment methods for an additional fee, OCA witness Alexander states that Aqua should be required to consider the effects of its decision to promote fee-based methods on its customers:

> Aqua has a responsibility to consider the impact of this policy on those who are forced by their personal circumstances to pay a bill (current or overdue) to avoid further collection actions that may result in termination of service.

OCA St. 6 at 21. Further, she recommends that Aqua provide no-fee payment options and include reasonable or necessary payment processing fees in its revenue requirement, similar to handling payments via mail. *Id.* She states that this approach is likely to generate a higher volume of customer payments and reduce costs associated with handling payments via the mail system which has been notoriously slower than in the past. *Id.* Elimination of payment fees could lead to increased ability to recover overdue bills as well as promote ongoing payment of current bills. *Id.* OCA witness Alexander recommends that Aqua provide no-fee payment options and consider the elimination of third-party payment fees. According to Aqua's operating expenses, Aqua expects a bill processing and postage expense of $2,206,957 for the three year period ending March 31, 2023. Aqua Exh. 1-A. In exploring no-fee payment options via its Interactive Voice Response system and e-billing web portal, the Company may be able to reduce this bill processing and postage expense. Aqua should evaluate any costs and benefits associated with this recommendation and report to stakeholders. OCA St. 6 at 24.

Aqua witness Black states that the payment fee is a Speedpay fee and not an Aqua fee. Aqua St. 10R at 26. She states that customers are provided many different payment options including options which do not require fees. *Id.* at 25. The fact that the fee is a Speedpay fee and not an Aqua and that other non-fee options exist is a distinction without a difference and wholly irrelevant because Aqua is promoting and widely advertising use of the fee-based payment method to its customers. Promotion of the fee-based payment option on termination notices is especially concerning because a customer faced with a termination notice likely feels a sense of urgency to settle the overdue amounts as quickly as possible to avoid termination and additional fees. The OCA submits that Aqua's decision to promote fee-based payment options should come with Aqua's responsibility to explore promotion of no-fee options. This recommendation is not borne out of regulatory requirement but is a proposal for improved customer service and a chance for Aqua to explore whether promoting such options may result in a decrease in costs associated with more expensive mail and in-person payment options which are included in rates.

6. Late Fees during COVID-19 Pandemic

Aqua reports over $700,000 in late fees recovered from its customers during the COVID-19 pandemic for the period April 2020 through March 2021. OCA St. 6 at 22. This indicates that Aqua has been charging late fees even though terminations were halted during the pandemic pursuant to the March 13 Emergency Order issued by Chairman Gladys Brown Dutrieuille. *Emergency Order*, Docket No. M-2020-3019244 (March 13, 2020). Charging late fees, particularly to low-income customers, when there was a moratorium on terminations, and customers were informed of this change in collection policy, is not reasonable or appropriate. Specifically, as OCA witness Alexander points out:

> When customers are informed of a halt to termination, most might assume that they would not incur a penalty for the late payment or be at risk of building up a larger overdue bill.

OCA St. 6 at 22. Therefore, Ms. Alexander recommends that Aqua be required to evaluate its communications to customers during the pandemic and consider a policy of forgiveness of late fees imposed during this time, particularly to low-income customers. OCA St. 6 at 25.

Aqua witness Black stated that customer were informed of their continuing obligation to pay late fees even though termination was halted, pointing to monthly bills which include late fees and pandemic-specific communication to customers. She disagreed that customers may reasonably assume that a termination moratorium might mean that they also would not accrue late fees because she stated that customers continued to receive bills which included late charges and communications during the pandemic encouraging customers to contact the Company to enroll in payment plans to manage their accounts, "thereby avoiding late fees." Aqua St. 10R at 26-27. Ms. Black attached Exhibit RFB-3-R which is a copy of a letter that was sent monthly to customers who were not making payments during the pandemic encouraging them to contact the Company. However, this letter does *not* inform customers that late fees will accrue. It is designed only to encourage customers to call the Company to negotiate payment plans. The OCA submits that the lack of information on customer communication or elsewhere during the pandemic could reasonably result in customers being unaware that late fees would accrue on their accounts during the termination moratorium. Therefore, the OCA maintains that Aqua should not be permitted to charge late fees that accrued during the moratorium as a result of the pandemic to its low income customers.

E. Remedy for Aqua's Non-Compliance with Settlement Terms

Instead of developing additional performance measures, OCA witness Alexander recommends that Aqua be held accountable for these previously agreed-to performance standards. OCA St. 6 at 23. She recommends that Aqua develop and submit a compliance plan to the stakeholders that, after review, should be submitted to the Commission for approval and implementation. *Id.* The plan should include specific action steps and deadlines for achieving compliance. *Id.* Regarding Aqua's claim of exemplary management, Ms. Alexander states:

> Aqua should be held accountable for the failure to comply with these provisions documented in my testimony with a critical view of Aqua's proposed Return on Equity. Considering my findings and those documented by Mr. Roger Colton on behalf of the OCA, there is sufficient justification to reject Aqua's claim of "exemplary" management as well as support for a consideration of an ROE that reflects the lower bound of reasonableness. My review of the customer service benefits identified by Aqua in its Section 1329 acquisition proceedings and the lack of any documentation of those customer service performance benefits in this rate case also supports this recommendation.

OCA St. 6 at 23. In addition, Ms. Alexander identified other practices that should be reviewed or reformed to address Chapter 56 issues. The OCA submits that Ms. Alexander's recommendations should be adopted.

XI. QUALITY OF SERVICE

A. Unaccounted For Water

Unaccounted for water (UFW) is "Total Water Delivered for Distribution & Sale" minus "Total Sales" minus "Non-Revenue Usage and Allowance." OCA St. 7 at 3. The term "Non-Revenue Usage and Allowance" includes "Main Flushing," "Blow-off Use," "Unavoidable Leakage," "Located & Repaired Breaks in Mains & Services" and "Other". *Id.* Calculating UFW is important because it determines the amount of non-revenue water in a distribution system, helping to identify leaks and inaccurate meter readings. *Id.* at 4. When UFW is measured, non-revenue water can be reduced which reduces chemical and power costs, provides for water conservation, and helps improve operational efficiency. *Id.* The Commission considers levels of UFW above 20% to be excessive. 52 Pa. Code § 65.20(4).

In response to OCA-VII-3, Aqua provided American Water Works Association (AWWA) Water Audits for six divisions. OCA St. 7 at 4 (*See* Exh. TLF-1W for summary information from these six audits). OCA witness Terry L. Fought also reviewed Aqua's UFW calculation by the PUC Section 500 method for all of its systems on a combined basis. *See* Exh. TLF-2W. OCA witness Fought notes that the total water delivered amount provided in the Section 500 report varies by over 3% from the totals calculated according to the AWWA Audit, which represents more than a rounding error:

> The amount of water supplied to the distribution system shown on Section 500 of the Annual Report is 1,327.76 MG less than shown on the AWWA Audit totals. Also, the amount of water sold on Section 500 is 258.59 MG less than the AWWA Audit totals. See Exhibit TLF-3W.

OCA St. 7 at 5. OCA witness Fought recommends that in the future, Aqua be required to submit a Section 500 UFW calculation for each of its water systems and that the information submitted

should be based on the same data that is required for AWWA Audits and the annual Chapter 110 Reports submitted to PADEP. OCA St. 7 at 6.

Aqua witness Todd Duerr disagreed with Mr. Fought's recommendation that Aqua submit separate Schedule 500 reports for each operating division, stating that:

> The Company already provides its total Company water supplied and water sales information in the Schedule 500 Reports, and provides the Commission with AWWA Audit reports on an annual basis for all six of its operating divisions. Since the difference between the Schedule 500 Reports and the AWWA Audit reports are only about 1% as described above, the Commission should reject OCA's recommendation as unnecessary.

Aqua St. 9R at 2-4; OCA St. 7SR at 2. Additionally, Mr. Duerr claimed that it is incorrect to compare "Water Supplied" from the AWWA Audits with "Total Water Delivered" in the Section 500 form. Aqua St. 9R at 2-3. He stated that Mr. Fought did not take into account an adjustment that is part of the AWWA Audit reports which provides for a 2% under-registration assumption for meter inaccuracy which increases the overall Water Supplied amount, which is not part of the Section 500 report. *Id.* at 3. He stated that if this adjustment is excluded, there is a 1% difference between the amounts on the AWWA Audit and Section 500 form instead of the 3% difference originally noted by OCA witness Fought. *Id.*

The OCA disagrees with Mr. Duerr's statements. First, as noted by OCA witness Fought, submitting a Section 500 form for each of Aqua's operating divisions would be less burdensome than providing an AWWA Audit report for each separate water system. OCA St. 7SR at 2. Additionally, requiring that Aqua use only Section 500 forms will provide uniformity in Aqua's UFW reporting and eliminate confusion resulting from differences in numbers because of the different reporting methodologies. As Mr. Duerr noted, the AWWA report contains adjustments that the Section 500 form does not. Use of only the Section 500 form going forward will remove

any calculation discrepancies and the need for parties to question these differences in future rate cases.

B. Pressures and Pressure Surveys

The following is required pursuant to 52 Pa. Code § 65.6 (Pressures):

(a) *Variations in pressure.* The utility shall maintain normal operating pressures of not less than 25 p.s.i.g. nor more than 125 p.s.i.g. at the main, except that during periods of peak seasonal loads the pressures at the time of hourly maximum demand may be not less than 20 p.s.i.g. nor more than 150 p.s.i.g. and that during periods of hourly minimum demand the pressure may be not more than 150 p.s.i.g. A utility may undertake to furnish a service which does not comply with the foregoing specifications where compliance with such specifications would prevent it from furnishing adequate service to any customer or where called for by good engineering practices. The authority of the Commission to require service improvements incorporating standards other than those set forth in this subsection when, after investigation, it determines that such improvements are necessary is not hereby restricted.

(b) *Pressure gauges.* Within 2 years after the effective date of this section, each utility shall obtain one or more recording pressure gauges for each separately operated pressure zone for the purpose of making pressure surveys as required by this section. These gauges shall be able to record the pressure experienced on the zones and shall be able to record a continuous 24-hour test. Each utility serving 1,000 or more customers or 1,000 or more customers in any separately operated zone of a multi-zone utility shall maintain one or more of these recording pressure gauges in service at some representative point or points in each of the pressure zones of the utility.

(c) *Telemetering.* An utility may make the pressure surveys required by this section by means of telemetered information electronically transferred to printed copy instead of using recording pressure gauges.

(d) *Pressure surveys.* At regular intervals, but not less than once each year, each utility shall make a survey of pressures in its distribution system of sufficient magnitude to indicate the pressures maintained at representative points on its system. The surveys should be made at or near periods of maximum and minimum usage. Records of these surveys shall show the date and time of beginning and end of the test and the location at which the test was made. Records of these pressure surveys shall be maintained by the utility for a period of at least three years and shall be made available to representatives, agents, or employees of the Commission upon request.

Notes of Decisions

Adequate Pressure

> The 25 p.s.i.g. minimum expressed in subsection (a) is not intended to restrict the authority of the PUC to order improvements where service is inadequate; therefore, the PUC has the power to order needed improvements notwithstanding that the pressure in a utility's main meets the standard of the regulation. *Barone v. Pennsylvania Public Utility Commission*, 485 A.2d 519 (Pa. Cmwlth. 1984).

52 Pa. Code § 65.6.

> The PADEP requires the following regarding system pressures:
>
> 1. Pressure
>
> All water mains, including those not designed to provide fire protection, shall be sized after a hydraulic analysis based on flow demands and pressure requirements. The pipe system and its appurtenances shall be designed to maintain a minimum pressure of 20 pounds per square inch, gauge (psig) at ground level at all points in the distribution system under all conditions of flow. The normal working pressure in the distribution system should be approximately 60 psig.

Public Water Supply Manual, Part II, Community System Design Standards, May 6, 2006, at 186-87. The Commission regulations include a maximum and minimum pressure criterion where PADEP requirements include a minimum and normal working pressure criterion. The Code's minimum requirement is 25 psi at the main while PADEP's minimum is 20 psi at ground level. Generally, the representative points where pressure surveys should be conducted are the highest and lowest ground elevations of the distribution in each pressure zone. OCA St. 7 at 8.

Aqua states, among other things, that to address potential pressure problems, it has installed pressure gauges, replaced aged waterlines, modified well and pump station outputs and storage tank alternatives, installed flow control valves at booster stations to regulate and stabilize flow, installed new boundary valves, modified boundary limits of existing pressure zones, and created new pressure zones at higher elevation areas. OCA St. 7 at 9. In response to OCA-VIII-15, Aqua stated that it complies with Section 65.6(d) by recording pressures on over 24,000 hydrants located

at representative points throughout its systems. Pressure results that are 20% above or below normal pressure are reported for further investigation. Aqua also stated that in addition to this process, over 220 facilities in Southeastern Pennsylvania and the majority of the Company's systems across Pennsylvania are connected to the Company's Supervisory Control and Data Acquisition (SCADA) system which records analog readings such a pressure, flow and tank level each hour. OCA St. 7 at 9 (citing Aqua response to OCA-VIII-15). The Pennsylvania systems not connected to SCADA are recorded via chart recorders. *Id.*

In response to OCA-VIII-16, Aqua stated that instead of maintaining a list of customer locations that have a normal pressure with less than 25 psi or greater than 125 psi, it monitors pressures at sources and addresses low or high pressure reports from customers as they occur.

OCA witness Fought indicates that Aqua has not satisfied the requirements under Section 65.6(d) of the Code regarding system pressures. OCA St. 7 at 10. Aqua has approximately 114 water systems, many of which have more than one pressure zone. A satisfactory pressure survey will consist of pressure readings at only a low and high pressure point. For purposes of evaluating pressures, OCA witness Fought states that he generally accepts pressure information obtained from hydraulic computer models and SCADA systems, which became more common after the latest revision of Section 65.6, when they are accompanied by a complete complaint log including all customer pressure complaints. OCA St. 7 at 10. The complaint log should indicate if the pressure complaints are due to correctable company or customer facilities or if the computer model or SCADA needs to be modified.

According to Aqua's response to OCA-VIII-13, Aqua's SEPA division has 120 operating pressure zones for which Aqua has SCADA data and a long history of hydrant pressure readings. OCA St. 7 at 10. Therefore, Mr. Fought notes that the two representative points should be easily

estimated and recommends that Aqua submit pressure survey information for its systems from computer models or SCADA systems where available, at two representative points, for each pressure zone if a computer model or SCADA system is unavailable. Another acceptable option would be for Aqua to submit pressures at the two representative points for all of its pressure zones. OCA St. 7 at 11.

Aqua's customer complaint log did not include a main searchable category for "pressures." OCA St. 7 at 12. OCA witness Fought states that pressures be recorded in a separate category of the log to make it easier to identify and review these complaints. *Id.* In its next base rate case, he recommends that Aqua submit a complete complaint log that addresses all pressure complaints and notes which complaints were in response to pressures. Additionally, Mr. Fought recommends that Aqua be responsible for all damages to customer facilities where the normal operating pressures exceed 125 psi unless it installs a pressure reducing valve (PRV) approved for water supply with the applicable pressure upstream of the customer's service line. Aqua should reduce normal operating pressures in the areas mentioned above that exceeded 125 psi in order to protect customer service lines and inside plumbing if the PRV fails. OCA St. 7 at 13.

According to maps submitted by Aqua, Roaring Creek, Shenango Waymart, and roughly 20% of the Southeastern Pennsylvania systems exceeded 125 psi, and very few areas had pressures less than 25 psi.

Aqua witness Duerr disagrees with OCA witness Fought's recommendation that pressure readings be made at two representative points, at one high and one low pressure point, within the system. Aqua St. 9R at 5-6. He states that this is not what is required by the Commission's regulations. *Id.* Mr. Duerr emphasized the requirements of Section 65.6(d):

> [T]he requirement of 52 Pa. Code § 65.6(d), is to make a survey of pressures in its distribution system of sufficient magnitude to indicate the pressures maintained **at**

> **representative points** on its system. The surveys should be made at or near periods of maximum and minimum usage (emphasis added).

Aqua St. 9R at 7 (emphasis in original). He states that the Company complies with the location criteria because:

> Aqua PA has operational procedures in place including: (1) a 24/7 operations control center for the SEPA water system that monitors tank levels, adjusts pump operation, well supply and coordinates with our water plant to sustain tank levels and resultant system pressure targets; (2) in Greater PA, our operations staff monitors pressures at points of entry to the system (water plants, well discharge), water storage tanks and pressure regulating vaults in addition to hydraulic models and SCADA information where available.

Aqua St. 9R at 6-7.

The OCA disagrees with Mr. Duerr's statement that because Aqua has the above "operational procedures in place," it means it is complying with the requirement to survey pressures at two representative points pursuant to Section 65.6(d). The Commission specifically requires that high and low pressure readings be made at "representative" points. In order to gain a useful and comprehensive understanding of high and low pressures in a system, it is not only logical but also consistent with the OCA's understanding and OCA witness Fought's experience that Aqua take pressure readings from points where the highest and lowest pressures are likely to occur. OCA St 7SR at 4. For these reasons, the OCA submits that Aqua is not in compliance with Section 65.6(d) regarding pressures and Aqua's argument should be rejected.

C. Isolation Valves

According to the National Environmental Services Center at West Virginia University, experts recommend exercising valves annually, if possible, or at least once every two years. OCA St. 7 at 15. Exercising an isolation valve is operating the valve through complete full open and close cycles until it operates with little resistance. *Id.* at 14. Mr. Fought explains the importance of exercising isolation valves:

> It is important to exercise isolation valves to prevent the valves from seizing up and getting stuck from corrosion or other deposits adjacent to the valve. An isolation valve that cannot be fully closed will increase the water loss during a water main break and increase the number of customers affected.

OCA St. 7 at 14. If an isolation valve becomes inoperable due to lack of being exercised, the valve will have to be repaired or replaced which can be very expensive. *Id.*

In response to OCA-VIII-9, Aqua stated that it has a total of 83,547 isolation valves in all of its systems. It further stated that it does not keep records of the location of its isolation valves that have not been exercised in the last five years, however, approximately 6,000 to 8,000 valves were exercised in 2020, 222 valves were repaired during 2020, and it exercises 270 critical valves at least once every four years. OCA St. 7 at 15-16; *see* Exh. TLF-6W (Aqua's response to OCA VIII-9 related to isolation valves).

As part of Aqua's responsibility to maintain all of its equipment, OCA witness Fought recommends that the Company start maintaining records of their attempts to exercise every isolation valve and whether it was successful. OCA St. 7 at 16. He also recommends that Aqua exercise (or attempt to exercise) 16,700 isolation valves per year until all the non-critical valves have been exercised in a 5 year period. *Id.* The critical isolation valves that could not be exercised should be repaired or replaced as soon as practicable after the time they are found to be inoperable. *Id.* If the non-critical valves are not repaired shortly after the time they were found to be inoperable, then, once per year, for example on April 15th, Aqua should submit a schedule to the OCA and other parties for replacing or repairing those isolation valves that could not be properly exercised during the prior year. *Id.* This recommendation was adopted by the Commission in *Dubois*. *See* Order at 122. After exercising all of its valves and repairing or replacing any of those it could not exercise, Aqua should be able to develop a reasonable schedule going forward for exercising its isolation valves.

Aqua witness Duerr stated that the Commission has previously reviewed the Company's valve inspection program in its recent Management Audit report. Aqua St. 9R at 13. In response to Commissioner Yanora's directed questions, Aqua stated that it has agreed to work with a consultant to evaluate its systems and develop a non-critical valve inspection program and will provide the recommended exercising frequency in its next report. Aqua stated that all non-critical valves have been identified and it has agreed to exercise all of its non-critical valves in a 12-year period. Aqua also stated in response to the directed questions that all critical valves have been identified and that it operates critical valves no less than once every four years. The OCA submits that a 12-year period for Aqua to exercise its non-critical valves is too long a period to complete the exercising of its non-critical valves. The OCA's recommendation of 5 years is more reasonable and should be adopted.

D. Fire Hydrants

According to Aqua's response to OCA-VIII-10, there are 16 public fire hydrants that cannot provide the minimum fire flow of 500 gallons per minute at 20 pounds per square inch. OCA St. 7 at 17. Mr. Fought recommended that each of the 16 fire hydrants that cannot provide the minimum fire flow should be marked as such so that they will only be used to flushing and blow-offs and should provide confirmation to the OCA and other parties when this is completed. OCA St. 7 at 17.

In rebuttal, Aqua witness Duerr stated that the Company has planned main replacement projects to address these hydrants within the next three years and during this time, the Company will attempt to either find alternative locations for the hydrants or remove them. Aqua St. 9R at 15. The OCA agrees with this approach, as Mr. Fought explains, so long as the hydrants will be

marked so that they will only be used for flushing and/or blow-offs until they are moved or replaced. OCA St. 7SR at 8.

E. Flushing

While there are no Commission or PADEP requirements for main flushing, most water utilities consider it good practice to flush the system annually when possible. OCA witness Fought explains the importance of flushing water mains on the quality of water service:

> Over time sediments can build up in the pipes and could result in discolored water during flow surges resulting from firefighting and main breaks. This especially occurs in older mains. Too much sediment in the mains can also affect the taste, clarity and color of water.

OCA St. 7 at 17. In response to OCA-VIII-13, Aqua indicated, among other things, that it has a main flushing program and all systems were flushed in 2020, but six systems were not flushed in 2019 due to short-term staffing problems. *See* Exh. TLF-8W. Regarding the flushing information Aqua provided, Mr. Fought noted that in response to OCA-VIII-13, Aqua indicated it opened 4,008 work orders regarding flushing in the SEPA division during 2019 through September 2021, but the entire water complaint log contained only 3,633 work orders during that period. OCA St. 7 at 18. Of those complaints, only 2,705 concerned flushing. Aqua should explain this discrepancy. It may indicate that the water complaint log is incomplete. *Id.*

Regarding Aqua's flushing program, OCA witness Fought recommended that requiring Aqua to flush the entire SEPA system once every three years is reasonable. Aqua witness Duerr disagrees with this recommendation stating that flushing is labor-intensive, somewhat disruptive and can result in significant non-revenue water volume. Aqua St. 9R at 17. He stated that the Company's SEPA flushing process considers many factors including water quality samples, customer issues, the geometry of the system, volume of water traversing through an area on a daily

basis and proximity to wells and talks. *Id.* He stated that this information dictates how and when flushing occurs.

The OCA maintains that establishing a regular flushing program is reasonable. It would likely proactively eliminate many customer complaints. Approximately 58.7% of the 2,635 customer complaint work orders for the SEPA system concerned flushing. OCA St. 7SR at 9. Additionally, regular flushing may eliminate the need for Aqua to constantly assess the "many factors" listed by Mr. Duerr above in determining whether and when to flush the system. Therefore, the OCA's recommendation should be adopted.

F. PFAS

Aqua provides information to the public on a website about its testing and treatment for Per- and Polyfluoroalkyl substances (PFAS) contamination in its water supplies. www.waterfacts.com. The most recent test results for some water sources were from 2016, 2017 and 2018 without explanation why more recent test results were not provided. OCA St. 7 at 19. OCA witness Fought indicates that it is his understanding that testing was stopped at those sites because the test results indicated less than 13 parts per trillion (ppt). Mr. Fought recommends that Aqua should add a statement explaining why testing was stopped for those sources that it no longer tests, which will help to explain to customers that though some information is several years old, it is the most recent available information. OCA St. 7 at 19.

Aqua witness Duerr agreed with Mr. Fought's recommendation and stated that the Company will include clarifying comments on the Company's website regarding the reasons testing ceased at certain sites. Aqua St. 9R at 19. This response conforms to the OCA's recommendation. OCA St. 7SR at 10.

G. Customer Complaint Logs

Initially, OCA witness Fought found Aqua's water and wastewater customer complaint logs to be incomplete as they did not include customer names and addresses[85] and the water complaint log did not show high pressure complaints in the Chesterbrook community. In response to OCA's discovery request to provide its customer complaint logs, Aqua provided a live Excel spreadsheet which appeared to be based off of Aqua's work order log. In addition to the OCA's concern regarding the number of flushing work orders exceeding the total number of customer complaints, Mr. Fought recommended that "pressure" be included as a main category, as discussed above.

The OCA remains concerned that the water complaint log is incomplete because, as OCA witness Fought stated, the complaint log did not include the Chesterbrook customer complaint of pressures of 190 to 200 psi. The OCA recommends that if the Company will be using its work order log as a complaint log that it provide the entire work order log which shows customer names and addresses and all of the complaints received by the Company for both water and wastewater service. OCA St. 7SR at 9-10.

H. Formal and Informal Complaints Received by PUC and OCA

OCA witness Fought discussed formal and informal complaints received by the PUC and OCA regarding quality of service issues including water with chlorine and chemical tastes, discolored water, odors, high pressures, etc. in his direct and supplemental direct testimony. OCA St. 7 at 23-24; OCA St. 7 Supp. at 1-2. He recommended that the Company review and respond

[85] On December 1, 2021, the Company updated confidential responses to OCA-VIII-18 and 24 to include customer names and addresses.

to those complaints which were provided to Aqua by OCA under confidential cover as part of this proceeding.

Aqua witness Duerr discussed the Company's contact with or attempts to contact these customers as of the date of filing of its rebuttal testimony. Aqua St. 9R at 20-27. It is the OCA's opinion that Aqua has properly responded to each customer's complaint or testimony, with the exception of the issues raised by Formal Complainants Day, Weiner and Gage. The OCA's recommendations regarding Mr. Day and Mr. Weiner's complaints regarding unmetered rates in the Lake Harmony service area are addressed above in Section VIII.D.2.c.i.

With regard to Mr. Gage's complaints regarding high pressures in the Chesterbrook area, Aqua has only made general statements and has not provided any documentation showing that it is good engineering practice to furnish water service to customers at 190 to 200 psi in order to provide service to other customers at normal pressures and that no reasonable alternative is available. OCA St. 7SR at 5-6. Absent such showing, the OCA recommends that Aqua should be required to reduce pressure below 125 psi upstream of the customers' service lines to protect the customers' PRVs and plumbing. As OCA witness Fought explained:

> This may require Aqua to install PRVs upstream of each service line or install a low pressure main with an Aqua PRV connected to the distribution system serving those customers with high pressures.

OCA St. 7SR at 5.

XII. CONCLUSION

For the reasons set forth in this Main Brief, the OCA respectfully requests the Commission to deny the water rate increase requested by Aqua and approve a smaller wastewater increase than requested by Aqua. The Commission should consider that Aqua customers are experiencing substantial economic and personal hardships as a result of the continuing COVID-19 pandemic in determining what level of increase, if any, would produce just and reasonable rates.

Respectfully Submitted,

/s/ Erin L. Gannon

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Dated: January 11, 2022

LIST OF APPENDICES TO OCA MAIN BRIEF

Appendix A:	Rate Case Tables
Appendix B:	Average Monthly Bill Comparison
Appendix C:	Proposed Findings of Fact – **PUBLIC VERSION**
Appendix D:	Proposed Conclusions of Law and Ordering Paragraphs
Appendix E:	Summary of Public Input Hearing Testimony
Appendix F:	List of OCA-Sponsored Testimony and Exhibits Admitted into the Record

Appendix A
Rate Case Tables

SUMMARY TABLE
Aqua Pennsylvania, Inc.
R-2021-3027385 and R-2021-3027386

Line No.	Description	Reference[*]	Total Company (A)	Water (B)	Wastewater Base Operations (C)	Limerick Wastewater (D)	East Bradford Wastewater (E)	Cheltenham Wastewater (F)	East Norriton Wastewater (G)	New Garden Wastewater (H)
1	Adjusted rate base	B	$ 4,173,417,917	$3,809,175,354	$ 198,337,990	$ 57,735,861	$ 5,376,205	$ 47,252,177	$ 25,303,104	$ 30,237,226
2	Rate of return	D		6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
3	Net operating income required		$ 250,405,075	$ 228,550,521	$ 11,900,279	$ 3,464,152	$ 322,572	$ 2,835,131	$ 1,518,186	$ 1,814,234
4	Adjusted net operating income	C	$ 259,052,356	$ 253,353,244	$ 3,697,000	$ 303,033	$ (152,130)	$ 1,503,939	$ (78,264)	$ 425,535
5	Net operating income deficiency		$ (8,647,281)	$ (24,802,723)	$ 8,203,280	$ 3,161,119	$ 474,702	$ 1,331,192	$ 1,596,450	$ 1,388,699
6	Gross revenue conversion factor	A-1		1.422652	1.432530	1.432530	1.432530	1.432530	1.432530	1.432530
7	Revenue deficiency (Sufficiency)		$ (12,142,476)	$ (35,285,637)	$ 11,751,447	$ 4,528,399	$ 680,025	$ 1,906,973	$ 2,286,963	$ 1,989,353
8	Operating Revenue at Current Rates	C	$ 549,967,611	$ 512,891,121	$ 19,011,761	$ 3,978,573	$ 1,014,569	$ 7,258,740	$ 2,923,766	$ 2,889,080
9	Percentage Increase	L7 / L8	-2.2%	-6.9%	61.8%	113.8%	67.0%	26.3%	78.2%	68.9%

Notes and Source
See referenced schedules

Act 11: Per Aqua Exhibit 1-A, Act 11

10	Present Rate Revenue		$ 549,967,611	$ 512,891,121	$ 19,011,761	$ 3,978,573	$ 1,014,569	$ 7,258,740	$ 2,923,766	$ 2,889,080
11	Additional Revenue Requirement		$ (12,142,476)	$ (35,285,637)	$ 11,751,447	$ 4,528,399	$ 680,025	$ 1,906,973	$ 2,286,963	$ 1,989,353
12	Proposed Revenues before Act 11 Allocation		$ 537,825,135	$ 477,605,484	$ 30,763,208	$ 8,506,973	$ 1,694,594	$ 9,165,713	$ 5,210,729	$ 4,878,434
	OCA Act 11 Allocation	Notes [A, B]	$ -	$ 8,410,788	$ (6,790,182)	$ (823,750)	$ (84,939)	$ 291,038	$ (296,127)	$ (706,827)
	OCA Revenue Increase After Act 11 Allocation		$ (12,142,476)	$ (26,874,849)	$ 4,961,265	$ 3,704,649	$ 595,086	$ 2,198,011	$ 1,990,836	$ 1,282,526
	OCA Proposed Revenues After Act 11 Allocation		$ 537,825,135	$ 486,016,271	$ 23,973,026	$ 7,683,222	$ 1,609,655	$ 9,456,751	$ 4,914,602	$ 4,171,606
14	Rate Increase/(Decrease) - %		-2.21%	-5.24%	26.10%	93.12%	58.65%	30.28%	68.09%	44.39%

* References for lines 1-8 are to Schedules in OCA St. 1SR, Exh LA-5
Note [A]: See the testimony of OCA Witness Glenn Watkins for OCA's recommended Act 11 allocation. OCA St. 4; OCA St. 4SI
Note [B]: The OCA Act 11 Allocations were used to calculate the rate impact shown in Appendix B to the OCA's Main Brie

TABLE I
Aqua Pennsylvania, Inc.
INCOME SUMMARY
R-2021-3027385 and R-2021-3027386

Water Operations

	Aqua Pro Forma Original Filing Present Rates (1)	Company Adjustments (1)	Aqua Pro Forma Rebuttal Filing (Revised) (1)	OCA Adjustments	OCA Pro Forma Present Rates	OCA Revenue Increase/ (Decrease)	Total Allowable Revenues
	$	$	$	$	$	$	$
Operating Revenue	509,746,949	0	509,746,949	3,144,172	512,891,121	(35,285,637)	477,605,484
Expenses:							
O & M Expense	116,492,928	0	116,492,928	(2,709,716)	113,783,212	(180,748)	113,602,464
Depreciation	122,166,578	0	122,166,578	(121,865)	122,044,713	0	122,044,713
Taxes, Other	12,279,861	0	12,279,861	(93,467)	12,186,394	(224,485)	11,961,909
Income Taxes:							
State	5,330,258	0	5,330,258	(503,039)	4,827,220	(3,484,552)	1,342,668
Federal	7,901,552	0	7,901,552	(951,801)	6,949,751	(6,593,129)	356,622
Amort of ITC and Excess DFIT	(253,413)	0	(253,413)	0	(253,413)	0	(253,413)
Total Expenses	263,917,764	0	263,917,764	(4,379,888)	259,537,876	(10,482,914)	249,054,962
Net Inc. Available for Return	245,829,185	0	245,829,185	7,524,059	253,353,244	(24,802,723)	228,550,521
Rate Base	3,818,296,012	0	3,818,296,012	(9,120,658)	3,809,175,354		3,809,175,354
			Note 2	Note 2	Note 2	Note 2	Note 2
Rate of Return	6.44%		6.44%				6.00000000%

(1) Company Main Brief / OCA has not yet received Aqua's Main Brief. If needed, this column can be filled in after OCA receives Aqua's Main Brief
(2) See OCA Statement 1SR, Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-5

TABLE I(A)
Aqua Pennsylvania, Inc.
RATE OF RETURN
R-2021-3027385 and R-2021-3027386

Water Operations	Structure	Cost	After-Tax Weighted Cost	Effective Tax Rate Complement	Pre-Tax Weighted Cost Rate
Total Cost of Debt			2.00000000%		
Long-term Debt	50.00%	4.00%	2.00000000%		2.00%
Short-term Debt	0.00%	0.00%	0.00000000%		
Preferred Stock	0.00%	0.00%	0.00000000%	0.711079	0.00%
Common Equity	50.00%	8.00%	4.00000000%	0.711079	5.63%
	100.00%		6.00000000%		7.63%
Pre-Tax Interest Coverage	3.82				
After-Tax Interest Coverage	3.00				

TABLE I(B)
Aqua Pennsylvania, Inc.
REVENUE FACTOR
R-2021-3027385 and R-2021-3027386

Water Operations	
100%	1.00000000
Less:	
Uncollectible Accounts Factor (*)	0.00512242
PUC, OCA, OSBA Assessment Factors (*)	0.00636194
Gross Receipts Tax	0.00000000
Other Tax Factors	0.00000000
	0.98851564
State Income Tax Rate (*)	0.09990000
Effective State Income Tax Rate	0.09875271
Factor After Local and State Taxes	0.88976293
Federal Income Tax Rate (*)	0.21000000
Effective Federal Income Tax Rate	0.18685022
Revenue Factor (100% - Effective Tax Rates)	0.70291271

(*) OCA Statement 1SR (Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-5, Schedule A-1)

TABLE II
Aqua Pennsylvania, Inc.
SUMMARY OF ADJUSTMENTS
R-2021-3027385 and R-2021-3027386

Water Operations

Adjustments	Rate Base	Revenues	Expenses	Depreciation	Taxes-Other	State Income Tax	Federal Income Tax
	$	$	$	$	$	$	$
RATE BASE:							
CWC:							
Int. & Div. (Table IV)	(719,000)						
Taxes (Table V)	0						
O & M (Table VI)	0						
Utility Plant Acquisition Adjustments - Phoenixville Water	(2,315,440)						
Adjustment to Contributions in Aid of Construction (CIAC) and Customer Advances for Construction (CAC)	0						
Accumulated Deferred Income Tax Offset that had been Erroneously Omitted by Aqua in its Application	(3,386,218)						
Adjustment to ADIT for ADIT Offset that had been Erroneously Omitted by Aqua in its Application Through 3/31/2023	(2,700,000)						
REVENUES:							
Special Contract Revenue		236,777				23,654	44,756
Revenue for Post-COVID Customer Metered Water Sales		2,757,223				275,447	521,173
Water Miscellaneous Revenue Adjustment from Aqua's Rebuttal Filing		150,172				15,002	28,386
EXPENSES:							
Utility Plant Acquisition Adjustments Amortization - Phoenixville Water				(121,865)		12,174	23,035
General Inflation			(864,335)			86,347	163,377
Purchased Power Expense			96,312			(9,622)	(18,205)
Chemicals Expense			66,787			(6,672)	(12,624)
Universal Service Program Expense			0			0	0
Advertising Expense			(50,000)			4,995	9,451
Payroll Expense			(267,031)			26,676	50,475
Stock-Based Compensation			(780,493)			77,971	147,530
Payroll Tax Expense					(93,467)	9,337	17,667
Employee Group Insurance			(23,285)			2,326	4,401
Insurance Expense			(71,428)			7,136	13,501
Rate Case Expense			(95,651)			9,556	18,080
Non-Rate Case Legal Expense			(24,981)			2,496	4,722
Supplemental Executive Retirement Program (SERP)			(695,612)			69,492	131,485
TAXES:							
Income Tax Expense - Repairs Deduction						(528,744)	(1,000,437)
Interest Synchronization (Table III)						(580,610)	(1,098,574)
TOTALS	(9,120,658)	3,144,172	(2,709,716)	(121,865)	(93,467)	(503,039)	(951,801)

TABLE III
Aqua Pennsylvania, Inc.
INTEREST SYNCHRONIZATION
R-2021-3027385 and R-2021-3027386

Water Operations	Amount $
Company Rate Base Claim	3,818,296,012
OCA Rate Base Adjustments	(9,120,658)
OCA Rate Base	3,809,175,354
Weighted Cost of Debt	2.00000000%
OCA Interest Expense	76,183,507
Company Claim (1)	70,371,594
Total OCA Adjustment	(5,811,913)
Company Adjustment	0
Net OCA Interest Adjustment	(5,811,913)
State Income Tax Rate	9.99%
State Income Tax Adjustment	(580,610)
Net OCA Interest Adjustment	(5,811,913)
State Income Tax Adjustment	(580,610)
Net OCA Adjustment for F.I.T.	(5,231,303)
Federal Income Tax Rate	21.00%
Federal Income Tax Adjustment	(1,098,574)

(1) OCA Statement 1SR (Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-6, Schedule C-4)

TABLE IV
Aqua Pennsylvania, Inc.
CASH WORKING CAPITAL - Interest and Dividends
R-2021-3027385 and R-2021-3027386

Water Operations

Accrued Interest	Long-Term Debt	Short-Term Debt	Preferred Stock Dividends	
Company Rate Base Claim	$3,818,296,012	$3,818,296,012	Company Rate Base Claim	$3,818,296,012
OCA Rate Base Adjustments	($9,120,658)	($9,120,658)	OCA Rate Base Adjustments	($9,120,658)
OCA Rate Base	$3,809,175,354	$3,809,175,354	OCA Rate Base	$3,809,175,354
Weighted Cost of Debt	2.00000000%	0.00%	Weighted Cost Pref. Stock	0.00000000%
OCA Annual Interest Exp.	$76,183,507	$0	OCA Preferred Dividends	$0
Average Revenue Lag Days	45.1	45.1	Average Revenue Lag Days	45.1
Average Expense Lag Days	90.3	0.0	Average Expense Lag Days	0.0
Net Lag Days	-45.2	45.1	Net Lag Days	45.1
Working Capital Adjustment				
OCA Daily Interest Exp.	$208,722	$0	OCA Daily Dividends	$0
Net Lag Days	-45.2	45.1	Net Lag Days	45.1
OCA Working Capital	($9,434,234)	$0		$0
Company Claim (1)	($8,715,000)	$0	Company Claim (1)	$0
OCA Adjustment	($719,234)	$0		$0
Total Interest & Dividend Adj.	($719,234)			
Rounded to $1,000	($719,000)			

(1) OCA Statement 1SR (Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-6, Schedule B-3)

TABLE V
Aqua Pennsylvania, Inc.
CASH WORKING CAPITAL -TAXES
R-2021-3027385 and R-2021-3027386

Water Operations

Description	Company Proforma Tax Expense Present Rates	OCA Adjustments	OCA Pro forma Tax Expense Present Rates	OCA Allowance	OCA Adjusted Taxes at Present Rates	Daily Expense	Net Lead/ Lag Days	Accrued Tax Adjustment
PUC Assessment	$0	$0	$0	($224,485)	($224,485)	($615.03)	0.00	$0
Public Utility Realty	$0	$0	$0		$0	$0.00	0.00	$0
Capital Stock Tax	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
State Income Tax	$0	($503,039)	($503,039)	($3,484,552)	($3,987,591)	($10,924.91)	0.00	$0
Federal Income Tax	$0	($951,801)	($951,801)	($6,593,129)	($7,544,930)	($20,671.04)	0.00	$0
	$0	($1,454,839)	($1,454,839)	($10,302,166)	($11,757,005)			

OCA Allowance	0
Company Claim	0
OCA Adjustment (1)	0

(1) OCA did not adjust cash working capital for taxes

TABLE VI
Aqua Pennsylvania, Inc.
CASH WORKING CAPITAL -- O & M EXPENSE
R-2021-3027385 and R-2021-3027386

Water Operations

Description	Company Pro forma F.T.Y. Expense	OCA	OCA Pro forma Expenses	Lag Days	Lag Dollars
Service Company	$0	$0	$0	0.00	$0
Chemicals	$0	$0	$0	0.00	$0
Group Insurance	$0	$0	$0	0.00	$0
Insurance, Other	$0	$0	$0	0.00	$0
Labor	$0	$0	$0	0.00	$0
Leased Equip./Rent	$0	$0	$0	0.00	$0
Leased Vehicles	$0	$0	$0	0.00	$0
Miscellaneous	$0	$0	$0	0.00	$0
Natural Gas	$0	$0	$0	0.00	$0
Power	$0	$0	$0	0.00	$0
Purchased Water	$0	$0	$0	0.00	$0
Telephone	$0	$0	$0	0.00	$0
Waste Disposal	$0	$0	$0	0.00	$0
Post Retirement Benefits	$0	$0	$0	0.00	$0
Pensions	$0	$0	$0	0.00	$0
	$0	$0	$0	0.00	$0

OCA Average Revenue Lag	45.1	
Less: OCA Avg. Expense Lag	0.0	
Net Difference	45.1	Days
OCA Pro forma O & M Expense per Day	$0	
OCA CWC for O & M	$0	
Less: Company Claim	$0	
OCA Adjustment (1)	$0	

(1) OCA did not adjust cash working capital for O&M expense

TABLE I
Aqua Pennsylvania Wastewater, Inc.
INCOME SUMMARY
R-2021-3027385 and R-2021-3027386

Wastewater Base Operations

	Aqua Pro Forma Original Filing Present Rates (1)	Company Adjustments (1)	Aqua Pro Forma Rebuttal Filing (Revised) (1)	OCA Adjustments	OCA Pro Forma Present Rates	OCA Revenue Increase/ (Decrease)	Total Allowable Revenues
	$	$	$	$	$	$	$
Operating Revenue	19,011,761	0	19,011,761	0	19,011,761	11,751,447	30,763,209
Expenses:							
O & M Expense	9,874,361	0	9,874,361	(306,457)	9,567,904	140,302	9,708,206
Depreciation	7,780,016	0	7,780,016	0	7,780,016	0	7,780,016
Taxes, Other	296,805	0	296,805	(7,448)	289,357	74,762	364,119
Income Taxes:							
State	(1,185,776)	0	(1,185,776)	(14,936)	(1,200,711)	1,152,485	(48,226)
Federal	(1,093,544)	0	(1,093,544)	(28,260)	(1,121,804)	2,180,619	1,058,815
Amort of ITC and Excess DFIT	0	0	0	0	0	0	0
Total Expenses	15,671,863	0	15,671,863	(357,101)	15,314,762	3,548,168	18,862,930
Net Inc. Available for Return	3,339,899	0	3,339,899	357,101	3,697,000	8,203,280	11,900,279
Rate Base	198,372,990	0	198,372,990	(35,000)	198,337,990		198,337,990
			Note 2	Note 2	Note 2	Note 2	Note 2
Rate of Return	1.68%		1.68%				6.00000000%

(1) Company Main Brief / OCA has not yet received Aqua's Main Brief. If needed, this column can be filled in after OCA receives Aqua's Main Brief
(2) See OCA Statement 1SR, Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-5

TABLE I(A)
Aqua Pennsylvania Wastewater, Inc.
RATE OF RETURN
R-2021-3027385 and R-2021-3027386

Wastewater Base Operations

	Structure	Cost	After-Tax Weighted Cost	Effective Tax Rate Complement	Pre-Tax Weighted Cost Rate
Total Cost of Debt			2.00000000%		
Long-term Debt	50.00%	4.00%	2.00000000%		2.00%
Short-term Debt	0.00%	0.00%	0.00000000%		
Preferred Stock	0.00%	0.00%	0.00000000%	0.711079	0.00%
Common Equity	50.00%	8.00%	4.00000000%	0.711079	5.63%
	100.00%		6.00000000%		7.63%

Pre-Tax Interest Coverage	3.82
After-Tax Interest Coverage	3.00

TABLE I(B)
Aqua Pennsylvania Wastewater, Inc.
REVENUE FACTOR
R-2021-3027385 and R-2021-3027386

Wastewater Base Operations	
100%	1.00000000
Less:	
Uncollectible Accounts Factor (*)	0.01193911
PUC, OCA, OSBA Assessment Factors (*)	0.00636194
Gross Receipts Tax	0.00000000
Other Tax Factors	0.00000000
	0.98169895
State Income Tax Rate (*)	0.09990000
Effective State Income Tax Rate	0.09807173
Factor After Local and State Taxes	0.88362723
Federal Income Tax Rate (*)	0.21000000
Effective Federal Income Tax Rate	0.18556172
Revenue Factor (100% - Effective Tax Rates)	0.69806551

(*) OCA Statement 1SR (Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-5, Schedule A-1)

TABLE II
Aqua Pennsylvania Wastewater, Inc.
SUMMARY OF ADJUSTMENTS
R-2021-3027385 and R-2021-3027386

Wastewater Base Operations

Adjustments	Rate Base	Revenues	Expenses	Depreciation	Taxes-Other	State Income Tax	Federal Income Tax
	$	$	$	$	$	$	$
RATE BASE:							
CWC:							
Int. & Div. (Table IV)	(35,000)						
Taxes (Table V)	0						
O & M (Table VI)	0						
Adjustment to Contributions in Aid of Construction (CIAC) and Customer Advances for Construction (CAC)	0						
REVENUES:							
		0				0	0
EXPENSES:							
General Inflation			(145,368)			14,522	27,478
Universal Service Program Expense			0			0	0
Advertising Expense			(5,000)			500	945
Payroll Expense			(19,342)			1,932	3,656
Stock-Based Compensation			(66,000)			6,593	12,475
Payroll Tax Expense					(7,448)	744	1,408
Employee Group Insurance			(4,113)			411	777
Insurance Expense			(710)			71	134
Rate Case Expense			(8,874)			887	1,677
Supplemental Executive Retirement Program (SERP)			(57,050)			5,699	10,784
TAXES:							
Income Tax Expense - Repairs Deduction						(15,254)	(28,861)
Interest Synchronization (Table III)						(31,041)	(58,734)
TOTALS	(35,000)	0	(306,457)	0	(7,448)	(14,936)	(28,260)

TABLE III
Aqua Pennsylvania Wastewater, Inc.
INTEREST SYNCHRONIZATION
R-2021-3027385 and R-2021-3027386

Wastewater Base Operations	Amount $
Company Rate Base Claim	198,372,990
OCA Rate Base Adjustments	(35,000)
OCA Rate Base	198,337,990
Weighted Cost of Debt	2.00000000%
OCA Interest Expense	3,966,760
Company Claim (1)	3,656,035
Total OCA Adjustment	(310,725)
Company Adjustment	0
Net OCA Interest Adjustment	(310,725)
State Income Tax Rate	9.99%
State Income Tax Adjustment	(31,041)
Net OCA Interest Adjustment	(310,725)
State Income Tax Adjustment	(31,041)
Net OCA Adjustment for F.I.T.	(279,684)
Federal Income Tax Rate	21.00%
Federal Income Tax Adjustment	(58,734)

(1) OCA Statement 1SR (Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-6, Schedule C-4)

TABLE IV
Aqua Pennsylvania Wastewater, Inc.
CASH WORKING CAPITAL - Interest and Dividends
R-2021-3027385 and R-2021-3027386

Wastewater Base Operations

Accrued Interest	Long-Term Debt	Short-Term Debt	Preferred Stock Dividends	
Company Rate Base Claim	$198,372,990	$198,372,990	Company Rate Base Claim	$198,372,990
OCA Rate Base Adjustments	($35,000)	($35,000)	OCA Rate Base Adjustments	($35,000)
OCA Rate Base	$198,337,990	$198,337,990	OCA Rate Base	$198,337,990
Weighted Cost of Debt	2.00000000%	0.00%	Weighted Cost Pref. Stock	0.00000000%
OCA Annual Interest Exp.	$3,966,760	$0	OCA Preferred Dividends	$0
Average Revenue Lag Days	50.2	50.2	Average Revenue Lag Days	50.2
Average Expense Lag Days	91.3	0.0	Average Expense Lag Days	0.0
Net Lag Days	-41.1	50.2	Net Lag Days	50.2
Working Capital Adjustment				
OCA Daily Interest Exp.	$10,868	$0	OCA Daily Dividends	$0
Net Lag Days	-41.1	50.2	Net Lag Days	50.2
OCA Working Capital	($446,675)	$0		$0
Company Claim (1)	($412,000)	$0	Company Claim (1)	$0
OCA Adjustment	($34,675)	$0		$0
Total Interest & Dividend Adj.	($34,675)			
Rounded to $1,000	($35,000)			

(1) OCA Statement 1SR (Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-6, Schedule B-3)

TABLE V
Aqua Pennsylvania Wastewater, Inc.
CASH WORKING CAPITAL -TAXES
R-2021-3027385 and R-2021-3027386

Wastewater Base Operations

Description	Company Proforma Tax Expense Present Rates	OCA Adjustments	OCA Pro forma Tax Expense Present Rates	OCA Allowance	OCA Adjusted Taxes at Present Rates	Daily Expense	Net Lead/ Lag Days	Accrued Tax Adjustment
PUC Assessment	$0	$0	$0	$74,762	$74,762	$204.83	0.00	$0
Public Utility Realty	$0	$0	$0		$0	$0.00	0.00	$0
Capital Stock Tax	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
State Income Tax	$0	($14,936)	($14,936)	$1,152,485	$1,137,549	$3,116.57	0.00	$0
Federal Income Tax	$0	($28,260)	($28,260)	$2,180,619	$2,152,359	$5,896.87	0.00	$0
	$0	($43,196)	($43,196)	$3,407,866	$3,364,670			

OCA Allowance	0
Company Claim	0
OCA Adjustment (1)	0

(1) OCA did not adjust cash working capital for taxes

TABLE VI
Aqua Pennsylvania Wastewater, Inc.
CASH WORKING CAPITAL -- O & M EXPENSE
R-2021-3027385 and R-2021-3027386

Wastewater Base Operations

Description	Company Pro forma F.T.Y. Expense	OCA	OCA Pro forma Expenses	Lag Days	Lag Dollars
Service Company	$0	$0	$0	0.00	$0
Chemicals	$0	$0	$0	0.00	$0
Group Insurance	$0	$0	$0	0.00	$0
Insurance, Other	$0	$0	$0	0.00	$0
Labor	$0	$0	$0	0.00	$0
Leased Equip./Rent	$0	$0	$0	0.00	$0
Leased Vehicles	$0	$0	$0	0.00	$0
Miscellaneous	$0	$0	$0	0.00	$0
Natural Gas	$0	$0	$0	0.00	$0
Power	$0	$0	$0	0.00	$0
Purchased Water	$0	$0	$0	0.00	$0
Telephone	$0	$0	$0	0.00	$0
Waste Disposal	$0	$0	$0	0.00	$0
Post Retirement Benefits	$0	$0	$0	0.00	$0
Pensions	$0	$0	$0	0.00	$0
	$0	$0	$0	0.00	$0

OCA Average Revenue Lag	50.2	
Less: OCA Avg. Expense Lag	0.0	
Net Difference	50.2	Days
OCA Pro forma O & M Expense per Day	$0	
OCA CWC for O & M	$0	
Less: Company Claim	$0	
OCA Adjustment (1)	$0	

(1) OCA did not adjust cash working capital for O&M expense

TABLE I
Aqua Pennsylvania Wastewater, Inc.
INCOME SUMMARY
R-2021-3027385 and R-2021-3027386

Limerick Wastewater

	Aqua Pro Forma Original Filing Present Rates (1)	Company Adjustments (1)	Aqua Pro Forma Rebuttal Filing (Revised) (1)	OCA Adjustments	OCA Pro Forma Present Rates	OCA Revenue Increase/ (Decrease)	Total Allowable Revenues
	$	$	$	$	$	$	$
Operating Revenue	3,978,573	0	3,978,573	0	3,978,573	4,528,399	8,506,972
Expenses:							
O & M Expense	2,055,513	0	2,055,513	(23,275)	2,032,238	54,065	2,086,303
Depreciation	1,998,881	0	1,998,881	0	1,998,881	0	1,998,881
Taxes, Other	25,311	0	25,311	0	25,311	28,809	54,120
Income Taxes:							
State	(147,783)	0	(147,783)	(6,709)	(154,493)	444,108	289,615
Federal	(213,702)	0	(213,702)	(12,695)	(226,397)	840,298	613,901
Amort of ITC and Excess DFIT	0	0	0	0	0	0	0
Total Expenses	3,718,220	0	3,718,220	(42,680)	3,675,540	1,367,280	5,042,820
Net Inc. Available for Return	260,353	0	260,353	42,680	303,033	3,161,119	3,464,152
Rate Base	57,746,861	0	57,746,861	(11,000)	57,735,861		57,735,861
			Note 2	Note 2	Note 2	Note 2	Note 2
Rate of Return	0.45%		0.45%				6.00000000%

(1) Company Main Brief / OCA has not yet received Aqua's Main Brief. If needed, this column can be filled in after OCA receives Aqua's Main Brief
(2) See OCA Statement 1SR, Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-5

TABLE I(A)
Aqua Pennsylvania Wastewater, Inc.
RATE OF RETURN
R-2021-3027385 and R-2021-3027386

Limerick Wastewater	Structure	Cost	After-Tax Weighted Cost	Effective Tax Rate Complement	Pre-Tax Weighted Cost Rate
Total Cost of Debt			2.00000000%		
Long-term Debt	50.00%	4.00%	2.00000000%		2.00%
Short-term Debt	0.00%	0.00%	0.00000000%		
Preferred Stock	0.00%	0.00%	0.00000000%	0.711079	0.00%
Common Equity	50.00%	8.00%	4.00000000%	0.711079	5.63%
	100.00%		6.00000000%		7.63%
Pre-Tax Interest Coverage	3.82				
After-Tax Interest Coverage	3.00				

TABLE I(B)
Aqua Pennsylvania Wastewater, Inc.
REVENUE FACTOR
R-2021-3027385 and R-2021-3027386

Limerick Wastewater	
100%	1.00000000
Less:	
Uncollectible Accounts Factor (*)	0.01193911
PUC, OCA, OSBA Assessment Factors (*)	0.00636194
Gross Receipts Tax	0.00000000
Other Tax Factors	0.00000000
	0.98169895
State Income Tax Rate (*)	0.09990000
Effective State Income Tax Rate	0.09807173
Factor After Local and State Taxes	0.88362723
Federal Income Tax Rate (*)	0.21000000
Effective Federal Income Tax Rate	0.18556172
Revenue Factor (100% - Effective Tax Rates)	0.69806551

(*) OCA Statement 1SR (Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-5, Schedule A-1)

TABLE II
Aqua Pennsylvania Wastewater, Inc.
SUMMARY OF ADJUSTMENTS
R-2021-3027385 and R-2021-3027386

Limerick Wastewater

Adjustments	Rate Base	Revenues	Expenses	Depreciation	Taxes-Other	State Income Tax	Federal Income Tax
	$	$	$	$	$	$	$
RATE BASE:							
CWC:							
Int. & Div. (Table IV)	(11,000)						
Taxes (Table V)	0						
O & M (Table VI)	0						
REVENUES:							
		0				0	0
EXPENSES:							
General Inflation			(23,275)			2,325	4,400
TAXES:							
Interest Synchronization (Table III)						(9,035)	(17,094)
TOTALS	(11,000)	0	(23,275)	0	0	(6,709)	(12,695)

TABLE III
Aqua Pennsylvania Wastewater, Inc.
INTEREST SYNCHRONIZATION
R-2021-3027385 and R-2021-3027386

Limerick Wastewater	Amount $
Company Rate Base Claim	57,746,861
OCA Rate Base Adjustments	(11,000)
OCA Rate Base	57,735,861
Weighted Cost of Debt	2.00000000%
OCA Interest Expense	1,154,717
Company Claim (1)	1,064,281
Total OCA Adjustment	(90,437)
Company Adjustment	0
Net OCA Interest Adjustment	(90,437)
State Income Tax Rate	9.99%
State Income Tax Adjustment	(9,035)
Net OCA Interest Adjustment	(90,437)
State Income Tax Adjustment	(9,035)
Net OCA Adjustment for F.I.T.	(81,402)
Federal Income Tax Rate	21.00%
Federal Income Tax Adjustment	(17,094)

(1) OCA Statement 1SR (Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-6, Schedule C-4)

TABLE IV
Aqua Pennsylvania Wastewater, Inc.
CASH WORKING CAPITAL - Interest and Dividends
R-2021-3027385 and R-2021-3027386

Limerick Wastewater

Accrued Interest	Long-Term Debt	Short-Term Debt	Preferred Stock Dividends	
Company Rate Base Claim	$57,746,861	$57,746,861	Company Rate Base Claim	$57,746,861
OCA Rate Base Adjustments	($11,000)	($11,000)	OCA Rate Base Adjustments	($11,000)
OCA Rate Base	$57,735,861	$57,735,861	OCA Rate Base	$57,735,861
Weighted Cost of Debt	2.00000000%	0.00%	Weighted Cost Pref. Stock	0.00000000%
OCA Annual Interest Exp.	$1,154,717	$0	OCA Preferred Dividends	$0
Average Revenue Lag Days	49.7	49.7	Average Revenue Lag Days	49.7
Average Expense Lag Days	91.3	0.0	Average Expense Lag Days	0.0
Net Lag Days	-41.6	49.7	Net Lag Days	49.7
Working Capital Adjustment				
OCA Daily Interest Exp.	$3,164	$0	OCA Daily Dividends	$0
Net Lag Days	-41.6	49.7	Net Lag Days	49.7
OCA Working Capital	($131,622)	$0		$0
Company Claim (1)	($121,000)	$0	Company Claim (1)	$0
OCA Adjustment	($10,622)	$0		$0
Total Interest & Dividend Adj.	($10,622)			
Rounded to $1,000	($11,000)			

(1) OCA Statement 1SR (Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-6, Schedule B-3)

TABLE V
Aqua Pennsylvania Wastewater, Inc.
CASH WORKING CAPITAL -TAXES
R-2021-3027385 and R-2021-3027386

Limerick Wastewater

Description	Company Proforma Tax Expense Present Rates	OCA Adjustments	OCA Pro forma Tax Expense Present Rates	OCA Allowance	OCA Adjusted Taxes at Present Rates	Daily Expense	Net Lead/ Lag Days	Accrued Tax Adjustment
PUC Assessment	$0	$0	$0	$28,809	$28,809	$78.93	0.00	$0
Public Utility Realty	$0	$0	$0		$0	$0.00	0.00	$0
Capital Stock Tax	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
State Income Tax	$0	($6,709)	($6,709)	$444,108	$437,399	$1,198.35	0.00	$0
Federal Income Tax	$0	($12,695)	($12,695)	$840,298	$827,603	$2,267.41	0.00	$0
	$0	($19,404)	($19,404)	$1,313,215	$1,293,811			

OCA Allowance	0
Company Claim	0
OCA Adjustment (1)	0

(1) OCA did not adjust cash working capital for taxes

TABLE VI
Aqua Pennsylvania Wastewater, Inc.
CASH WORKING CAPITAL -- O & M EXPENSE
R-2021-3027385 and R-2021-3027386

Limerick Wastewater

Description	Company Pro forma F.T.Y. Expense	OCA	OCA Pro forma Expenses	Lag Days	Lag Dollars
Service Company	$0	$0	$0	0.00	$0
Chemicals	$0	$0	$0	0.00	$0
Group Insurance	$0	$0	$0	0.00	$0
Insurance, Other	$0	$0	$0	0.00	$0
Labor	$0	$0	$0	0.00	$0
Leased Equip./Rent	$0	$0	$0	0.00	$0
Leased Vehicles	$0	$0	$0	0.00	$0
Miscellaneous	$0	$0	$0	0.00	$0
Natural Gas	$0	$0	$0	0.00	$0
Power	$0	$0	$0	0.00	$0
Purchased Water	$0	$0	$0	0.00	$0
Telephone	$0	$0	$0	0.00	$0
Waste Disposal	$0	$0	$0	0.00	$0
Post Retirement Benefits	$0	$0	$0	0.00	$0
Pensions	$0	$0	$0	0.00	$0
	$0	$0	$0	0.00	$0

OCA Average Revenue Lag	49.7	
Less: OCA Avg. Expense Lag	0.0	
Net Difference	49.7	Days
OCA Pro forma O & M Expense per Day	$0	
OCA CWC for O & M	$0	
Less: Company Claim	$0	
OCA Adjustment (1)	$0	

(1) OCA did not adjust cash working capital for O&M expense

TABLE I
Aqua Pennsylvania Wastewater, Inc.
INCOME SUMMARY
R-2021-3027385 and R-2021-3027386

East Bradford Wastewater

	Aqua Pro Forma Original Filing Present Rates (1)	Company Adjustments (1)	Aqua Pro Forma Rebuttal Filing (Revised) (1)	OCA Adjustments	OCA Pro Forma Present Rates	OCA Revenue Increase/ (Decrease)	Total Allowable Revenues
	$	$	$	$	$	$	$
Operating Revenue	1,014,569	0	1,014,569	0	1,014,569	680,025	1,694,594
Expenses:							
O & M Expense	1,115,524	0	1,115,524	(6,828)	1,108,696	8,119	1,116,815
Depreciation	158,552	0	158,552	0	158,552	0	158,552
Taxes, Other	11,054	0	11,054	0	11,054	4,326	15,380
Income Taxes:							
State	(42,422)	0	(42,422)	(159)	(42,581)	66,691	24,110
Federal	(68,721)	0	(68,721)	(301)	(69,022)	126,187	57,165
Amort of ITC and Excess DFIT	0	0	0	0	0	0	0
Total Expenses	1,173,988	0	1,173,988	(7,289)	1,166,700	205,323	1,372,023
Net Inc. Available for Return	(159,419)	0	(159,419)	7,289	(152,130)	474,702	322,572
Rate Base	5,377,205	0	5,377,205	(1,000)	5,376,205		5,376,205
			Note 2	Note 2	Note 2	Note 2	Note 2
Rate of Return	-2.96%		-2.96%				6.00000000%

(1) Company Main Brief / OCA has not yet received Aqua's Main Brief. If needed, this column can be filled in after OCA receives Aqua's Main Brief
(2) See OCA Statement 1SR, Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-5

TABLE I(A)
Aqua Pennsylvania Wastewater, Inc.
RATE OF RETURN
R-2021-3027385 and R-2021-3027386

East Bradford Wastewater	Structure	Cost	After-Tax Weighted Cost	Effective Tax Rate Complement	Pre-Tax Weighted Cost Rate
Total Cost of Debt			2.00000000%		
Long-term Debt	50.00%	4.00%	2.00000000%		2.00%
Short-term Debt	0.00%	0.00%	0.00000000%		
Preferred Stock	0.00%	0.00%	0.00000000%	0.711079	0.00%
Common Equity	50.00%	8.00%	4.00000000%	0.711079	5.63%
	100.00%		6.00000000%		7.63%
Pre-Tax Interest Coverage	3.82				
After-Tax Interest Coverage	3.00				

TABLE I(B)
Aqua Pennsylvania Wastewater, Inc.
REVENUE FACTOR
R-2021-3027385 and R-2021-3027386

East Bradford Wastewater

100%	1.00000000
Less:	
Uncollectible Accounts Factor (*)	0.01193911
PUC, OCA, OSBA Assessment Factors (*)	0.00636194
Gross Receipts Tax	0.00000000
Other Tax Factors	0.00000000
	0.98169895
State Income Tax Rate (*)	0.09990000
Effective State Income Tax Rate	0.09807173
Factor After Local and State Taxes	0.88362723
Federal Income Tax Rate (*)	0.21000000
Effective Federal Income Tax Rate	0.18556172
Revenue Factor (100% - Effective Tax Rates)	0.69806551

(*) OCA Statement 1SR (Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-5, Schedule A-1)

TABLE II
Aqua Pennsylvania Wastewater, Inc.
SUMMARY OF ADJUSTMENTS
R-2021-3027385 and R-2021-3027386

East Bradford Wastewater

Adjustments	Rate Base	Revenues	Expenses	Depreciation	Taxes-Other	State Income Tax	Federal Income Tax
	$	$	$	$	$	$	$
RATE BASE:							
CWC:							
Int. & Div. (Table IV)	(1,000)						
Taxes (Table V)	0						
O & M (Table VI)	0						
REVENUES:							
		0				0	0
EXPENSES:							
General Inflation			(6,828)			682	1,291
TAXES:							
Interest Synchronization (Table III)						(841)	(1,592)
TOTALS	(1,000)	0	(6,828)	0	0	(159)	(301)

TABLE III
Aqua Pennsylvania Wastewater, Inc.
INTEREST SYNCHRONIZATION
R-2021-3027385 and R-2021-3027386

East Bradford Wastewater	Amount $
Company Rate Base Claim	5,377,205
OCA Rate Base Adjustments	(1,000)
OCA Rate Base	5,376,205
Weighted Cost of Debt	2.00000000%
OCA Interest Expense	107,524
Company Claim (1)	99,102
Total OCA Adjustment	(8,422)
Company Adjustment	0
Net OCA Interest Adjustment	(8,422)
State Income Tax Rate	9.99%
State Income Tax Adjustment	(841)
Net OCA Interest Adjustment	(8,422)
State Income Tax Adjustment	(841)
Net OCA Adjustment for F.I.T.	(7,581)
Federal Income Tax Rate	21.00%
Federal Income Tax Adjustment	(1,592)

(1) OCA Statement 1SR (Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-6, Schedule C-4)

TABLE IV
Aqua Pennsylvania Wastewater, Inc.
CASH WORKING CAPITAL - Interest and Dividends
R-2021-3027385 and R-2021-3027386

East Bradford Wastewater

Accrued Interest	Long-Term Debt	Short-Term Debt	Preferred Stock Dividends	
Company Rate Base Claim	$5,377,205	$5,377,205	Company Rate Base Claim	$5,377,205
OCA Rate Base Adjustments	($1,000)	($1,000)	OCA Rate Base Adjustments	($1,000)
OCA Rate Base	$5,376,205	$5,376,205	OCA Rate Base	$5,376,205
Weighted Cost of Debt	2.00000000%	0.00%	Weighted Cost Pref. Stock	0.00000000%
OCA Annual Interest Exp.	$107,524	$0	OCA Preferred Dividends	$0
Average Revenue Lag Days	48.1	48.1	Average Revenue Lag Days	48.1
Average Expense Lag Days	91.3	0.0	Average Expense Lag Days	0.0
Net Lag Days	-43.2	48.1	Net Lag Days	48.1
Working Capital Adjustment				
OCA Daily Interest Exp.	$295	$0	OCA Daily Dividends	$0
Net Lag Days	-43.2	48.1	Net Lag Days	48.1
OCA Working Capital	($12,744)	$0		$0
Company Claim (1)	($12,000)	$0	Company Claim (1)	$0
OCA Adjustment	($744)	$0		$0
Total Interest & Dividend Adj.	($744)			
Rounded to $1,000	($1,000)			

(1) OCA Statement 1SR (Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-6, Schedule B-3)

TABLE V
Aqua Pennsylvania Wastewater, Inc.
CASH WORKING CAPITAL -TAXES
R-2021-3027385 and R-2021-3027386

East Bradford Wastewater

Description	Company Proforma Tax Expense Present Rates	OCA Adjustments	OCA Pro forma Tax Expense Present Rates	OCA Allowance	OCA Adjusted Taxes at Present Rates	Daily Expense	Net Lead/ Lag Days	Accrued Tax Adjustment
PUC Assessment	$0	$0	$0	$4,326	$4,326	$11.85	0.00	$0
Public Utility Realty	$0	$0	$0		$0	$0.00	0.00	$0
Capital Stock Tax	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
State Income Tax	$0	($159)	($159)	$66,691	$66,532	$182.28	0.00	$0
Federal Income Tax	$0	($301)	($301)	$126,187	$125,886	$344.89	0.00	$0
	$0	($460)	($460)	$197,204	$196,744			

OCA Allowance	0
Company Claim	0
OCA Adjustment (1)	0

(1) OCA did not adjust cash working capital for taxes

TABLE VI
Aqua Pennsylvania Wastewater, Inc.
CASH WORKING CAPITAL -- O & M EXPENSE
R-2021-3027385 and R-2021-3027386

East Bradford Wastewater

Description	Company Pro forma F.T.Y. Expense	OCA	OCA Pro forma Expenses	Lag Days	Lag Dollars
Service Company	$0	$0	$0	0.00	$0
Chemicals	$0	$0	$0	0.00	$0
Group Insurance	$0	$0	$0	0.00	$0
Insurance, Other	$0	$0	$0	0.00	$0
Labor	$0	$0	$0	0.00	$0
Leased Equip./Rent	$0	$0	$0	0.00	$0
Leased Vehicles	$0	$0	$0	0.00	$0
Miscellaneous	$0	$0	$0	0.00	$0
Natural Gas	$0	$0	$0	0.00	$0
Power	$0	$0	$0	0.00	$0
Purchased Water	$0	$0	$0	0.00	$0
Telephone	$0	$0	$0	0.00	$0
Waste Disposal	$0	$0	$0	0.00	$0
Post Retirement Benefits	$0	$0	$0	0.00	$0
Pensions	$0	$0	$0	0.00	$0
	$0	$0	$0	0.00	$0

OCA Average Revenue Lag	48.1	
Less: OCA Avg. Expense Lag	0.0	
Net Difference	48.1	Days
OCA Pro forma O & M Expense per Day	$0	
OCA CWC for O & M	$0	
Less: Company Claim	$0	
OCA Adjustment (1)	$0	

(1) OCA did not adjust cash working capital for O&M expense

TABLE I
Aqua Pennsylvania Wastewater, Inc.
INCOME SUMMARY
R-2021-3027385 and R-2021-3027386

Cheltenham Wastewater

	Aqua Pro Forma Original Filing Present Rates (1)	Company Adjustments (1)	Aqua Pro Forma Rebuttal Filing (Revised) (1)	OCA Adjustments	OCA Pro Forma Present Rates	OCA Revenue Increase/ (Decrease)	Total Allowable Revenues
	$	$	$	$	$	$	$
Operating Revenue	7,258,740	0	7,258,740	0	7,258,740	1,906,973	9,165,712
Expenses:							
O & M Expense	4,575,924	0	4,575,924	(8,719)	4,567,205	22,768	4,589,973
Depreciation	1,011,770	0	1,011,770	0	1,011,770	0	1,011,770
Taxes, Other	46,180	0	46,180	0	46,180	12,132	58,312
Income Taxes:							
State	(12,394)	0	(12,394)	(6,527)	(18,921)	187,020	168,099
Federal	160,916	0	160,916	(12,349)	148,567	353,861	502,428
Amort of ITC and Excess DFIT	0	0	0	0	0	0	0
Total Expenses	5,782,396	0	5,782,396	(27,595)	5,754,801	575,781	6,330,582
Net Inc. Available for Return	1,476,344	0	1,476,344	27,595	1,503,939	1,331,192	2,835,131
Rate Base	47,259,177	0	47,259,177	(7,000)	47,252,177		47,252,177
			Note 2	Note 2	Note 2	Note 2	Note 2
Rate of Return	3.12%		3.12%				6.00000000%

(1) Company Main Brief / OCA has not yet received Aqua's Main Brief. If needed, this column can be filled in after OCA receives Aqua's Main Brief
(2) See OCA Statement 1SR, Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-5

TABLE I(A)
Aqua Pennsylvania Wastewater, Inc.
RATE OF RETURN
R-2021-3027385 and R-2021-3027386

Cheltenham Wastewater	Structure	Cost	After-Tax Weighted Cost	Effective Tax Rate Complement	Pre-Tax Weighted Cost Rate
Total Cost of Debt			2.00000000%		
Long-term Debt	50.00%	4.00%	2.00000000%		2.00%
Short-term Debt	0.00%	0.00%	0.00000000%		
Preferred Stock	0.00%	0.00%	0.00000000%	0.711079	0.00%
Common Equity	50.00%	8.00%	4.00000000%	0.711079	5.63%
	100.00%		6.00000000%		7.63%
Pre-Tax Interest Coverage	3.82				
After-Tax Interest Coverage	3.00				

TABLE I(B)
Aqua Pennsylvania Wastewater, Inc.
REVENUE FACTOR
R-2021-3027385 and R-2021-3027386

Cheltenham Wastewater	
100%	1.00000000
Less:	
Uncollectible Accounts Factor (*)	0.01193911
PUC, OCA, OSBA Assessment Factors (*)	0.00636194
Gross Receipts Tax	0.00000000
Other Tax Factors	0.00000000
	0.98169895
State Income Tax Rate (*)	0.09990000
Effective State Income Tax Rate	0.09807173
Factor After Local and State Taxes	0.88362723
Federal Income Tax Rate (*)	0.21000000
Effective Federal Income Tax Rate	0.18556172
Revenue Factor (100% - Effective Tax Rates)	0.69806551

(*) OCA Statement 1SR (Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-5, Schedule A-1)

TABLE II
Aqua Pennsylvania Wastewater, Inc.
SUMMARY OF ADJUSTMENTS
R-2021-3027385 and R-2021-3027386

Cheltenham Wastewater

Adjustments	Rate Base	Revenues	Expenses	Depreciation	Taxes-Other	State Income Tax	Federal Income Tax
	$	$	$	$	$	$	$
RATE BASE:							
CWC:							
Int. & Div. (Table IV)	(7,000)						
Taxes (Table V)	0						
O & M (Table VI)	0						
REVENUES:							
		0				0	0
EXPENSES:							
General Inflation			(8,719)			871	1,648
TAXES:							
Interest Synchronization (Table III)						(7,398)	(13,997)
TOTALS	(7,000)	0	(8,719)	0	0	(6,527)	(12,349)

TABLE III
Aqua Pennsylvania Wastewater, Inc.
INTEREST SYNCHRONIZATION
R-2021-3027385 and R-2021-3027386

Cheltenham Wastewater	Amount $
Company Rate Base Claim	47,259,177
OCA Rate Base Adjustments	(7,000)
OCA Rate Base	47,252,177
Weighted Cost of Debt	2.00000000%
OCA Interest Expense	945,044
Company Claim (1)	870,992
Total OCA Adjustment	(74,052)
Company Adjustment	0
Net OCA Interest Adjustment	(74,052)
State Income Tax Rate	9.99%
State Income Tax Adjustment	(7,398)
Net OCA Interest Adjustment	(74,052)
State Income Tax Adjustment	(7,398)
Net OCA Adjustment for F.I.T.	(66,654)
Federal Income Tax Rate	21.00%
Federal Income Tax Adjustment	(13,997)

(1) OCA Statement 1SR (Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-6, Schedule C-4)

TABLE IV
Aqua Pennsylvania Wastewater, Inc.
CASH WORKING CAPITAL - Interest and Dividends
R-2021-3027385 and R-2021-3027386

Cheltenham Wastewater

Accrued Interest	Long-Term Debt	Short-Term Debt	Preferred Stock Dividends	
Company Rate Base Claim	$47,259,177	$47,259,177	Company Rate Base Claim	$47,259,177
OCA Rate Base Adjustments	($7,000)	($7,000)	OCA Rate Base Adjustments	($7,000)
OCA Rate Base	$47,252,177	$47,252,177	OCA Rate Base	$47,252,177
Weighted Cost of Debt	2.00000000%	0.00%	Weighted Cost Pref. Stock	0.00000000%
OCA Annual Interest Exp.	$945,044	$0	OCA Preferred Dividends	$0
Average Revenue Lag Days	57.2	57.2	Average Revenue Lag Days	57.2
Average Expense Lag Days	91.3	0.0	Average Expense Lag Days	0.0
Net Lag Days	-34.1	57.2	Net Lag Days	57.2
Working Capital Adjustment				
OCA Daily Interest Exp.	$2,589	$0	OCA Daily Dividends	$0
Net Lag Days	-34.1	57.2	Net Lag Days	57.2
OCA Working Capital	($88,285)	$0		$0
Company Claim (1)	($81,000)	$0	Company Claim (1)	$0
OCA Adjustment	($7,285)	$0		$0
Total Interest & Dividend Adj.	($7,285)			
Rounded to $1,000	($7,000)			

(1) OCA Statement 1SR (Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-6, Schedule B-3)

TABLE V

Aqua Pennsylvania Wastewater, Inc.

CASH WORKING CAPITAL -TAXES

R-2021-3027385 and R-2021-3027386

Cheltenham Wastewater

Description	Company Proforma Tax Expense Present Rates	OCA Adjustments	OCA Pro forma Tax Expense Present Rates	OCA Allowance	OCA Adjusted Taxes at Present Rates	Daily Expense	Net Lead/ Lag Days	Accrued Tax Adjustment
PUC Assessment	$0	$0	$0	$12,132	$12,132	$33.24	0.00	$0
Public Utility Realty	$0	$0	$0		$0	$0.00	0.00	$0
Capital Stock Tax	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
State Income Tax	$0	($6,527)	($6,527)	$187,020	$180,493	$494.50	0.00	$0
Federal Income Tax	$0	($12,349)	($12,349)	$353,861	$341,512	$935.65	0.00	$0
	$0	($18,876)	($18,876)	$553,013	$534,137			

OCA Allowance	0
Company Claim	0
OCA Adjustment (1)	0

(1) OCA did not adjust cash working capital for taxes

TABLE VI
Aqua Pennsylvania Wastewater, Inc.
CASH WORKING CAPITAL -- O & M EXPENSE
R-2021-3027385 and R-2021-3027386

Cheltenham Wastewater

Description	Company Pro forma F.T.Y. Expense	OCA	OCA Pro forma Expenses	Lag Days	Lag Dollars
Service Company	$0	$0	$0	0.00	$0
Chemicals	$0	$0	$0	0.00	$0
Group Insurance	$0	$0	$0	0.00	$0
Insurance, Other	$0	$0	$0	0.00	$0
Labor	$0	$0	$0	0.00	$0
Leased Equip./Rent	$0	$0	$0	0.00	$0
Leased Vehicles	$0	$0	$0	0.00	$0
Miscellaneous	$0	$0	$0	0.00	$0
Natural Gas	$0	$0	$0	0.00	$0
Power	$0	$0	$0	0.00	$0
Purchased Water	$0	$0	$0	0.00	$0
Telephone	$0	$0	$0	0.00	$0
Waste Disposal	$0	$0	$0	0.00	$0
Post Retirement Benefits	$0	$0	$0	0.00	$0
Pensions	$0	$0	$0	0.00	$0
	$0	$0	$0	0.00	$0

OCA Average Revenue Lag	57.2	
Less: OCA Avg. Expense Lag	0.0	
Net Difference	57.2	Days
OCA Pro forma O & M Expense per Day	$0	
OCA CWC for O & M	$0	
Less: Company Claim	$0	
OCA Adjustment (1)	$0	

(1) OCA did not adjust cash working capital for O&M expense

TABLE I
Aqua Pennsylvania Wastewater, Inc.
INCOME SUMMARY
R-2021-3027385 and R-2021-3027386

East Norriton Wastewater

	Aqua Pro Forma Original Filing Present Rates (1)	Company Adjustments (1)	Aqua Pro Forma Rebuttal Filing (Revised) (1)	OCA Adjustments	OCA Pro Forma Present Rates	OCA Revenue Increase/ (Decrease)	Total Allowable Revenues
	$	$	$	$	$	$	$
Operating Revenue	2,923,766	0	2,923,766	0	2,923,766	2,286,963	5,210,730
Expenses:							
O & M Expense	2,283,124	0	2,283,124	(8,665)	2,274,460	27,304	2,301,764
Depreciation	952,641	0	952,641	0	952,641	0	952,641
Taxes, Other	18,601	0	18,601	0	18,601	14,550	33,151
Income Taxes:							
State	(85,251)	0	(85,251)	(3,094)	(88,344)	224,286	135,942
Federal	(149,474)	0	(149,474)	(5,853)	(155,327)	424,373	269,046
Amort of ITC and Excess DFIT	0	0	0	0	0	0	0
Total Expenses	3,019,642	0	3,019,642	(17,611)	3,002,031	690,513	3,692,544
Net Inc. Available for Return	(95,875)	0	(95,875)	17,611	(78,264)	1,596,450	1,518,186
Rate Base	25,308,104	0	25,308,104	(5,000)	25,303,104		25,303,104
			Note 2	Note 2	Note 2	Note 2	Note 2
Rate of Return	-0.38%		-0.38%				6.00000000%

(1) Company Main Brief / OCA has not yet received Aqua's Main Brief. If needed, this column can be filled in after OCA receives Aqua's Main Brief
(2) See OCA Statement 1SR, Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-5

TABLE I(A)
Aqua Pennsylvania Wastewater, Inc.
RATE OF RETURN
R-2021-3027385 and R-2021-3027386

East Norriton Wastewater	Structure	Cost	After-Tax Weighted Cost	Effective Tax Rate Complement	Pre-Tax Weighted Cost Rate
Total Cost of Debt			2.00000000%		
Long-term Debt	50.00%	4.00%	2.00000000%		2.00%
Short-term Debt	0.00%	0.00%	0.00000000%		
Preferred Stock	0.00%	0.00%	0.00000000%	0.711079	0.00%
Common Equity	50.00%	8.00%	4.00000000%	0.711079	5.63%
	100.00%		6.00000000%		7.63%
Pre-Tax Interest Coverage	3.82				
After-Tax Interest Coverage	3.00				

TABLE I(B)
Aqua Pennsylvania Wastewater, Inc.
REVENUE FACTOR
R-2021-3027385 and R-2021-3027386

East Norriton Wastewater

100%	1.00000000
Less:	
Uncollectible Accounts Factor (*)	0.01193911
PUC, OCA, OSBA Assessment Factors (*)	0.00636194
Gross Receipts Tax	0.00000000
Other Tax Factors	0.00000000
	0.98169895
State Income Tax Rate (*)	0.09990000
Effective State Income Tax Rate	0.09807173
Factor After Local and State Taxes	0.88362723
Federal Income Tax Rate (*)	0.21000000
Effective Federal Income Tax Rate	0.18556172
Revenue Factor (100% - Effective Tax Rates)	0.69806551

(*) OCA Statement 1SR (Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-5, Schedule A-1)

TABLE II
Aqua Pennsylvania Wastewater, Inc.
SUMMARY OF ADJUSTMENTS
R-2021-3027385 and R-2021-3027386

East Norriton Wastewater

Adjustments	Rate Base	Revenues	Expenses	Depreciation	Taxes-Other	State Income Tax	Federal Income Tax
	$	$	$	$	$	$	$
RATE BASE:							
CWC:							
Int. & Div. (Table IV)	(5,000)						
Taxes (Table V)	0						
O & M (Table VI)	0						
REVENUES:							
		0				0	0
EXPENSES:							
General Inflation			(8,665)			866	1,638
TAXES:							
Interest Synchronization (Table III)						(3,959)	(7,491)
TOTALS	(5,000)	0	(8,665)	0	0	(3,094)	(5,853)

TABLE III
Aqua Pennsylvania Wastewater, Inc.
INTEREST SYNCHRONIZATION
R-2021-3027385 and R-2021-3027386

East Norriton Wastewater	Amount $
Company Rate Base Claim	25,308,104
OCA Rate Base Adjustments	(5,000)
OCA Rate Base	25,303,104
Weighted Cost of Debt	2.00000000%
OCA Interest Expense	506,062
Company Claim (1)	466,431
Total OCA Adjustment	(39,631)
Company Adjustment	0
Net OCA Interest Adjustment	(39,631)
State Income Tax Rate	9.99%
State Income Tax Adjustment	(3,959)
Net OCA Interest Adjustment	(39,631)
State Income Tax Adjustment	(3,959)
Net OCA Adjustment for F.I.T.	(35,672)
Federal Income Tax Rate	21.00%
Federal Income Tax Adjustment	(7,491)

(1) OCA Statement 1SR (Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-6, Schedule C-4)

TABLE IV
Aqua Pennsylvania Wastewater, Inc.
CASH WORKING CAPITAL - Interest and Dividends
R-2021-3027385 and R-2021-3027386

East Norriton Wastewater

Accrued Interest	Long-Term Debt	Short-Term Debt	Preferred Stock Dividends	
Company Rate Base Claim	$25,308,104	$25,308,104	Company Rate Base Claim	$25,308,104
OCA Rate Base Adjustments	($5,000)	($5,000)	OCA Rate Base Adjustments	($5,000)
OCA Rate Base	$25,303,104	$25,303,104	OCA Rate Base	$25,303,104
Weighted Cost of Debt	2.00000000%	0.00%	Weighted Cost Pref. Stock	0.00000000%
OCA Annual Interest Exp.	$506,062	$0	OCA Preferred Dividends	$0
Average Revenue Lag Days	44.1	44.1	Average Revenue Lag Days	44.1
Average Expense Lag Days	91.3	0.0	Average Expense Lag Days	0.0
Net Lag Days	-47.2	44.1	Net Lag Days	44.1
Working Capital Adjustment				
OCA Daily Interest Exp.	$1,386	$0	OCA Daily Dividends	$0
Net Lag Days	-47.2	44.1	Net Lag Days	44.1
OCA Working Capital	($65,419)	$0		$0
Company Claim (1)	($60,000)	$0	Company Claim (1)	$0
OCA Adjustment	($5,419)	$0		$0
Total Interest & Dividend Adj.	($5,419)			
Rounded to $1,000	($5,000)			

(1) OCA Statement 1SR (Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-6, Schedule B-3)

TABLE V
Aqua Pennsylvania Wastewater, Inc.
CASH WORKING CAPITAL -TAXES
R-2021-3027385 and R-2021-3027386

East Norriton Wastewater

Description	Company Proforma Tax Expense Present Rates	OCA Adjustments	OCA Pro forma Tax Expense Present Rates	OCA Allowance	OCA Adjusted Taxes at Present Rates	Daily Expense	Net Lead/ Lag Days	Accrued Tax Adjustment
PUC Assessment	$0	$0	$0	$14,550	$14,550	$39.86	0.00	$0
Public Utility Realty	$0	$0	$0		$0	$0.00	0.00	$0
Capital Stock Tax	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
State Income Tax	$0	($3,094)	($3,094)	$224,286	$221,192	$606.01	0.00	$0
Federal Income Tax	$0	($5,853)	($5,853)	$424,373	$418,520	$1,146.63	0.00	$0
	$0	($8,947)	($8,947)	$663,209	$654,262			

OCA Allowance	0
Company Claim	0
OCA Adjustment (1)	0

(1) OCA did not adjust cash working capital for taxes

TABLE VI
Aqua Pennsylvania Wastewater, Inc.
CASH WORKING CAPITAL -- O & M EXPENSE
R-2021-3027385 and R-2021-3027386

East Norriton Wastewater

Description	Company Pro forma F.T.Y. Expense	OCA	OCA Pro forma Expenses	Lag Days	Lag Dollars
Service Company	$0	$0	$0	0.00	$0
Chemicals	$0	$0	$0	0.00	$0
Group Insurance	$0	$0	$0	0.00	$0
Insurance, Other	$0	$0	$0	0.00	$0
Labor	$0	$0	$0	0.00	$0
Leased Equip./Rent	$0	$0	$0	0.00	$0
Leased Vehicles	$0	$0	$0	0.00	$0
Miscellaneous	$0	$0	$0	0.00	$0
Natural Gas	$0	$0	$0	0.00	$0
Power	$0	$0	$0	0.00	$0
Purchased Water	$0	$0	$0	0.00	$0
Telephone	$0	$0	$0	0.00	$0
Waste Disposal	$0	$0	$0	0.00	$0
Post Retirement Benefits	$0	$0	$0	0.00	$0
Pensions	$0	$0	$0	0.00	$0
	$0	$0	$0	0.00	$0

OCA Average Revenue Lag	44.1	
Less: OCA Avg. Expense Lag	0.0	
Net Difference	44.1	Days
OCA Pro forma O & M Expense per Day	$0	
OCA CWC for O & M	$0	
Less: Company Claim	$0	
OCA Adjustment (1)	$0	

(1) OCA did not adjust cash working capital for O&M expense

TABLE I
Aqua Pennsylvania Wastewater, Inc.
INCOME SUMMARY
R-2021-3027385 and R-2021-3027386

New Garden Wastewater

	Aqua Pro Forma Original Filing Present Rates (1)	Company Adjustments (1)	Aqua Pro Forma Rebuttal Filing (Revised) (1)	OCA Adjustments	OCA Pro Forma Present Rates	OCA Revenue Increase/ (Decrease)	Total Allowable Revenues
	$	$	$	$	$	$	$
Operating Revenue	2,871,698	0	2,871,698	17,382	2,889,080	1,989,353	4,878,433
Expenses:							
O & M Expense	1,848,890	0	1,848,890	(12,705)	1,836,185	23,751	1,859,936
Depreciation	735,834	0	735,834	0	735,834	0	735,834
Taxes, Other	18,270	0	18,270	0	18,270	12,656	30,926
Income Taxes:							
State	(77,386)	0	(77,386)	(1,720)	(79,106)	195,099	115,993
Federal	(44,384)	0	(44,384)	(3,254)	(47,638)	369,148	321,510
Amort of ITC and Excess DFIT	0	0	0	0	0	0	0
Total Expenses	2,481,224	0	2,481,224	(17,678)	2,463,545	600,654	3,064,199
Net Inc. Available for Return	390,474	0	390,474	35,061	425,535	1,388,699	1,814,234
Rate Base	30,246,226	0	30,246,226	(9,000)	30,237,226		30,237,226
			Note 2	Note 2	Note 2	Note 2	Note 2
Rate of Return	1.29%		1.29%				6.00000000%

(1) Company Main Brief / OCA has not yet received Aqua's Main Brief. If needed, this column can be filled in after OCA receives Aqua's Main Brief
(2) See OCA Statement 1SR, Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-5

TABLE I(A)
Aqua Pennsylvania Wastewater, Inc.
RATE OF RETURN
R-2021-3027385 and R-2021-3027386

New Garden Wastewater	Structure	Cost	After-Tax Weighted Cost	Effective Tax Rate Complement	Pre-Tax Weighted Cost Rate
Total Cost of Debt			2.00000000%		
Long-term Debt	50.00%	4.00%	2.00000000%		2.00%
Short-term Debt	0.00%	0.00%	0.00000000%		
Preferred Stock	0.00%	0.00%	0.00000000%	0.711079	0.00%
Common Equity	50.00%	8.00%	4.00000000%	0.711079	5.63%
	100.00%		6.00000000%		7.63%
Pre-Tax Interest Coverage	3.82				
After-Tax Interest Coverage	3.00				

TABLE I(B)
Aqua Pennsylvania Wastewater, Inc.
REVENUE FACTOR
R-2021-3027385 and R-2021-3027386

New Garden Wastewater	
100%	1.00000000
Less:	
Uncollectible Accounts Factor (*)	0.01193911
PUC, OCA, OSBA Assessment Factors (*)	0.00636194
Gross Receipts Tax	0.00000000
Other Tax Factors	0.00000000
	0.98169895
State Income Tax Rate (*)	0.09990000
Effective State Income Tax Rate	0.09807173
Factor After Local and State Taxes	0.88362723
Federal Income Tax Rate (*)	0.21000000
Effective Federal Income Tax Rate	0.18556172
Revenue Factor (100% - Effective Tax Rates)	0.69806551

(*) OCA Statement 1SR (Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-5, Schedule A-1)

TABLE II
Aqua Pennsylvania Wastewater, Inc.
SUMMARY OF ADJUSTMENTS
R-2021-3027385 and R-2021-3027386

New Garden Wastewater

Adjustments	Rate Base	Revenues	Expenses	Depreciation	Taxes-Other	State Income Tax	Federal Income Tax
	$	$	$	$	$	$	$
RATE BASE:							
CWC:							
Int. & Div. (Table IV)	(9,000)						
Taxes (Table V)	0						
O & M (Table VI)	0						
REVENUES:							
New Garden Late Payment Revenue from Aqua's Rebuttal Filing		17,382				1,736	3,286
EXPENSES:							
General Inflation			(12,705)			1,269	2,402
TAXES:							
Interest Synchronization (Table III)						(4,726)	(8,941)
TOTALS	(9,000)	17,382	(12,705)	0	0	(1,720)	(3,254)

TABLE III
Aqua Pennsylvania Wastewater, Inc.
INTEREST SYNCHRONIZATION
R-2021-3027385 and R-2021-3027386

New Garden Wastewater	Amount $
Company Rate Base Claim	30,246,226
OCA Rate Base Adjustments	(9,000)
OCA Rate Base	30,237,226
Weighted Cost of Debt	2.00000000%
OCA Interest Expense	604,745
Company Claim (1)	557,441
Total OCA Adjustment	(47,303)
Company Adjustment	0
Net OCA Interest Adjustment	(47,303)
State Income Tax Rate	9.99%
State Income Tax Adjustment	(4,726)
Net OCA Interest Adjustment	(47,303)
State Income Tax Adjustment	(4,726)
Net OCA Adjustment for F.I.T.	(42,577)
Federal Income Tax Rate	21.00%
Federal Income Tax Adjustment	(8,941)

(1) OCA Statement 1SR (Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-6, Schedule C-4)

TABLE IV
Aqua Pennsylvania Wastewater, Inc.
CASH WORKING CAPITAL - Interest and Dividends
R-2021-3027385 and R-2021-3027386

New Garden Wastewater

Accrued Interest	Long-Term Debt	Short-Term Debt	Preferred Stock Dividends	
Company Rate Base Claim	$30,246,226	$30,246,226	Company Rate Base Claim	$30,246,226
OCA Rate Base Adjustments	($9,000)	($9,000)	OCA Rate Base Adjustments	($9,000)
OCA Rate Base	$30,237,226	$30,237,226	OCA Rate Base	$30,237,226
Weighted Cost of Debt	2.00000000%	0.00%	Weighted Cost Pref. Stock	0.00000000%
OCA Annual Interest Exp.	$604,745	$0	OCA Preferred Dividends	$0
Average Revenue Lag Days	22.9	22.9	Average Revenue Lag Days	22.9
Average Expense Lag Days	91.3	0.0	Average Expense Lag Days	0.0
Net Lag Days	-68.4	22.9	Net Lag Days	22.9
Working Capital Adjustment				
OCA Daily Interest Exp.	$1,657	$0	OCA Daily Dividends	$0
Net Lag Days	-68.4	22.9	Net Lag Days	22.9
OCA Working Capital	($113,339)	$0		$0
Company Claim (1)	($104,000)	$0	Company Claim (1)	$0
OCA Adjustment	($9,339)	$0		$0
Total Interest & Dividend Adj.	($9,339)			
Rounded to $1,000	($9,000)			

(1) OCA Statement 1SR (Surrebuttal Testimony of Ralph C. Smith, Exhibit LA-6, Schedule B-3)

TABLE V
Aqua Pennsylvania Wastewater, Inc.
CASH WORKING CAPITAL -TAXES
R-2021-3027385 and R-2021-3027386

New Garden Wastewater

Description	Company Proforma Tax Expense Present Rates	OCA Adjustments	OCA Pro forma Tax Expense Present Rates	OCA Allowance	OCA Adjusted Taxes at Present Rates	Daily Expense	Net Lead/ Lag Days	Accrued Tax Adjustment
PUC Assessment	$0	$0	$0	$12,656	$12,656	$34.67	0.00	$0
Public Utility Realty	$0	$0	$0		$0	$0.00	0.00	$0
Capital Stock Tax	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
	$0	$0	$0		$0	$0.00	0.00	$0
State Income Tax	$0	($1,720)	($1,720)	$195,099	$193,379	$529.81	0.00	$0
Federal Income Tax	$0	($3,254)	($3,254)	$369,148	$365,894	$1,002.45	0.00	$0
	$0	($4,974)	($4,974)	$576,903	$571,929			

OCA Allowance	0
Company Claim	0
OCA Adjustment (1)	0

(1) OCA did not adjust cash working capital for taxes

TABLE VI
Aqua Pennsylvania Wastewater, Inc.
CASH WORKING CAPITAL -- O & M EXPENSE
R-2021-3027385 and R-2021-3027386

New Garden Wastewater

Description	Company Pro forma F.T.Y. Expense	OCA	OCA Pro forma Expenses	Lag Days	Lag Dollars
Service Company	$0	$0	$0	0.00	$0
Chemicals	$0	$0	$0	0.00	$0
Group Insurance	$0	$0	$0	0.00	$0
Insurance, Other	$0	$0	$0	0.00	$0
Labor	$0	$0	$0	0.00	$0
Leased Equip./Rent	$0	$0	$0	0.00	$0
Leased Vehicles	$0	$0	$0	0.00	$0
Miscellaneous	$0	$0	$0	0.00	$0
Natural Gas	$0	$0	$0	0.00	$0
Power	$0	$0	$0	0.00	$0
Purchased Water	$0	$0	$0	0.00	$0
Telephone	$0	$0	$0	0.00	$0
Waste Disposal	$0	$0	$0	0.00	$0
Post Retirement Benefits	$0	$0	$0	0.00	$0
Pensions	$0	$0	$0	0.00	$0
	$0	$0	$0	0.00	$0

OCA Average Revenue Lag	22.9	
Less: OCA Avg. Expense Lag	0.0	
Net Difference	22.9	Days
OCA Pro forma O & M Expense per Day	$0	
OCA CWC for O & M	$0	
Less: Company Claim	$0	
OCA Adjustment (1)	$0	

(1) OCA did not adjust cash working capital for O&M expense

Appendix B
Average Monthly Bill Comparison

AQUA PENNSYLVANIA, INC.
WATER OPERATIONS
AVERAGE MONTHLY BILL COMPARISON
RESIDENTIAL

Rate Zone	Division	Avg. Bill At Present Rates 1/, 2/	Avg. Bill At OCA Rates 3/	Percent Change
RZ1	Main	$70.44	$70.44	0.00%
RZ1	CC Gardens,Sand Springs	$56.96	$56.96	0.00%
RZ1	Beech Mtn	$34.11	$34.11	0.00%
RZ1	Bristol	$41.28	$41.28	0.00%
RZ1	Mifflin	$54.44	$54.44	0.00%
RZ1	Mt. Jewett	$66.06	$66.06	0.00%
RZ1	Robin Hood Lakes	$57.07	$57.07	0.00%
RZ2	Main	$70.40	$70.40	0.00%
RZ2	Chalfont	$66.06	$66.06	0.00%
RZ2	Concord Park	$47.20	$47.20	0.00%
RZ2	Treasure Lake	$43.17	$43.17	0.00%
RZ3	All Divisions	$70.43	$70.43	0.00%
BH	Bunker Hill	$28.34	$28.34	0.00%
PH	Phoenixville	$16.74	$16.74	0.00%

1/ Based on 5/8" meter and an average consumption of 4,080 gallons per month for all divisions (per average consumption in Docket No. A-2018-3004108).

2/ Present rates include current DSIC revenues.

3/ The OCA has supported a revenue decrease for water operations but for the purpose of showing the bill impact of the OCA's recommendations, we have reflected zero increase to current rates.

Source: Calculated per Witness Heppenstall's water rate design. Response to I&E-RS-3-D (Revised).

AQUA PENNSYLVANIA, INC.
WATER OPERATIONS
AVERAGE MONTHLY BILL COMPARISON
COMMERCIAL

Rate Zone	Division	Meter Size	Avg. Consumption 1/	Avg. Bill At Present Rates 2/	Avg. Bill At OCA Rates 3/	Percent Change
RZ1	Main	5/8	37,800	$451.10	$451.10	0.00%
RZ2	Main	5/8	6,000	$96.11	$96.11	0.00%
RZ3	All Divisions	5/8	5,500	$94.06	$94.06	0.00%

1/ Approximate average consumption per customer.
2/ Present rates include current DSIC revenues.
3/ The OCA has supported a revenue decrease for water operations but for the purpose of showing the bill impact of the OCA's recommendations, we have reflected zero increase to current rates.

Source: Calculated per Witness Heppenstall's water rate design. Response to I&E-RS-3-D (Revised).

AQUA PENNSYLVANIA, INC.
WATER OPERATIONS
AVERAGE MONTHLY BILL COMPARISON
INDUSTRIAL

Rate Zone	Division	Meter Size	Avg. Consumption 1/	Avg. Bill At Present Rates 2/	Avg. Bill At OCA Rates 2/	Percent Change 3/
RZ1	Main	5/8	231,500	$2,257.06	$2,257.06	0.00%
RZ2	Main	2	37,000	$518.36	$518.36	0.00%
RZ3	All Divisions	5/8	76,500	$905.43	$905.43	0.00%

1/ Approximate average consumption per customer in Docket No. A-2018-3004108.
2/ Present rates include current DSIC revenues.
3/ The OCA has supported a revenue decrease for water operations but for the purpose of showing the bill impact of the OCA's recommendations, we have reflected zero increase to current rates.

Source: Calculated per Witness Heppenstall's water rate design. Response to I&E-RS-3-D (Revised).

AQUA PENNSYLVANIA, INC.
WASTEWATER OPERATIONS
AVERAGE MONTHLY BILL COMPARISON
RESIDENTIAL

Rate Zone	Division	Avg. Bill Current Rates	Avg. Bill OCA Rates	% Change
RZ1	Media	$ 61.94	$ 79.77	28.79%
RZ1-EDU	Bridlewood, Eagle Rock	$ 55.34	$ 71.40	29.00%
RZ1A	Tres. Lake, Valley Forge, Bunker Hill	$ 54.07	$ 77.31	42.99%
RZ1B	Penn Township	$ 60.42	$ 80.36	33.00%
RZ2	Emlenton, River Crest, White Haven	$ 68.20	$ 75.62	10.88%
RZ2	Pinecrest			
RZ3	Beech Mtn, Deerfield Knoll, Laurel Lakes	$ 78.32	$ 101.12	29.11%
RZ3	Woodloch Springs			
RZ4	Honeycroft, Lake Harmony, New Daleville	$ 106.69	$ 135.78	27.27%
RZ5	Avon Grove, East Bradford, Little Washington	$ 120.60	$ 150.87	25.10%
RZ5	Newlin Green	$ 171.22	$ 183.14	6.96%
RZ6	Masthope	$ 45.06	$ 58.29	29.38%
Bulk	Southdown Home			
Bulk	East Brandywine			
Bulk	Foster Township			
Bulk	Dennison			
Bulk	Upper Providence			
Bulk	Elwyn			
Bulk	Penn Lake			
Bulk	East Side			
Total Legacy System		$ 72.30	$ 92.58	28.06%
Acquired	Limerick	$ 41.06	$ 82.13	100.00%
Acquired	East Bradford	$ 60.61	$ 93.29	53.92%
Acquired	Cheltenham	$ 37.48	$ 48.86	30.36%
Acquired	East Norriton	$ 38.04	$ 71.63	88.32%
Acquired	New Garden	$ 99.65	$ 144.57	45.09%
Total Newly Acquired Systems		$ 44.80	$ 71.66	59.96%
Total Aqua Wastewater		$ 55.82	$ 80.05	43.40%

AQUA PENNSYLVANIA, INC.
WASTEWATER OPERATIONS
AVERAGE MONTHLY BILL COMPARISON
COMMERCIAL

Rate Zone	Division	Avg. Bill Current Rates	Avg. Bill OCA Rates	% Change
RZ1	Media	$259.32	$334.19	28.87%
RZ1-EDU	Bridlewood, Eagle Rock	$81.20	$104.65	28.87%
RZ1A	Tres. Lake, Valley Forge, Bunker Hill	$841.74	$1,328.27	57.80%
RZ1B	Penn Township	$914.44	$767.33	-16.09%
RZ2	Emlenton, River Crest, White Haven	$116.61	$131.00	12.34%
RZ2	Pinecrest	$3.15	$2.94	-6.80%
RZ3	Beech Mtn, Deerfield Knoll, Laurel Lakes	$79.45	$107.23	34.97%
RZ3	Woodloch Springs	$385.00	$496.51	28.96%
RZ4	Honeycroft, Lake Harmony, New Daleville	$107.91	$137.26	27.21%
RZ5	Avon Grove, East Bradford, Little Washington	$2,162.11	$2,802.62	29.62%
RZ5	Newlin Green			
RZ6	Masthope	$101.51	$130.93	28.98%
Bulk	Southdown Home			
Bulk	East Brandywine			
Bulk	Foster Township			
Bulk	Dennison			
Bulk	Upper Providence			
Bulk	Elwyn			
Bulk	Penn Lake			
Bulk	East Side			
Total Legacy System		$91.02	$114.76	26.08%
Acquired	Limerick	$53.95	$96.32	78.55%
Acquired	East Bradford	$337.17	$661.63	96.23%
Acquired	Cheltenham	$33.43	$43.58	30.36%
Acquired	East Norriton	$188.60	$220.08	16.69%
Acquired	New Garden	$243.46	$348.08	42.97%
Total Newly Acquired Systems		$49.00	$69.46	41.74%
Total Aqua Wastewater		$60.47	$81.82	35.31%

AQUA PENNSYLVANIA, INC.
WASTEWATER OPERATIONS
AVERAGE MONTHLY BILL COMPARISON
INDUSTRIAL

Rate Zone	Division	Avg. Bill Current Rates	Avg. Bill OCA Rates	% Change
RZ1	Media	$ 61.94	$ 79.77	28.78%
RZ1-EDU	Bridlewood, Eagle Rock			
RZ1A	Tres. Lake, Valley Forge, Bunker Hill			
RZ1B	Penn Township			
RZ2	Emlenton, River Crest, White Haven			
RZ2	Pinecrest			
RZ3	Beech Mtn, Deerfield Knoll, Laurel Lakes			
RZ3	Woodloch Springs			
RZ4	Honeycroft, Lake Harmony, New Daleville			
RZ5	Avon Grove, East Bradford, Little Washington			
RZ5	Newlin Green			
RZ6	Masthope			
Bulk	Southdown Home			
Bulk	East Brandywine			
Bulk	Foster Township			
Bulk	Dennison			
Bulk	Upper Providence			
Bulk	Elwyn			
Bulk	Penn Lake			
Bulk	East Side			
Total Legacy System		$ 61.94	$ 79.77	28.78%
Acquired	Limerick			
Acquired	East Bradford			
Acquired	Cheltenham	$ 25.81	$ 33.64	30.36%
Acquired	East Norriton			
Acquired	New Garden			
Total Newly Acquired Systems		$ 25.81	$ 33.64	30.36%
Total Aqua Wastewater		$ 29.42	$ 38.26	30.03%

AQUA PENNSYLVANIA, INC.
WASTEWATER OPERATIONS
AVERAGE MONTHLY BILL COMPARISON
PUBLIC

Rate Zone	Division	Avg. Bill Current Rates	Avg. Bill OCA Rates	% Change
RZ1	Media	$ 346.50	$ 446.49	28.86%
RZ1-EDU	Bridlewood, Eagle Rock			
RZ1A	Tres. Lake, Valley Forge, Bunker Hill			
RZ1B	Penn Township			
RZ2	Emlenton, River Crest, White Haven			
RZ2	Pinecrest			
RZ3	Beech Mtn, Deerfield Knoll, Laurel Lakes			
RZ3	Woodloch Springs			
RZ4	Honeycroft, Lake Harmony, New Daleville			
RZ5	Avon Grove, East Bradford, Little Washington			
RZ5	Newlin Green			
RZ6	Masthope			
Bulk	Southdown Home			
Bulk	East Brandywine			
Bulk	Foster Township			
Bulk	Dennison			
Bulk	Upper Providence			
Bulk	Elwyn			
Bulk	Penn Lake			
Bulk	East Side			
Total Legacy System		$ 346.50	$ 446.49	28.86%
Acquired	Limerick	$ 278.79	$ 387.28	38.91%
Acquired	East Bradford	$ 72.67	$ 149.68	105.96%
Acquired	Cheltenham	$ 33.78	$ 44.48	31.68%
Acquired	East Norriton			
Acquired	New Garden			
Total Newly Acquired Systems		$ 42.16	$ 57.03	35.26%
Total Aqua Wastewater		$ 107.81	$ 141.04	30.82%

AQUA PENNSYLVANIA, INC.
WASTEWATER OPERATIONS
AVERAGE REVENUE COMPARISON
BULK

Rate Zone	Division	Present Revenues	Increase	OCA Revenue	% Increase
RZ1	Media		$ -	$ -	
RZ1-EDU	Bridlewood, Eagle Rock		$ -	$ -	
RZ1A	Tres. Lake, Valley Forge, Bunker Hill		$ -	$ -	
RZ1B	Penn Township		$ -	$ -	
RZ2	Emlenton, River Crest, White Haven		$ -	$ -	
RZ2	Pinecrest		$ -	$ -	
RZ3	Beech Mtn, Deerfield Knoll, Laurel Lakes		$ -	$ -	
RZ3	Woodloch Springs		$ -	$ -	
RZ4	Honeycroft, Lake Harmony, New Daleville		$ -	$ -	
RZ5	Avon Grove, East Bradford, Little Washington		$ -	$ -	
RZ5	Newlin Green		$ -	$ -	
RZ6	Masthope		$ -	$ -	
Bulk	Southdown Home	$ 84,614	$ -	$ 84,614	0.00%
Bulk	East Brandywine	$ 1,403	$ -	$ 1,403	0.00%
Bulk	Foster Township	$ 270,065	$ (132)	$ 269,933	-0.05%
Bulk	Dennison	$ 57,989	$ (28)	$ 57,961	-0.05%
Bulk	Upper Providence	$ 542,530	$ 108,539	$ 651,070	20.01%
Bulk	Elwyn	$ 98,470	$ 19,703	$ 118,173	20.01%
Bulk	Penn Lake	$ 135,861	$ (66)	$ 135,795	-0.05%
Bulk	East Side	$ 89,099	$ (18)	$ 89,081	-0.02%
Total Legacy System		$ 1,280,031	$ 127,997	$ 1,408,028	10.00%
Acquired	Limerick	$ -	$ -	$ -	
Acquired	East Bradford	$ -	$ -	$ -	
Acquired	Cheltenham	$ -	$ -	$ -	
Acquired	East Norriton	$ -	$ -	$ -	
Acquired	New Garden	$ -	$ -	$ -	
Total Newly Acquired Systems		$ -	$ -	$ -	
Total Aqua Wastewater		$ 1,280,031	$ 127,997	$ 1,408,028	10.00%

AQUA PENNSYLVANIA, INC.
WASTEWATER OPERATIONS
AVERAGE REVENUE COMPARISON
CONTRACTS

Rate Zone	Division	Present Revenues	Increase	Scaleback Revenue	% Increase
RZ1	Media		$ -	$ -	
RZ1-EDU	Bridlewood, Eagle Rock		$ -	$ -	
RZ1A	Tres. Lake, Valley Forge, Bunker Hill		$ -	$ -	
RZ1B	Penn Township		$ -	$ -	
RZ2	Emlenton, River Crest, White Haven		$ -	$ -	
RZ2	Pinecrest		$ -	$ -	
RZ3	Beech Mtn, Deerfield Knoll, Laurel Lakes		$ -	$ -	
RZ3	Woodloch Springs	$ 312,754	$ 27,205	$ 339,958	8.70%
RZ4	Honeycroft, Lake Harmony, New Daleville		$ -	$ -	
RZ5	Avon Grove, East Bradford, Little Washington		$ -	$ -	
RZ5	Newlin Green		$ -	$ -	
RZ6	Masthope		$ -	$ -	
Bulk	Southdown Home		$ -	$ -	
Bulk	East Brandywine		$ -	$ -	
Bulk	Foster Township		$ -	$ -	
Bulk	Dennison		$ -	$ -	
Bulk	Upper Providence		$ -	$ -	
Bulk	Elwyn		$ -	$ -	
Bulk	Penn Lake		$ -	$ -	
Bulk	East Side		$ -	$ -	
Total Legacy System		$ 312,754	$ 27,205	$ 339,958	8.70%
Acquired	Limerick	$ -	$ -	$ -	
Acquired	East Bradford	$ -	$ -	$ -	
Acquired	Cheltenham	$ -	$ -	$ -	
Acquired	East Norriton	$ -	$ -	$ -	
Acquired	New Garden	$ -	$ -	$ -	
Total Newly Acquired Systems		$ -	$ -	$ -	
Total Aqua Wastewater		$ 312,754	$ 27,205	$ 339,958	8.70%

Appendix C
Proposed Finding of Fact
PUBLIC VERSION

OCA PROPOSED FINDINGS OF FACT

INTRODUCTION

Pandemic's Impact

1. Portions of Aqua's service territory Northumberland and Columbia counties have the highest hospitalization rate in the country. OCA St. 2SR at 10.

2. Due to the COVID-19 pandemic, the unemployment rate across Pennsylvania reached 16.2% in April 2020. OCA St. 2 at 2.

3. As of October 2021, the average unemployment rate for Aqua's overall service territory is 5.4%, OCA St. 2SR at 7.

4. The unemployment rate for Aqua's overall service territory is higher than the United States' rate of 4.2%.OCA St. 2SR at 7.

5. The pandemic has increased arrearages of Aqua's At-Risk Accounts and Aggregate Arrears. OCA St. 2 at 3.

6. According to the most recent data from the Pulse Survey, people ages 25-39, and those who identify as Hispanic, or Latino are experiencing the greatest impact of the pandemic. OCA St. 2 at 6-7.

7. During the Public Input Hearings, testimony was offered from a significant number of customers within Aqua's service territory who expressed their frustration with Aqua's request for a rate increase in the midst of the ongoing pandemic. *See* Tr. 51, 140, 145, 154-155, 160, 172, 226, 246, 280-81, 283-84, 315, 382-84, 424; *see also* Comitta Exhibit 1.

8. Since June 2021, the State Coincident Index for Pennsylvania rose 2% to 118.7. OCA St. 2 at 8.

9. The Coincident Index for both Pennsylvania (118.7) and the United States (129.9) continues to slowly recover from the plunge it took in April 2020 to 89.5. OCA St. 2 at 8.

10. The OCA also notes that, although the level of payroll employment increased over the past three months, numbers remain lower than pre-pandemic, February 2020. OCA St. 2 at 8.

RATE BASE

Plant in Service

11. Aqua proposed rates based on a FPFTY beginning March 31, 2022 and ending March 31, 2023 as the test period to determine its revenue requirements. Aqua St. 1 at 12.

12. Aqua projects that on March 31, 2023, the Company's rate base will equal approximately $3.818 billion for its water operations and $198.4 million for its wastewater operations. Aqua St. 1 at 12.

13. Using the same FPFTY as the Company, the OCA recommends a rate base of approximately $3.809 billion for Aqua's water operations, which is about $9.5 million lower than the Company's proposal. For wastewater operations, the OCA recommends a FPFTY rate base of $198.3 million. OCA St. 1SR; OCA Exh. LA-5, Sch. A.

Phoenixville Acquisition Adjustment

14. On April 26, 2017, Aqua filed an application seeking the Commission's approval of its acquisition of a portion of the Borough of Phoenixville's assets, located in East Pikeland Township, Chester County, and Upper Providence Township, Montgomery County, Pennsylvania. The Commission approved the application and the Company purchased the system assets on December 5, 2019. OCA St. 2 at 9.

15. The depreciated cost of the Phoenixville assets was $1,026,724, and Aqua paid $2,437,305 more for the assets than the depreciated original cost, creating a total purchase price of $3,464,029. OCA St. 2 at 9.

16. Aqua requests a twenty-year amortization of the acquisition premium resulting in a claim for a positive acquisition adjustment of $121,865 per year to be approved for ratemaking purposes. OCA St. 2 at 9.

17. Removing the amount of the Phoenixville Water Acquisition Adjustment from the Company's rate base would decrease the Company's proposed water utility rate base by $2.315 million. OCA St. 1 at 20.

18. Aqua has provided no evidence that the Borough of Phoenixville was providing inadequate service to its customers at the time of the acquisition. OCA St. 2 at 11.

19. At the time of the acquisition of the Phoenixville system, Aqua had no specified plans to improve the acquired assets, and as part of the Purchase Agreement the Borough certified that it was in compliance with all applicable laws and regulations. OCA St. 2 at 11.

20. The Borough of Phoenixville continues to own and operate water and wastewater systems that serve 11,680 customers without issue. OCA St. 2 at 14.

21. The Commission found no issues with the acquired Phoenixville assets that would require necessary improvements to the plant or distribution system. *See* OCA St. 2 at 11-12.

22. The Company has not demonstrated that the Borough was a troubled system that was not maintaining adequate, efficient, safe, and reasonable service and facilities at the time of the acquisition. Aqua St. 2R at 8.

Cash Working Capital (CWC)

23. The OCA's interest expense calculation reflects proper synchronization and coordination of the OCA's recommended weighted cost of debt and rate base, and trying to substitute any other amount would result in inconsistent treatment of allowed interest expense. OCA St. 1SR at 12-13.

24. The Company recognized the need for synchronization among rate case revenue requirement components when it acknowledged that an increase in interest expense reduces cash working capital requirements. Aqua St. 1R at 10.

REVENUES

25. Aqua has presented water and wastewater revenue requirement calculations that would result in a base rate revenue increase of approximately $97.685 million, or 17.86%. OCA St. 1 at 6; OCA St. 1SR at 5.

26. Aqua is requesting a base rate revenue increase of approximately $86.119 million for its Water Operations, and $11.566 million for its Wastewater Operations. OCA St. 1 at 6.

27. The OCA recommends a rate increase that is approximately $85.542 million lower than what Aqua has requested. OCA Exh. LA-5, Sch. A.

FPFTY Revenue for Metered Water Sales

28. The Company proposes to reduce revenue for residential metered customer water sales by $11.03 million and to add $9.4747 and $1.217 million of Commercial and Public Authority revenue for metered water sales, respectively, on the basis that FPFTY sale levels will likely reflect pre-pandemic water sales. OCA St. 1 at 36.

29. The Company's metered residential water sales in 2020 were 1,181,614,000 gallons higher than in 2019, a pre-pandemic period. OCA St. 1 at 36.

30. Only 75% of Aqua's adjustment for residential customers should be accepted, since many residential consumers continue to work from home and spend more time in their houses. OCA St. 1 at 36.

31. Water usage is still up from 2019 levels, indicating that people are using water at home more frequently. While numbers may be adjusting towards pre-pandemic levels, they are not there yet and it is likely that at-home water usage will remain high into the future. OCA St. 1SR at 27-28.

32. OCA witness Smith recommends the increase of $2.757 million to residential revenue, which is 75% of Aqua's proposed adjustment to residential revenue. *See* OCA St. 1SR at 27-28.

Special Contract Revenue

33. The Company agrees that an adjustment to current revenues to reflect the contractual escalation rates through March 31, 2021 is appropriate, but does not agree with the inflation factors to be used in making the adjustment. Aqua St. 2R at 27-28.

34. The Company's escalation provisions in its contracts are tied to changes in the Consumer Price Index (CPI). OCA St. 4SR at 9.

35. The OCA's recommended escalation rates utilize the average of the U.S. Office of Management and Budget's and the Federal Reserve's forecasted inflation rates for 2021, 2022, and 2023 to provide an accurate depiction of inflation levels at the time of the FPFTY. OCA St. 4SR at 9.

36. The Company forecasted considerably lower inflation rates without providing a basis for their use. Aqua St. 2R at 28.

Miscellaneous Revenues

37. The Company increased Miscellaneous revenue by $150,172 to normalize the impact of COVID-19. Aqua St. 2R at 30.

New Garden Late Fee Revenue for Water Utility

38. Aqua received $8,691 in late payment revenue between September and April of 2021 for the New Garden system that Aqua acquired in December 2020. Aqua St. 2R at 30-31.

EXPENSES

Aqua's General Inflation Adjustment

39. Aqua's basis for its inflation adjustments is the "adjustment reflects the anticipated effect of inflation on operating expenses that were not specifically adjusted in this case." Aqua St. 3 at 3.

40. The Company's adjustment for inflation impacts operating expenses not otherwise specifically adjusted in the case or not subject to inflation, or 22% of the total operating expenses were subject to the inflation factor. Aqua St. 3R at 2-3.

41. While the Company does indicate that certain expenses such as Supplies Expense, Lab Testing Expense, and Outside Accounting expenses have grown at a faster rate than the 1.75% factor being applied to them in the future test year, standing alone, this is not sufficient to show that all expenses under this category should be subject to this general inflation factor. OCA St. 1SR at 26.

Impact of OCA Adjustment to Revenue

42. OCA recommends an adjustment to Aqua's proposed revenue from residential metered water sales to increase revenue by $2.757 million. This revenue adjustment results in an increase to the Purchased Power expense of $96,312 and an increase to Chemical Expense of $66,787. OCA St. 1 at 38.

New Advertising Expense

43. Aqua has requested $368,810 in FPFTY advertising expenses for its water utility operations and $7,500 for its wastewater utility operations. OCA St. 1 at 39.

44. The proposed new expenses are described as being for "Explanation of billing practices, rates, rules, and regulations." OCA St. 1 at 39.

45. Aqua did not show any amount for advertising expense in the category of "Explanation of billing practices, rates, rules, and regulations" in the HTY or FTY. OCA St. 1 at 40.

46. Aqua's water utility advertising expense for the FPFTY includes amounts for "Public Health and Safety" and "Other Advertising Programs" which are reflected in the HTY and FTY. OCA St. 1 at 40.

47. The proposed normalization of the "Explanation of billing practices, rates, rules, and regulations" expense over three years, for an allowance of $25,000 in the FPFTY for the water utility and $2,500 for the wastewater utility, will result in a reduction to Aqua's proposed advertising expense of $50,000 for the water utility and $5,000 for the wastewater utility. OCA St. 1 at 40.

48. The proposed reduction to the Company's claimed advertising expense of $50,000 as a result of the normalization of new advertising expenses makes the expense more reasonable while still providing additional funds to meet Aqua's needs. OCA St. 1 at 40.

Payroll Expenses

Proposed Vacancy Rate

49. The Company reflected a vacancy adjustment in its payroll expenses that it believed to be "in line with the Company's actual experience." Aqua St. 2 at 11.

50. To determine this number, the Company looked at both non-union employees and union employees. For non-union employees, Aqua started with actual wage rates as of April 1, 2021 and annualized payroll expense using those rates. OCA St. 1 at 40.

51. The Company reflected an anticipated wage increase for all employees and annualized payroll expense using those rates. OCA St. 1 at 40.

52. For union employees, the Company's payroll expense was annualized based on pay rates included in the collective bargaining agreements in place for each of Aqua's seven unions. OCA St. 1 at 40.

53. Aqua reduced the non-union and union FPFTY gross payroll amounts by the capitalized and non-operating labor reflected in the HTY, and the gross payroll amounts ultimately reflected an adjustment due to a vacancy rate of 2.50%. *See* OCA St. 1 at 41.

54. In the past three years, Aqua has consistently authorized more seasonal positions than it was able to fill. OCA St. 1 at 43-44.

55. A 2.88% vacancy rate based on the difference between actual regular hours and authorized regular hours during the HTY more accurately reflects Aqua's experience with unfilled positions. OCA St. 1 at 41-42.

56. When the 2.88 % vacancy rate is applied to the Company's FPFTY gross payroll amounts for union and non-union employees, there is an adjustment decreasing payroll expense by $119,358 for the Company's water operations and $6,855 for the Company's wastewater operations. OCA St. 1 at 44-45.

57. The Company has indicated that it accepts Mr. Smith's proposed adjustment to the vacancy rate. Aqua St. 2R at 35-36.

Payroll Expense for Seasonal Positions

58. The Company included 33 seasonal positions in its proposed FTY and FPFTY gross payroll expenses, amounting to a total expense of $240,240, but the expense reflected for these positions in the HTY was zero dollars. OCA St. 1 at 42.

59. Of 33 authorized seasonal positions, Aqua had only 11 actual seasonal positions at the end of the second quarter of 2021. Actual seasonal positions for the years 2019 and 2020 were zero, even though Aqua budgeted for 34 and 33 authorized seasonal positions for each of those summers, respectively. OCA St. 1 at 43.

60. Given the large difference between actual seasonal positions filled by Aqua (11) and the authorized seasonal positions budgeted by Aqua (33), using the authorized seasonal positions to calculate payroll expense would overstate the payroll expense. OCA St. 1 at 44.

61. The Company over-budgeted for seasonal employees even before the pandemic OCA St. 1SR at 32-33.

62. The Company should budget for seasonal employees by using the actual average number of employees from the summer of 2021 (11 employees). OCA St. 1SR at 32-33.

63. The payroll cost savings related to not hiring the budgeted amount of seasonal positions in 2020 and 2021, which amount to approximately $400,000 should be offset against Aqua's COVID-19 deferral if it is approved. OCA St. 1SR at 33-34.

64. The OCA's overall adjustment for vacancies decreases payroll expense by $267,031 for water operations and $19,342 for wastewater operations. OCA St. 1 at 45.

Stock-Based Compensation Expense

65. In Aqua's FPFTY cost of service, the Company included costs for (1) stock option compensation, (2) performance share units (PSU) and (3) restricted stock units (RSU). OCA St. 1 at 46.

66. The Company provided a copy of its stock-based compensation plan documents in its Highly Confidential response to OCA-IV-5, but the Company did not provide compensation plan documents related to stock options. OCA St. 1 at 46.

67. Beginning in 2020, under the redesigned long-term incentive program, stock options have been removed from the program and instead a heavier emphasis is placed on performance share units and restricted stock units. This approach has become the foundation of the long-term incentive program and will continue in 2022. OCA St. 1 at 46 (quoting Essential Utilities Proxy Statement, March 22, 2021 at 58).

68. Removing the stock-based compensation plan would decrease Aqua's FPFTY cost of service by $780,493 for water operations and by $66,000 for wastewater operations. OCA St. 1 at 45.

69. Aqua has not provided any evidence to demonstrate that ratepayers benefit from the provision of stock-based compensation to Aqua and Essential Utilities executives. OCA St. 1 at 48.

70. The share units and restricted share units have the primary purpose of benefiting Essential Utilities shareholders rather than those employees that are directly engaged in providing quality service to consumers. OCA St. 1 at 48.

71. The cost of stock-option based compensation has typically been treated as a dilution of shareholders' investments under Statement of Financial Accounting Standards No. 123 Revised, meaning it was a cost historically borne by shareholders. OCA St. 1 at 49.

72. There is no clear link between the Company's program and operational effectiveness and the provision of quality service to customers. OCA St. 1 at 48.

73. The Company's 1988 management audit did not address stock-based compensation plans, or mention stock-based compensation at all. OCA St. 1SR at 35.

74. The 1988 management audit recommended establishing an annual incentive plan for Philadelphia Suburban Water Company, and stock-based compensation is not typically a component of utility annual incentive compensation plans. OCA St. 1SR at 36.

75. Stock-based compensation is typically limited to executives and high level managers, and this appears to be the case for the stock-based compensation that Aqua has included in this case. OCA St. 1SR at 36.

76. Aqua has not pointed to any benefit that ratepayers receive in exchange for the additional costs of stock-based compensation being included in rates. OCA St. 1SR at 38-39.

77. It is common in other states to exclude stock-based compensation for executives from rate recovery, as is done routinely by the Arizona Corporation Commission. OCA St. 1SR at 37.

78. Requiring parent company shareholders to absorb the cost of executive stock-based compensation programs helps to mitigate the discrepancy in wealth between utility executives and utility workers and ratepayers. OCA St. 1SR at 38-39.

Insurance

Employee Group Insurance

79. The Company proposed adjusting employee group insurance for water operations using FTY contract prices and subtracting employee co-pay, and a portion not charged to operations. Aqua St. 1 at 17.

80. The Company applied a 2.5% vacancy credit to employee group insurance based on the 2.5% vacancy rate that it used for its payroll expense adjustment. The Company did not propose a similar adjustment to employee group insurance for wastewater operations. Aqua's employee group insurance for its wastewater operations reflects an amount of $1,263,638 for the FPFTY. OCA St. 1 at 51.

81. The OCA recommended a 2.88% vacancy adjustment to payroll expense, and when that same vacancy rate is used to calculate FPFTY employee group insurance for water operations it decreases Aqua's proposed expense by $24,285. OCA St. 1 at 51.

82. The OCA proposed an adjustment for the Company's wastewater intracompany benefits calculation based on the payroll expense derived from the recommended 2.88% vacancy rate, which would result in wastewater intracompany benefits of $1,259,525, or a decreased expense of $4,113. OCA St. 1 at 53.

General Insurance Expense

83. The Company claims that Aqua's insurance expenses experienced an average year-over-year increase of 5.97%. Aqua applied this annual escalation rate to its actual premium expense in 2021 to derive its FTY and FPFTY insurance amounts, minus those insurance costs that were not charged to operating expense. Aqua St. 4 at 7.

84. To calculate an alternate escalation rate, OCA witness Smith used a three year average of year of year increases from the years 2019, 2020, and 2021, and data from those years would project an expense increase of 4.38%. OCA St. 1 at 54, Exh, LA-2, Sch. C-15.

85. When the 4.38% escalation rate is applied to the Company's FTY and FPFTY, the resulting adjustment reduces Aqua's proposed insurance expense for the FPFTY by

$71,428 for water operations and $710 for wastewater operations. This is a total negative adjustment of $72,138. OCA Exh LA-2, Sch. C-15.

86. In rebuttal, the Company accepted this escalation rate of 4.38%, but in applying this escalation rate the Company inconsistently mixed calculations to derive an FPFTY claim for this expense that is $95,961 higher than what was reflected in Aqua's original filing. Aqua St. 4R at 8; OCA St. 1SR at 40.

87. The 4.38% increase to the FTY amounts properly reflects the normal level of General Insurance expense for the FPFTY, and thus, Aqua's proposed insurance expense should be reduced by $71,428 for water operations and $710 for wastewater operations. OCA St. 1SR at 41.

Aqua's Rate Case Expense

88. The Company initially presented its adjustment to operating expenses for Rate Case Expense as a normalization in its Company Schedule. OCA St. 1 at 26; Company Sch. C-4.4.

89. The Company clarified that it proposes to amortize the rate case expense that it initially represented as normalized. Aqua St. 3R at 8; OCA St. 1SR at 42-43.

90. In Company Schedule C-4.4, the Company requested an allowance for a $2.2 million rate case expensed normalized over three years, or a rate case expense of $671,073 per year for Water Operations and $62,260 per year for Wastewater Operations. The calculation for this cost included amounts for engineering, legal expenses, other consultants, including rate of return, notices and postage, and a "miscellaneous" cost. OCA Exh. LA-2, Sch. C-16.

91. The Company clarified that it proposes to amortize the $2.2 million rate case expense over three years. Aqua St. 3R at 7.

92. The Company included a $100,000 expense for "Other consultants" in its rate case expense. OCA St. 1 at 55.

93. The Company objected to the OCA's recommendation to remove the expense for "Other consultants", because the Company claimed that since September 30, 2021 when it filed its initial response to OCA discovery, it had incurred costs of $40,068 for consultants. Aqua St. 3R at 6.

94. The Company stated, without further explanation, that it expects to incur $65,000 of "Miscellaneous" costs if this case is fully litigated. Aqua St. 3R at 7.

95. The OCA accepted the Company's updated adjustments of $40,068 for consultant expenses and $65,000 for "Miscellaneous" expenses. OCA Exh. LA-6, Sch. C-16.

96. The OCA did not accept $59,932 of the Company's expense for "Other consultants" because those expenses had not yet been incurred and there was no support for the proposed level of expense. OCA Exh. LA-6, Sch. C-16.

97. Aqua has overstated its rate case expense in its last three rate cases. OCA St. 1 at 56.

98. Aqua's last three rate cases were settled, which contributed to the Company's claimed rate expense being higher than the actual costs of the rate case. OCA St. 1 at 56.

99. The Company contends that instead of being normalized, rate case expense should be amortized, since it is an expense that will certainly occur again, but irregularly and infrequently. Aqua St. 3R at 8.

100. Rate cases occur on predictable timelines and the timing of rate cases is the Company's decision, and thus the Company is incorrect to state that "there is no way to determine exactly when the Company will incur [rate case expenses]." Aqua St. 3R at 8.

101. Rate case expenses are not regulatory assets, they are not included in utility rate base to earn profits for investors, and they are not treated as amortized expenses. OCA St. 1SR at 42-43.

102. The Company, through witness testimony, stated that it "has not, nor will it ever, seek to recover unamortized rate case expenses from customers in a future rate case." Aqua St. 3R at 8.

103. The filing interval from Aqua's 2011 rate case to Aqua's 2019 rate case is approximately 7 years (using the rate effective dates of June 8, 2012 and May 24, 2019). OCA St. 1 at 56-57.

104. Three rate cases in approximately 9.8 years equates to an average filing interval of about 3.3 years between rate cases. OCA St. 1 at 56-57.

105. The OCA adjustments to "Other consultants" and "Miscellaneous" expenses reduce the total rate case expense by $124,932. OCA St. 1SR, Exh. LA-6, Sch. C-16.

106. The Company has allocated 91.51% of rate case expense to water expenses and 8.49% of its rate case expense to wastewater expenses. OCA St. 1SR, Exh. LA-6, Sch. C-16.

107. Given the Company's allocation of rate case expense, the OCA's recommended adjustments for rate case expense properly reduce overall operating expense by $114,325 for Aqua's Water Operations and $10,607 for Wastewater Operations. OCA St. 1SR, Exh. LA-6, Sch. C-16.

108. The adjusted rate case expense should be normalized over 3.3 years. OCA St. 1 at 57.

Non-Rate Case Legal Expense (Water)

109. The Company has requested $644,475 for non-rate case legal expenses for the FPFTY for its water utility operations. OCA St. 1 at 58.

110. This proposed non-rate case legal expense is based on a three-year average of amounts for the twelve months ending March 31, 2019, March 31, 2020, and March 31, 2021. OCA St. 1 at 58.

111. The non-rate case legal expense incurred by the Company decreased between 2019 and 2021, with the highest of the three periods being the one that ended on March 31, 2019, at $694,447. OCA St. 1 at 58.

112. In the calendar year 2019, Aqua recorded $545,550 in non-rate case legal expenses, and in 2020 Aqua recorded $587,742 in non-rate case legal expenses. OCA St. 1 at 58.

113. Aqua's requested amount of $644,475 for non-rate case legal expense should be reduced by $24,981 to reflect an amount for the FPFTY that is based on the average amounts recorded by Aqua for the twelve month periods ending March 31, 2020 and March 31, 2021. OCA St. 1 at 59.

114. The OCA's suggested two-year time frame for determining non-rate case legal expense excludes the 2019 year because it is unusually high and not representative of current or future levels of that expense. OCA St. 1SR at 44.

115. Aqua has been inconsistent about whether a three-year time frame is appropriate for determining non-rate case legal expense. Aqua witness Manning argued for the three-year time frame, but Aqua witness Henkel stated that the Company disagreed with the use of the three-year average, Aqua St. 3R at 10; Aqua St. 4R at 6.

Executive Retirement Plant Expense - Executive Compensation

116. The Company's claim unreasonably puts an expense for a Supplemental Executive Retirement Plan (SERP) for Essential Utilities and Aqua top executives on consumers, when that expense is not affiliated with the provision of public utility service. OCA St 1SR at 45-46.

117. The SERP provides retirement benefits for select highly compensated executives that go beyond what employees with qualified pension plans receive and beyond International Revenue Service (IRS) limitations for qualified plans. OCA St. 1SR at 45.

118. Companies typically justify these types of retirement benefits for select employees by stating that they are necessary to attract and retain sufficiently qualified employees. OCA St. 1SR at 46.

119. Aqua has reflected an expense of $97,014 to fund SERP benefits in its requested revenue increase under "Aqua Nonqualified Service Costs." OCA St. 1 at 60.

120. Aqua indicated that it included expenses related to the SERP in its FPFTY totaling $598,598 for water operations and $57,050 in wastewater utility operations. Aqua provided a list of the current and former executives (and executive spouses) for whom these expenses are being incurred in Highly Confidential Attachment 4 to Aqua's supplemental response to OCA-VII-46. OCA St. 1 at 60.

121. **[BEGIN HIGHLY CONFIDENTIAL]** [redacted]. **[END HIGHLY CONFIDENTIAL]** OCA Exh. LA-4 at 87.

122. The OCA recommends removing the requested FPFTY SERP expenses for the water utility and for the wastewater utility altogether. OCA St. 1 at 62; OCA Exh. LA-2, Sch. C-18.

123. Aqua justifies the SERP program by noting that it is only available to executives enrolled in the pension plan, hired prior to 2003, and thus will ultimately be reduced as the pool of eligible members phases out. OCA St. 1SR at 46.

124. The fact that the plan applies only to executives hired prior to 2003 indicates that the SERP benefits are not in place to attract new employees. OCA St. 1SR at 45-47.

COVID-19 Deferral Account

125. Rather than requesting recovery of its existing COVID-19 deferral amounts in this current rate case, Aqua proposes to continue recording amounts in its COVID-19 deferral account and seek recovery in a future rate case. Aqua St. 1R at 5-6.

126. The Company claims that it is still dealing with expenses from supply chain delays and inflation due to COVID-19 and it wishes to defer the expenses in order to ensure a fair opportunity to earn a reasonable rate of return. Aqua St. 1R at 5-6.

127. Aqua's ability to continue recording costs into a deferral account should be limited, since allowing continual deferrals indefinitely beyond the FPFTY being used in the current base rate case is not reasonable. OCA St. 1 at 63.

128. In any filing seeking to recover deferred COVID-19 costs, Aqua should account for savings that it has recognized during the pandemic for things such as travel, conferences, and other categories of expenses that may be offset against the recorded COVID-19 deferral balances. The Company has so far acknowledged approximately $360,000 of such savings. Aqua St. 1R at 9.

129. The Company should terminate its COVID-19 deferrals as of the end of the FPFTY in this case and offset them with cost-savings related to the COVID-19 pandemic. OCA St. 1SR at 47.

COST OF CAPITAL AND RATE OF RETURN

130. The Company claims a capital structure of 46.05% long-term debt and 53.95% common equity. Aqua St. 4 at 20; Aqua Exh. 4-A, page 1.

131. The Company bases its proposed capital structure ratios on what it estimates to be a 4.00% prospective embedded cost of long-term debt. Aqua St. 4 at 21; Aqua Exh. 4-A at 11-14.

132. Aqua requests a rate of return, based upon its cost of capital, of 7.64 %, which includes a 10.75% cost of common equity. Aqua Exh. 4-A at 1.

133. Mr. Moul has obtained his data by using a proxy group (i.e. barometer group) of eight water companies (Moul Proxy Group) to arrive at his numbers for Aqua's equity cost rate. Aqua St. 4 at 5; Aqua Exh. 4-A, at 6.

134. The Moul Proxy Group consists of water companies that are: 1) contained in *The Value Line Investment Survey*, and 2) publicly traded. Aqua St. 4 at 10.

135. Mr. Moul also used Standard & Poor's Public Utilities (S&P Public Utilities), a group of electric and natural gas companies, in his analyses. Aqua St. 4, at 13; Aqua Exh. 4-A, at 6.

136. Mr. Moul has employed his data in the following four models: Discounted Cash Flow (DCF), Risk Premium Analysis (RP), Capital Asset Pricing Model (CAPM) and Comparable Earnings approach (CE). Aqua St. 4 at 5.

Capital Structure

137. The common equity ratio of Aqua's requested capital structure is significantly higher than the average of the eight regulated water utilities in the proxy group (50.0%). *See* OCA Exh. DJG-14.

138. Mr. Garrett utilized the same proxy group as Aqua witness Moul for determining a hypothetical capital structure and rate of return. OCA St. 3 at 17.

139. For Aqua's water and wastewater operations OCA witness Garrett recommends a hypothetical capital structure of 50% common equity and 50% long-term debt based upon the average of the companies in the proxy group which utilize common equity ratios between 41% and 56%. *See* Exh. DJG-14.

140. A higher Weighted Average Cost of Capital (WACC) results in higher rates. *See* OCA St. 3 at 57.

141. There are several notable industries that are relatively comparable to public utilities. The Cable TV, Telecom, Power, and General Utility industries all have an average debt ratios close to 60%. OCA St. 3 at 61.

142. Aqua's proposal of a 46% debt ratio is lower than the proxy group (50%), General Utilities (58%), Power (60%), Telecom (Wireless) (60%), and Cable TV (61%) industries. OCA St. 3 at 61.

Cost Rate of Common Equity

Proxy Group

143. The OCA has chosen to use the same proxy group as selected by Aqua witness Moul. OCA St. 3 at 17.

DCF Analysis

144. Mr. Garrett uses a Quarterly Approximation Discounted Cash Flow (DCF) method that accounts for quarterly growth of dividends. OCA St. 3 at 25.

145. The DCF method produces the highest cost of equity estimates compared with the other DCF Model variations." OCA St. 3 at 25.

146. Mr. Garrett's Quarterly Approximation DCF method indicates a cost of equity for Aqua of 8.0%. OCA St. 3 at 34; *See* Exh. DJG-6.

147. There are three primary inputs into the DCF model: (1) stock price; (2) dividend; and (3) the long-term grown rate. OCA St. 3 at 25-26.

148. Mr. Garrett obtained the stock Price ("P") from the 30-day average of stock prices for each company in the proxy group. OCA St. 3 at 26, *see* OCA Exh. DJG-3.

149. The 30-day average was computed based on the ticker from September 14, 2021 through October 25, 2021. OCA Exh. DJG-3.

150. Mr. Garrett selected a 30-day average to avoid the possible volatility of a single day's stock price, stating that the 30-day period "represents a good balance between adhering to well-established principles of market efficiency while avoiding any unnecessary contentions that may arise from using a single stock price on a given day." OCA St. 3 at 27.

151. Mr. Garrett obtained the current quarterly dividend per share ("d_0") from "the most recent quarterly dividend paid for each proxy company." OCA St. 3 at 27-28; *see* OCA Exh. DJG-4.

152. The DCF model "assumes that the company increases its dividend payments each quarter. Thus, the model assumes that each quarterly dividend is greater than the previous one by $(1 + g)^{0.25}$." OCA St. 3 at 28.

153. The Quarterly Approximation DCF Model results in a higher cost of equity estimate than the annual or semi-annual DCF Models "due to the quarterly compounding of dividends inherent in the model." OCA St. 3 at 28.

154. The Quarterly Approximation DCF Model values stock according "the present value of its future cash flows in the form of dividends. Before future cash flows are discounted by the cost of equity, however, they must be 'grown' into the future by a long-term growth rate." OCA St. 3 at 29.

155. The growth rate, unlike the stock price and the dividend, must be estimated. OCA St. 3 at 29.

156. The DCF model assumes that these dividends grow at a constant rate forever. OCA St. 3 at 29, *see* OCA St. 3 at 28.

157. No firm can grow forever at a higher rate than the growth rate of the economy. OCA St. 3 at 32.

158. A regulated utility would grow at a rate that is less than the U.S. economic growth rate. OCA St. 3 at 32.

159. The growth rates used by Aqua witness Mr. Moul are higher than what should typically be used for the terminal growth rate in the DCF Model. OCA St. 3 at 33.

160. Regarding the growth rate of 6.3% he selected for the DCF Model, Mr. Garrett explained, "For the long-term growth rate in my DCF model, I selected the maximum, reasonable long-term growth rate of 6.3%, which means my model assumes that Aqua's qualitative growth in earnings will exceed the nominal growth rate of the entire U.S. economy over the long run – a very charitable assumption." OCA St. 3 at 34.

161. Mr. Garrett relied on one of Mr. Moul's growth rates to calculate his own DCF result. OCA St. 3SR at 4.

162. Mr. Garrett's analysis demonstrates that when reasonable inputs to the DCF Model are used, the resulting ROE is still only 8.0%, even if one of the Company's relatively high proposed growth rate assumptions is considered. OCA St. 3SR at 5.

163. Applying the stock price, the dividend, and the growth rate to the Quarterly Approximation DCF model to estimate Aqua's cost of equity capital resulted in an estimate of 8.0%. OCA St. 3 at 34; OCA Exh. DJG-6.

164. Aqua witness Mr. Moul generated a DCF model with a base cost of equity of 9.0%. OCA St. 3 at 35.

165. Mr. Moul added a 2.34% leverage adjustment to his DCF results through the use of the Hamada formula. OCA St. 3 at 35.

166. Mr. Moul's DCF analysis with the addition of the leverage adjustment results in a recommended 11.78% cost of equity. OCA St. 3 at 35; *see* Aqua Exh. 4-A, Sch. 1.

167. Mr. Moul used the Hamada formula to add a 234 basis point adjustment to his 9.0% base cost of equity in the DCF model. OCA St. 3 at 37.

168. The Hamada formula can be used to analyze changes in a firm's cost of capital as it changes is financial leverage. OCA St. 3 at 35.

169. The Hamada formula works by starting with an unlevered beta and relevering the beta at different debt ratios. OCA St. 3 at 35.

170. In the Hamada formula, by increasing the amount of financial leverage at different debt ratios, equity investors bear increasing amounts of risk. OCA St. 3 at 35.

171. The Hamada formula allows for the effects of leverage to be removed. OCA St. 3 at 35-36.

172. Mr. Moul uses a relevered beta of 1.07, implying that Aqua is riskier than the average company in the competitive marketplace (the average company has a beta of 1.0). OCA St. 3 at 38.

173. A proper and accurate unlevered beta calculation shows an unlevered beta of only 0.47. OCA St. 3 at 38.

174. For the Hamada application Mr. Moul uses an input of 28% for the debt ratio, which skews the results higher. OCA St. 3 at 38.

CAPM Analysis

175. The CAPM model is a market-based model founded on the principle that investors expect higher returns for incurring additional risk. OCA St. 3 at 38.

176. The basic CAPM equation requires only three inputs to estimate the cost of equity: (1) the risk-free rate; (2) the beta coefficient; and (3) the equity risk premium. OCA St. 3 at 39.

177. OCA Witness Garrett estimated that Aqua's CAPM cost of equity is 6.4%. OCA St. 3 at 48; *see* OCA Exh. DJG-11.

178. Company witness Mr. Moul estimated the base CAPM cost of equity as 13.4%. OCA St. 3 at 49.

179. Mr. Moul arrives at this higher result by using the same beta of 1.07 that he uses in the Hamada formula for the leverage adjustment to Aqua's DCF model. OCA St. 3 at 49.

180. Mr. Moul also adds a size premium of 1.02% to his CAPM. OCA St. 3 at 50.

181. Mr. Moul uses a risk free rate of 2.75% as an input in Aqua's CAPM model. OCA St. 3 at 49.

182. Aqua's risk free rate is about 75 points higher than the current yield on 30-year Treasury bonds. OCA St. 3 at 49.

183. The risk-free rate represents the bare minimum return any investor would expect on a risk investment. OCA St. 3 at 39.

184. Often investors use U.S. Treasury securities to represent the risk-free rate because they are essentially risk-free. OCA St. 3 at 39-40.

185. Short-term U.S. Treasury bonds are subject to greater volatility than long-term bonds. OCA St. 3 at 40.

186. Because stock is considered a long-term investment, and cash flows from dividends are assumed to last in perpetuity, long-term bonds are usually used to represent the risk-free rate in the CAPM model. OCA St. 3 at 40.

187. Mr. Garrett used a 30-day average of daily Treasury yield curve rates on 30-year Treasury Bonds in his risk-free rate estimate, which resulted in a reasonable risk-free rate of 2.02%. OCA St. 3 at 40; *see* OCA Exh. DJG-7.

188. Stocks with a beta greater than 1.0 are more sensitive to market risks; those with a beta less than 1.0 are less sensitive to market risks. OCA St. 3 at 41.

189. Mr. Garrett uses a beta of 0.794 in the CAPM model. *See* OCA Exh. DJG-11.

190. Mr. Garrett's beta coefficient is based on the Value Line Investment Survey of the eight utilities in the proxy group. OCA St. 3SR at 7.

191. The eight utilities of the proxy group have betas ranging from 0.65 to 1.00, and averaging 0.79. *See* OCA Exh. DJG-8.

192. Seven of the eight proxy group utilities has a beta of less than 1.00. OCA St. 3 at 41.

193. Mr. Moul calculated Aqua's market premium applicable to CAPM as 9.0%. Aqua St. 7R at 42.

194. Mr. Moul relies on data that predates the discovery of penicillin and bubble gum for his ERP estimate. OCA St. 3SR at 7.

195. Relying on data dating back nearly 100 years is not a reasonable approach to estimating ERP. OCA St. 3SR at 7.

196. A current and forward looking ERRP is notably lower than the historical ERP. OCA St. 3SR at 7.

197. The equity risk premium (ERP) is the required return on the market portfolio less the risk-free rate ($R_M – R_F$). OCA St. 3 at 41-42.

198. The ERP is the level of return investors expect above the risk-free rate in exchange for investing in risky securities. OCA St. 3 at 41-42.

199. The historical ERP may be calculated by simply taking the difference between returns on stocks and returns on government bonds over a certain period of time. OCA St. 3 at 42.

200. The prospective, forward-looking ERP is actually lower than the historical ERP. OCA St. 3 at 42-43.

201. Mr. Garrett relies on the ERP in expert surveys and the implied ERP method discussed below. OCA St. 3 at 44.

202. The IESE Business School conducts a periodic survey that asks experts around the country about their opinions on the ERP. Their 2020 expert survey reported an average ERP of 5.6%. OCA St. 3 at 44.

203. The implied ERP "relies on the stable growth model proposed by Gordon, often called the "Gordon Growth Model," which is a basic stock valuation model widely used in finance for many years." OCA St. 3 at 44.

204. Mr. Garrett employed the implied ERP model to arrive at an ERP of 5.0%. OCA St. 3 at 45.

Management Performance Adder

205. Mr. Moul has proposed a management performance adder in every rate case in which Mr. Moul has testified in Pennsylvania since 2015. Aqua St. 7-R at 26.

206. Aqua has conducted no comparative analyses to determine if Aqua's management performance is any different than other regulated utilities (in or out of the proxy group). OCA St. 3SR at 10.

TAXES

Income Tax Expense

Repairs Deduction

207. Aqua has been applying "flow through" treatment for its tax repairs deductions. OCA St. 1 at 31.

208. Flow through treatment for its tax repairs deductions has reduced current income taxes. OCA St. 1 at 31.

209. Flow through treatment for its tax repairs deductions also reduces Aqua's effective tax rate by treating tax deductions for repairs as if it were a permanent difference between tax and book amounts, rather than a temporary difference as is the case here. OCA St. 1 at 31.

210. The Company's current treatment is unusual in the utility industry and can result in large amounts of excess earnings between rate cases. OCA St. 1 at 31.

211. An alternative treatment that is far more common for regulated utilities with cost of service-based rates, is for the temporary book-tax differences related to repairs to be normalized, which involves establishing deferred income tax accounting. OCA St. 1 at 31.

212. If the alternative normalization treatment were to be applied to Aqua PA's repair deductions in the current rate case, deferred income tax expense would be increased, and an amount of Accumulated Deferred Income Tax (ADIT) would be established. OCA St. 1 at 31.

213. The ADIT would provide a rate base offset. OCA St. 1 at 31.

214. Mr. Smith's recommendation in this case, is to use a Repairs Deductions amount of $164.5 million, the updated 2021 amount identified by Aqua should be used in setting rates in this case. Exhibit LA-6, Schedule C-3.

215. The recommendation of $164.5 million is based on a three-year average of the $167.4 million for 2022 and the amounts that Aqua projected in its rate application for 2023 and 2024 of $163 million. OCA St. 1SR at 16-17.

216. The recommendation of $164.5 million produces reductions to income tax expense of $1.573 million. OCA St. 1 at 32; OCA Exh. LA-6, Schedule C-3, line 10; Table II.

217. Aqua is proposing a "FIN 48" adjustment for uncertain tax positions to offset the benefits of its claimed income tax deductions for repairs in order to not reflect repairs deductions related to a reserve. OCA St. 1 at 32.

218. Aqua identified $4,000,000 as a "FIN 48 removal" account. OCA St. 1 at 33.

219. OCA witness Smith noted that Aqua appears to be attempting to not reflect the income tax impacts of the $4,000,000 portion of its repairs deductions that it considers uncertain tax positions in its proposed ratemaking income tax calculation. OCA St. 1 at 33.

220. OCA witness Smith recommends that the repairs deduction used in Aqua's income tax calculation for FPFTY income taxes should reflect the amount expected to be deducted for repairs without any offset for uncertain tax positions. OCA St. 1 at 34-35.

221. The use of income tax deductions that are claimed, or are expected to be claimed, on income tax returns is consistent with the guidance that has been provided by the Federal Energy Regulatory Commission (FERC). *See* OCA St. 1SR at 18.

222. The FERC guidance states that regardless of uncertainty, the "amounts recorded in the accounts established for accumulated deferred income taxes are based on the positions taken in the tax returns filed or expected to be filed." OCA St. 1SR at 19 (internal citations omitted).

223. Reducing the impact of income tax deductions claimed or expected to be claimed on the federal income tax returns for the utility for uncertain tax positions has been rejected by the FERC. OCA St. 1 SR at 20.

224. The repairs deductions that Aqua has claimed or has indicated that it expects to claim for federal income tax purposes clearly relate to the provision of water and wastewater utility service by Aqua in Pennsylvania. OCA St. 1SR at 20.

225. Permitting a reserve to be recorded in the event that Aqua's "uncertain" tax deductions for repairs were ultimately to be disallowed by the IRS could be appropriate for ratemaking purposes but only if all of the repairs deduction amounts that are claimed or expected to be claimed are reflected in the calculation of income tax expense for ratemaking purposes. OCA St. 1SR at 20-21.

226. Aqua has no federal income tax audit history of its claimed repairs deductions being disallowed. OCA St. 1SR at 21.

227. OCA witness Smith recommended to reflect all amounts of repairs deductions claimed or to be claimed on income tax returns in the calculation of income tax expense in the current Aqua PA rate case. *See* OCA Exh. LA-6, Sch. C-3.

228. As long as Aqua's repairs deductions that are claimed on income tax returns are fully reflected for ratemaking purposes (without any offset for uncertain tax positions), however, OCA witness Smith is not opposed to allowing the regulatory asset treatment which would only apply in the event that some portion of the uncertain repairs deductions being claimed by Aqua were to be disallowed by the IRS. OCA St. 1SR at 22.

229. OCA witness Smith recommended that the deduction amounts, including amounts for repairs, reflect the Company's claimed income tax deduction amounts and that those not be reduced by any reserves for uncertain tax positions. OCA St. 1 at 33.

230. OCA witness Smith noted that, while he did not make a specific adjustment to remove the attempt by Aqua to reduce the repairs deduction for a "FIN 48" reserve, Mr. Smith used a repairs deduction amount of $167.3 million based on the Company's response to OCA-X-27, which appears to be before Aqua's application of any "FIN 48" reserve for uncertain tax positions. OCA St. 1 at 33.

Income Tax Expense

Interest Synchronization

231. OCA witness Smith recommends applying an interest synchronization adjustment to the Company's proposal, which applies the weighted cost of debt to the adjusted rate base in deriving the interest deduction applicable to the calculation of test year income tax expense. OCA St. 1 at 34.

232. The interest synchronization method is widely used by other utilities and regulatory Commissions because it appropriately coordinates the elements of the ratemaking formula and is fair to all parties. OCA St. 1 at 34.

Federal Tax Adjustment Surcharge

233. Aqua is proposing a new water and wastewater Federal Tax Adjustment Surcharge (FTAS) as part of its filing. OCA St. 2 at 14-15.

234. The proposed FTAS is designed to adjust base rates to reflect future increases or decreases in the federal corporate income tax rate. OCA St. 2 at 14-15.

235. The proposed FTAS is premised on Aqua's belief that the federal corporate income tax rate may be increased from 21% to 28%. OCA St. 2 at 15.

236. The Company implies that the Commission's implementation of the tax rate change resulting from the Tax Cuts and Jobs Act (TCJA) was too slow. OCA St. 2 at 15.

237. The TCJA included provisions affecting the tax treatment of net operating loss carrybacks and caps and limited the net interest deduction. OCA St. 2 at 15 (internal citations omitted).

238. Aqua witness Saball agrees that "no one can say with any certainty if/when an increase to the federal corporate income tax rate will take effect." OCA St. 2SR at 13 *citing* Aqua St. 8-R at 10.

239. In February 2018, the Commission initiated a generic proceeding to determine the effects of the TCJA on public utilities' tax liabilities and by July 2018 the Commission had set temporary rates and implemented surcredits to begin the flow through of the tax rate decrease. OCA St. 2 at 15.

RATE STRUCTURE

240. OCA witness Watkins' revenue allocations are at Aqua's proposed revenue requirement rather than OCA's recommended revenue requirement in order to permit an illustrative apples-to-apples comparison to Aqua's proposals. OCA St. 4 at 2.

Revenue Distribution

Act 11 Shift of Wastewater Revenue Requirement

241. The cost of serving the systems acquired under Section 1329 is generally higher and those acquired customers, as residents of the seller municipalities, are the beneficiaries of the acquisition premiums. I&E St. 5 at 66; OCA St. 4 at 7.

242. Aqua is proposing that water customers pay for $20.839 million of its total wastewater revenue requirement. Aqua Exhs. 5-A, Part I, 5-B, Part I.

243. Under Aqua's proposal, one-third of the total wastewater revenue requirement would not be paid by wastewater customers. OCA St. 4 at 4; Aqua Exhs. 5-A, Part I, 5-B, Part I.

244. Roughly one-third of Aqua's proposed subsidy, or $7.39 million, would benefit wastewater systems acquired under Section 1329. Aqua Exhs. 5-A, Part I, 5-B, Part I.

245. Aqua's proposed wastewater subsidy is roughly 25% of the total increase proposed by Aqua in this case for water customers. OCA St. 4 at 4; Aqua Exhs. 5-A, Part I, 5-B, Part I (subsidy of $20.839 million ÷ Aqua proposed increase $86.184 million ((2)-(1)) = 24.1%).

246. In Aqua's 2018 rate case, it propose to recover $8.1 million of the wastewater revenue requirement from its water customers. *Pa. P.U.C. v. Aqua Pennsylvania, Inc.*, Docket No. R-2018-3003558, Order at 2 (Feb. 8, 2019) (*Aqua 2018*).

247. In the Settlement of Aqua's 2018 base rate proceeding, the parties agreed that $7.1 million would be allocated to water customers pursuant to Section 1311(c). *Aqua 2018* at 2.

248. On a collective basis, Aqua paid $75.9 million more than book value for the acquired systems, which represented a fair market value (FMV) premium of 80.7%. OCA St. 4 at 6; OCA St. 4SR at 2.

249. The total revenue requirement associated with each of the five acquired wastewater systems' respective FMV premium is $10,055,979. OCA St. 4 at 8; OCA Sch. GAW-2.

250. Much of the $10.056 million is driven by cost of capital. OCA St. 4 at 11-12.

251. Aqua proposes that $7.39 million of the $10.06 million acquisition premium, or 74%, should be subsidized by water customers. OCA St. 4 at 4, Table 1; Aqua Exhs. 5-A, Part I, 5-B, Part I; OCA St. 4 at 8.

252. Most of Aqua's water customers do not obtain wastewater service from Aqua. OCA St. 4 at 4-5. Aqua has almost eight times as many water customers as wastewater customers. *Id.*

253. There are several Aqua wastewater systems whose customers do not purchase their water from Aqua. OCA St. 4 at 4-5.

254. Because book value under Section 1329 does not exclude contributed plant or capital, Section 1329 authorizes the acquisition of wastewater and water systems at prices that could be significantly more than the net original cost of property. OCA St. 4 at 6.

255. Aqua has paid the following amounts for its acquisitions filed under Section 1329:

TABLE 3

Aqua Wastewater

Acquisition Premiums in Rate Base

($000)

System	Net Book Value	Final Rate Base	Approved Amount Over Net Book Value	Acquisition Premium Percentage
Limerick	$46,153.9	$64,373.4	$18,219.5	39.5%
East Bradford	$5,473.9	$5,000.0	($473.9)	-8.7%
Cheltenham	$15,408.5	$50,250.0	$34,841.5	226.1%
East Norriton	$8,407.0	$20,750.0	$12,343.0	146.8%
New Garden	$18,567.7	$29,500.0	$10,932.3	58.9%
Total	$94,011.0	$169,873.4	$75,862.4	80.7%

OCA St. 4 at 6.

256. Aqua's purchase prices for acquisitions under Section 1329 have been as much as 2.26 times book value. OCA St. 4 at 6.

257. Limerick Township identified the following benefits from the sale of its system to Aqua, in a Notice to its residents:

- Limerick sewer rates have not increased since 2014. If the Township had not sold the sewer system in 2018, projections show that rate increases would have been required by the Township for system repairs, higher system operating costs, and sewer capital upgrades;

- Along with the above sewer rate increases, Township Real Estate Tax increases would have been necessary to fund Long-Term Capital Projects related to police, fire, and emergency response services, the expansion of township park, trails, and open space system, as well as, upgrades to Limerick's roadway infrastructure;

- As a result of the sale of the sewer system to Aqua, Limerick Township has been able to maintain real estate taxes at their current level since 2016, and fund the Township's Capital Projects, while expanding all levels of services to the community.

OCA St. 4 at 7.

Wastewater Allocations

258. The OCA's recommended wastewater allocations ensure that the recommended increase to each system does not result in proposed revenues exceeding each system's cost of service (revenue requirement) and limiting the New Garden increase to two times the system average, consistent with a prior Settlement. OCA St. 4 at 8.

259. Under the OCA's recommended Act 11 shift, the acquired wastewater customers will still not pay the full cost for their wastewater service. OCA St. 4SR at 2-3.

Scale Back

260. The OCA's proposed scale back proposal keeps the wastewater revenue requirement generated by the FMV premiums with customers of the five acquired systems and also keeps the benefit of reductions to the revenue requirement from adjusting cost of capital with those customers. OCA St. 4 at 12.

Residential Rate Design

Customer Cost Studies

261. Aqua's "direct customer cost" calculations include allocated overhead expenses that should not be considered customer costs. OCA St. 4 at 14; OCA St. 4SR at 7; OCA Sch. GAW-6.

262. Ms. Heppenstall included $10,935,615 of indirect O&M expenses, $10,929,343 of indirect depreciation expenses and $29,437,120 of indirect rate base within her water customer cost analysis. OCA St. 4 at 12; OCA Sch. GAW-6.

263. Mr. Watkins' water direct customer cost analysis includes only costs required to connect and maintain a customer's account along with the required unrecovered public fire revenue requirement. OCA St. 4 at 14; OCA Sch. GAW-7.

264. Mr. Watkins' direct plus indirect customer cost analysis reflects the direct costs and allocations of employee benefits, workers compensation insurance, and payroll taxes associated with direct labor costs. OCA St. 4 at 14.

265. A reasonable Residential 5/8" meter customer charge is in the range of $17.07 to $17.36 which is based on OCA's recommended capital structure and an 8.0% return on equity. OCA St. 4 at 16.

266. There is virtually no risk associated with fixed monthly customer charges because this is guaranteed revenue recovery for the Company. OCA St. 4 at 16.

267. Current customer charges for Bunker Hill and Phoenixville ($8.00 and $3.33, respectively) are lower than the current Main division rates ($31.00). OCA St. 4 at 16.

268. Aqua proposes to increase Zone 1 wastewater customer charges by 26% and nearly $100 per year.

269. Eliminating the usage allowance is reasonable because it more fairly charges customers for their actual usage, sends proper price signals to customers and encourages conservation by giving customers greater control of their bill. OCA St. 4 at 18.

Flat, Unmetered Wastewater Rates

270. A number of customers testified that it is not fair for their wastewater bills to be the same as those from much larger homes with numerous occupants. OCA St. 4 Supp. at 1 (citing Tr. 69-71, 112-13, 166-68, 199, 201-04, 323-25, 439-40); Day Exh. 1.

271. Flat rates are the most extreme form of minimum allowance because a customer's actual use of the utility system has no impact on rates. OCA St. 4 Supp. at 2.

272. In the current case, Aqua proposed to eliminate minimum allowance for customers in its Limerick and East Norriton systems. Aqua Exh. 5-B, Part II at 51, 66.

273. Aqua designs rates that include a volumetric portion by obtaining volumetric usage information from the investor-owned utility or a municipality/municipal authority. Aqua St. 9R at 28; Day Exh. 1 at 7 (Aqua response to DW-I-15).

274. The cost for installing a water meter can range from $170-$180. Day Exh. 2 at 14 (Aqua response to DW-II-12).

275. Aqua has generally recovered the costs for installing water meters through base rates and DSIC rates. Day Exh. 2 at 15 (Aqua response to DW-II-13).

276. Customers in Lake Harmony have private water wells on their property that are not individually metered. Aqua St. 9R at 28.

277. Installing and reading meters, or paying to obtain metered usage data from another provider, are considered acceptable and normal costs for providing utility service based on the principle that rates should be usage-based. Aqua St. 9R at 28; Day Exh. 2 at 15 (Aqua response to DW-II-13).

278. Nine current wastewater rate zones have both metered and unmetered residential rates. OCA St. 4 at 20.

279. There is a significant difference between the rates for an average metered rate customer and flat rate customer in Zone 5. OCA St. 4 at 20.

280. Aqua's flat rates are based on assumed usage of 4,000 gallons per months, which correlates to the Company's average consumption for its existing systems. Day Exh. 1 at 7 (Aqua response to DW-I-13).

281. A system-wide average may not be representative of usage in a particular area of Aqua's service territory. Day Exh. 1 at 3.

Metered Wastewater Rates based on Water Usage

282. In response to concerns raised in the testimony of customers and the OCA's rate structure witness in the Company's last base rate case, Aqua agreed to study the feasibility of implementing in Pennsylvania a summer wastewater usage cap similar to the method used by Aqua Illinois, Inc. OCA St. 4 at 21; Pa. P.U.C. v. Aqua Pennsylvania, Inc., Docket No. R-2018-3003558, Settlement at 14-15, ¶ 34.c (Feb. 8, 2019).

283. The basis for the cap is to address potential inaccuracies in the calculation of wastewater volumetric charges during the summer months when irrigation, swimming pool filling, and other outside watering activities are traditionally in use. Aqua Illinois, Inc. Proposed Rate Increases for Water and Sewer Services, 2018 Ill. P.U.C. LEXIS 385, *123 (Mar. 7, 2018).

284. Aqua wastewater rates are based on assumptions, e.g., a metered customer's wastewater and water usage are equivalent or an unmetered customer's wastewater usage is the same as the system-wide average usage. OCA St. 4 at 21; Day Exh. 1 at 7 (Aqua response to DW-I-13).

Special Contract Revenue

285. In Aqua's filing the revenues for the negotiated rate contracts were stated as of March 31, 2021 in Aqua's proof of revenues, rather than at the end of the fully projected future test year. OCA St. 4 at 23; *see* Aqua Exh. 5-A, Part II, Sch. 5.

286. The escalation provisions in each of the seven contracts are tied to changes in the Consumer Price Index (CPI). OCA St. 4SR at 9-10.

287. Mr. Watkins used the average of the U.S. Office of Management and Budget's and the Federal Reserve's forecasted inflation rates for 2021, 2022, and 2023. OCA St. 4SR at 9-10.

288. The actual annual rate of inflation through October 2021 has been 6.2% (October 2020 – October 2021) and, for the ten months ending October 2021, the CPI has increased by 5.5%. OCA St. 4S at 10; OCA Sch. GAW-1SR.

Proposed Purchased Water and Energy Cost Surcharges

289. Aqua projects that its purchased energy costs will amount to only about 1.4% ($8.265 million ÷ $575.026 million) of its total water cost of service and its purchased water costs will amount to only about 0.7% ($4.149 million ÷ $575.026 million) of its total water cost of service. OCA St. 4 at 25.

290. Aqua's costs are not so significant such that they would cause its overall cost of service to vary widely as a result of suppliers' price changes. OCA St. 4 at 25.

291. At the time of its request for a Purchased Water Adjustment mechanism, Newtown purchased nearly 60% of its water from other sources and its purchased water expense represented about 25% of its annual revenues and 34% of its O&M expenses for the same period. Pa. P.U.C. v. Newtown Artesian Water Co., Docket No. R-2009-2117550, Order at 3 (Apr. 15, 2010); *see also* I&E St. 3 at 18-19; I&E Exh. 3, Sch. 3 at 1-2.

292. Aqua has voluntarily entered into its contracts to purchase water with various entities so those costs are not entirely beyond its control. *See, e.g.,* Aqua Exh. 1-A, Sch. C-7.1.i.

293. Aqua has exercised some control through its selection of suppliers. *See* Aqua Exh. 1-A, Schs. C-6.1.i., C-6.1.ii.

294. Aqua has already captured the potential for future changes in purchased water and energy costs as part of its adjustments to its FPFTY claims. OCA St. 4 at 25; *see* Aqua Exh. 1-A, Schs. 6.1, 7.1.

LOW-INCOME CUSTOMERS

295. Aqua has proposed changes to its bill discount program, Helping Hand, in response to Paragraph 108 of the *Merger Settlement* of the acquisition of the Peoples Companies by Essential Utilities, Inc. *f/k/a* Aqua America, Inc. Aqua St. 10 at 2-3; *see also* OCA St. 5 at 7.

296. Pursuant to the *Merger Settlement*, Aqua has proposed to implement a new water and wastewater bill discount program and to offer a new conservation and repair program for its water and wastewater customers. Aqua St. 10 at 7-8, Exh. RFB-2.

297. Aqua's proposed water customer discount program would provide the following discounts:

Income Level (Federal Poverty Level or FPL)	**Water Discount**
0-100% of FPL	100% discount on the fixed charges and 100% discount on the first 2000 gallons of consumption for customers
101-150% of FPL	100% discount on the fixed charges and 50% discount on the first 2000 gallons of consumption for customers
151-200% of FPL	100% discount on the fixed charges and 0% discount for customers

Aqua St. 10 at Exh. RFB-2.

298. Aqua's proposed wastewater customer discount program would provide the following discounts:

Income Level (Federal Poverty Level or FPL)	**Wastewater Discount**
0-100% of FPL	75% discount on the fixed charges and 100% discount on the first 2000 gallons of consumption for customers
101-150% of FPL	65% discount on the fixed charges and 50% discount on the first 2,000 gallons of consumption for customers
151-200% of FPL	50% discount on the fixed charges and 0% discount on consumption for customers

Aqua St. 10 at Exh. RFB-2.

299. Aqua also proposes to continue its current arrearage forgiveness program which forgives $25 for each in full and timely payment. Aqua St. 10 at 9.

300. Aqua proposes to budget $100,000 annually for assistance to include conservation kits and an emergency component for those with leaks requiring repairs. Aqua St. 10 at 8.

301. Aqua proposes to recover the costs of the program through a reconcilable rider similar to the one used by Peoples to collect its statutorily required universal service costs. Aqua St. 10 at 10.

302. Aqua proposes to contract with Dollar Energy as its program administrator. Aqua St. 10 at 13.

303. An analysis examined the affordability provided by Aqua's low-income program and the reasonableness of Aqua's proposed low-income discount program and low-income arrearage forgiveness program. OCA St. 5 at 5-68.

304. Changes to the design and cost recovery mechanisms for the water and wastewater discount programs in order to improve the affordability and operation of the program should be approved. OCA St. 5 at 25-68; *see also* OCA St. 5SR at 12-13.

305. Modifications to Aqua's cost recovery mechanism and modifications to the proposed arrearage forgiveness program, including a proposed cost off-set should be approved. OCA St. 5 at 39-47, 64-68.

306. A Customer Education and Outreach Plan (CEOP) should be developed to extend the programs' reach. OCA St. 5 at 47-50.

307. The analysis used customer service data, customer satisfaction data, collections performance data, and environmental compliance metrics to evaluate whether Aqua's performance merited a management performance adder. OCA St. 5 at 68-75.

308. The analysis utilized Aqua's customer satisfaction data, collections performance data, and customer service outcomes data presented in the Commission's own reports and DEP orders. OCA St. 5 at 68-75.

Affordability

309. Aqua has a substantial affordability problem facing its low-income water and wastewater customers. OCA St. 5 at 5-7.

310. The analysis reviewed Aqua's ability to collect the dollars which the Company is billing. OCA St. 5 at 5-7.

311. The average low-income customer water bill for the 12 months ending September 2021 was $966.47, or $80.54 per month on average. OCA St. 5 at 5.

312. Four percent (4%) (combined water of 1.5%/wastewater of 2.5%) was used as a metric against which to measure the affordability impacts of Aqua's proposed discount. OCA St. 5 at 9.

313. The analysis used 4% as a measurement of affordability because it is substantially consistent with international standards applicable to water and wastewater burdens, which sets a combined water/wastewater affordable burden at 3% of income. OCA St. 5 at 9.

314. Aqua agreed that low-income customers pay a smaller percentage than residential customers do as a whole, with the caveat that this statement is absolute and does not consider that some low-income customers pay their full bill while other low-income customers do not. OCA St. 5 at 8 (citing Aqua's response to OCA-V-17(a)).

315. While household income and payment compliance are often interdependent, broad categorization such as this statement are not fully accurate. OCA St. 5 at 8, citing Aqua's response to OCA-V-17(a).

316. The OCA agrees that some low-income customers pay their full bill while others do not, as well as that household income and payment compliance are often interdependent. OCA St. 5 at 8.

317. The OCA agreed with Aqua that the 4.5% metric used by the United States Environmental Protection Agency (EPA) was not appropriate to use in this case as a measurement of affordability and identified the same 4% proxy measurement of affordability here as he did in his work on The Guardian study. OCA St. 5 at 9-10.

318. Using bills as a percentage of income as a measure of affordability is common. OCA St. 5 at 10.

319. For example, the U.S. Housing and Urban Development uses the standard that "housing expenditures that exceed 30 percent of household income have historically been viewed

as an indicator of a housing affordability problem." OCA St. 5 at 10 (footnote omitted); *see also* OCA St. 5 at 12, Table 1.

320. The shelter costs included in this 30% burden include rent or mortgage payments and all utilities, with the exception of telephone. OCA St. 5 at 10-11.

321. Mr. Colton testified that he has found in other contexts that a water/wastewater burden, when combined with other utility costs, should result in total utility costs that would be a reasonable proportion of total affordable shelter burdens. OCA St. 5 at 11.

322. OCA witness Colton examined the affordability of Aqua's current rates from three different perspectives to determine whether the current rates achieved the proxy total water and wastewater burden of 4.0% (1.5% for water service and 2.5% for wastewater service) that Mr. Colton identified. *See* OCA St. 5 at 6.

323. The analysis examined the water burdens at six different income levels. OCA St. 5 at 11-13.

324. At Aqua's proposed rates, the average low-income bill for water service would be nearly 6% of income given an annual income of $20,000. OCA St. 5 at 11.

325. At an annual income of $10,000, [Aqua's] proposed water rates would impose a burden of 11.3%. OCA St. 5 at 11.

326. Aqua serves substantial numbers of low-income customers who have annual incomes at $10,000 and $20,000. OCA St. 5 at 12-13.

327. Aqua has approximately 46,277 water customers with income of less than $20,000, and that more than two-fifths of Aqua's customer base has an annual income of less than $10,000. OCA St. 5 at 13.

328. The number of Aqua customers who will have a water burden that is 11% to 23% of income or more is substantial. OCA St. 5 at 13.

329. The analysis examined the affordability of Aqua rates by considering the bill burdens, or bills as a percentage of income, at the average income of the First Quintile of Income. OCA St. 5 at 14-16.

330. When only examining the First Quintile of Income, Aqua's water burdens are significantly above an affordable level. OCA St. 5 at 15.

331. At the First Quintile of Income, four of Aqua's zip codes would have water bill burdens (at proposed rates) of more than 15% of income. OCA St. 5 at 15.

332. An additional five zip codes would have bill burdens between 12% to 15% of income and that the bulk of burdens would fall in the 85 zip codes with burdens between 6% and 9% of income (from four to six times higher than that which is affordable), while 90 have

bill burdens of between 3% and 6% of income (from two to four times higher than that which is affordable). OCA St. 5 at 15.

Increased Discounts

333. There is a cost to Aqua arising from the low-income customers' inability-to-pay their water and wastewater bills and that increasing the affordability of bills will generate positive benefits to the utility as well. OCA St. 5 at 16-17.

334. Aqua agreed both (1) that much of the payment difficulty arising from a low-income inability-to-pay imposes costs on the Company, and (2) that those costs can be controlled by reducing the payment difficulties. OCA St. 5 at 16.

335. Shortening customer arrearages undoubtedly reduces cost-of-service either through cash working capital or the collection of bad debt expense to the extent reserves recoded for customer accounts are reduced. OCA St. 5 at 16 (citing Aqua witness Packer's response to OCA Set V-18(a)).

336. Aqua witness Packer agreed upon the following principles: (1) reducing the time (in days or months) that an arrearage remains outstanding will, all also equal, have the effect of reducing the capital needed by a utility; (2) working capital is a cost component that has equity return associated with it; (3) to the extent that working capital has equity return associated with it, it will have a tax component associated with it; (4) a higher dollar level of arrearages poses a greater risk of loss due to uncollectibles than a lower dollar level of arrearages; (5) reducing the number of customers who are off-system due to a disconnection of service will, all else equal, reduce lost sales to a utility; and (6) reducing the number of customers receiving final bills with an unpaid balance will, all else equal, have the effect of reducing costs to a utility. OCA St. 5 at 16-17.

337. Aqua agreed that a utility customer's 'success' in paying utility bills can be quantified and measured by using metrics measuring the completeness of payment, the timeliness of payments, and the regularity of payments. OCA St. 5 at 17-18.

338. Unaffordable bills to [Aqua's] low-income customers have substantial adverse impacts on the ability of such low-income customers to pay their bills. OCA St. 5 at 18.

339. For the period of January 2019 through September 2021, low-income customers are more likely to be sufficiently far in arrears to be threatened with the disconnection of service. OCA St. 5 at 18.

340. For every 100 residential bills Aqua rendered from January 2019 through September 2021, Aqua issued 3.5 disconnection notices. OCA St. 5 at 18.

341. In contrast, for every 100 bills Aqua sent to identified low-income customers from January 2019 through September 2021, Aqua issued 19.8 disconnection notices. OCA St. 5 at 18.

342. From January 2019 through September 2021, low-income customers receiving a disconnection notice were more likely to actually experience a disconnection. OCA St. 5 at 18.

343. From January 2019 through September 2021, Aqua issued 28.3 disconnection notices for each residential nonpayment disconnection it actually performed. OCA St. 5 at 18.

344. In contrast, from January 2019 through September 2021, Aqua issued only 22.0 disconnection notices for each nonpayment disconnection of an identified low-income account. OCA St. 5 at 18.

345. For every 100 residential monthly bills Aqua rendered, it received 91.4 monthly payments. OCA St. 5 at 18.

346. In contrast, for every 100 bills Aqua sent to identified low-income customers, it received 63.0 payments. OCA St. 5 at 18.

347. Overall, low-income customers' bill payment performance has declined in comparison to the average residential customer payment performance. OCA St. 5 at 19-20.

348. On average for January 2019 through September 2021 (OCA-II-21, OCA-II-22), Aqua's identified low-income customers are more than two times further in debt than residential customers in general ($595.12 vs. $252.57). OCA St. 5 at 20.

349. For January 2019 through September 2021, that greater debt is not solely attributable to higher underlying bills. Aqua's identified low-income customers are also more than two times further behind in their monthly payments (7.8 Bills Behind vs. 3.7 Bills Behind). OCA St. 5 at 20-21.

350. For January 2019 through September 2021, the percentage of identified low-income customers in arrears is nearly six times higher than the percentage of residential customers in arrears (71.9% / 12.3% = 5.84x). OCA St. 5 at 21.

351. For January 2019 through September 2021, Aqua's identified low-income customers are further behind on their bills at the time of a service disconnection for nonpayment, both in dollar terms ($667.10 vs. $481.90) and in terms of Bills Behind (8.9 Bills Behind vs. 7.2 Bills Behind). OCA St. 5 at 21.

352. The analysis used six indicators of "vulnerability status" to apply to each zip code in order to examine the unaffordability of low-income customer bills across the Aqua service territory. OCA St. 5 at 21.

353. The data analysis demonstrated that "those zip codes with concentrations of vulnerable households present greater payment difficulties for Aqua." OCA St. 5 at 24, Table 6.

354. The zip codes with fewer vulnerability indicators are over-represented in the zip codes with higher payment percentages. OCA St. 5 at 23

355. Zip codes with fewer vulnerability indicators are also under-represented in the zip codes with lower payment percentages. OCA St. 5 at 23-24.

356. The discount falls short of providing bills that achieve that burden for low-income customers. OCA St. 5 at 25.

357. Aqua's stated objective is not to achieve an affordable bill, but rather merely to 'improve affordability.' OCA St. 5 at 25.

358. Mr. Colton concluded that the discount cannot reasonably be expected to generate improvements in low-income bill payment patterns that can and should be sought through an affordability program. OCA St. 5 at 25.

359. The Aqua rate discount results in bill burdens substantially above an affordable level for those lowest income customers and bill burdens that are nearly affordable to the higher income (low-income) customers. OCA St. 5 at 26.

360. At no income level do bills achieve the affordable percentage of income burden. OCA St. 5 at 26.

361. Aqua customers with income less than 50% of Poverty Level have a minimum water burden (without considering wastewater) of between 8% and 12% without a bill discount. OCA St. 5 at 26.

362. More than one-in-four (27%) of Aqua's zip codes have water burdens of 12% or more without a discount. OCA St. 5 at 26.

363. At an annual income between 50% and 100% of Poverty Level, 194 zip codes have water burdens between 5% and 8% (from four to nearly six times higher than that which is affordable). OCA St. 5 at 26-27.

364. At an annual income between 100% and 150% of Poverty, non-discounted Aqua bills result in water burdens from two to three times higher than that which is affordable (3% to 5%) in nearly all zip codes (234 of 239 for 100% to 125% of Poverty; 232 of 239 for 125% to 150% of Poverty). OCA St. 5 at 27.

365. Undiscounted water bills come closest to being affordable for customers with income between 150% and 200% of Poverty. OCA St. 5 at 27.

366. For customers with income between 185% and 200% of Poverty, undiscounted bills result in a burden of 1.5% to 3.0% of income, with somewhat fewer zip codes (n=191) with bills at those burdens for customers with income at 150% to 185% of Poverty. OCA St. 5 at 27.

367. For customers with income less than 50% of Poverty, water burdens in all zip codes remain at from two to nearly six times higher than (3% to 8%) than that which is affordable. OCA St. 5 at 27.

368. For the remaining income levels, burdens in all zip codes range up to two times that which is affordable. OCA St. 5 at 27.

369. The data presented by Aqua regarding the calculation of its proposed discounts assumes a hypothetical bill given a hypothetical average use of 4,000 gallons. OCA St. 5 at 28.

370. The average use of 4,000 gallons results in a monthly non-discounted water bill (at current rates) of $64.51 (an annual bill of $774.17). OCA St. 5 at 28 (citing Aqua response to OCA-V-2).

371. When asked for historical monthly water bills for Aqua's low-income customers, Aqua's data showed an average annual bill of $966.47 ($80.54/month) for the twelve months ending September 2021. OCA St. 5 at 29.

372. Using the actual average low-income water bill for current service, escalated for the rates proposed in this proceeding, there is a deterioration in affordability given actual bills for current service as reported by Aqua. OCA St. 5 at 29.

373. Bill burdens for the lowest income tier (0 – 50% of Poverty) are up to nine times higher than an affordable burden. OCA St. 5 at 29.

374. Burdens for households with income between 50% and 125% of Poverty are up to nearly six times higher than that which is affordable. OCA St. 5 at 29.

375. Only at the very high income range (185% to 200% of Poverty) do water burdens begin to approach an affordable level but remain at levels that are twice as high as that which is defined as affordable. OCA St. 5 at 29.

Proposed Modifications to the Bill Discount Program

376. For its water discount, Aqua should divide the first income block, now set at 0-100% of FPL into two separate income blocks, 0-50% and 51-100% and increased water discounts be provided for customers at the lower income blocks. OCA St. 5 at 32.

377. For wastewater, Aqua should similarly modify its wastewater discounts to divide the first income block into two separate income blocks, 0-50% of FPL and 51-100% of FPL and that an increased discount for customers with income at lower levels of FPL be provided. OCA St. 5 at 32.

378. The costs of the proposed discounts should be recovered through base rates instead of Aqua's proposed reconcilable rider. OCA St. 5 at 32.

379. Due to system limitations, OCA witness Colton modified his recommendations from a four tiered design to a three tiered design with income blocks from 0-50% of FPL; 51-100% of FPL; and 101-150% of FPL for water and wastewater customers. OCA St. 5SR at 24-27.

Water Bill Discount Program

380. OCA witness Colton's modified recommendation proposed that one income block (0-100% of FPL) is too large and should be divided into two income blocks from 0-50% of FPL and 51-100% of FPL. OCA St. 5 at 32-33. The affordability impacts of Aqua bills on customers that have income between 0% and 50% of Poverty are qualitatively different the affordability impacts of Aqua bills on customers with income between 50% and 100% of Poverty. OCA St. 5 at 32.

381. No other income block has zip codes with undiscounted water burdens exceeding 8% of income, while the 0 – 50% income range has no zip codes with burdens that are less than 8% of income. OCA St. 5 at 32-33.

382. Undiscounted water burdens (not including wastewater) substantially exceed 8% of income, with such burdens ascending to 12% or more in 65 (27%) of the zip codes. OCA St. 5 at 33.

383. Even given Aqua's proposed discounts, water burdens for customers with annual income less than 50% of Poverty Level are from nearly six to eight times higher than the 1.5% burden I discuss above. OCA St. 5 at 33.

384. Aqua witness Black reports that the Company estimates that it has 106,823 total customers with income below 200% of Poverty (Exh. RFB-1). OCA St. 5 at 33.

385. Of those 106,823 customers, nearly half (44.4%) fall in the income block of 0 - 100% of Poverty. (OCA-V-37). OCA St. 5 at 33.

386. The numbers of customers with income below 100% of Poverty are roughly equally split between the two ranges 0 - 50% of Poverty (22,667) and 50 - 100% of Poverty (24,792). OCA St. 5 at 33.

387. Aqua should add an additional discount on the utility's second block of consumption for customers with income at or below 100% of the Federal Poverty Level. OCA St. 5 at 33-34.

388. Due to system limitations with the originally proposed four tiered system, OCA witness Colton modified his proposed recommendations for the income ranges for the three tiers as follows:

> The proposed discount for Tier 1 is 0 - 50% of Poverty: 100% discount on fixed charge; 100% discount on first 2000 gallons; 40% discount on second 2000 gallons. OCA St. 5SR at 26.
>
> The proposed discount for Tier 2 is 50 - 150% of Poverty: 100% discount on fixed charge; 80% discount on first 2000 gallons. OCA St. 5SR at 26.

> Over 150% of FPL, OCA witness Colton accepted Aqua's proposed discount in his Testimony and continued to recommend this discount for this income tier.

OCA St. 5SR at 26.

389. Under the modified discounts, customers with income below 50% of Poverty have a water burden falling between 2% and 3% in 226 of the 239 zip codes, while customers with income between 50% and 100% of Poverty have water burdens falling between 1.5% and 2.0% in 218 of the 239 zip codes. OCA St. 5 at 35.

390. At an income between 100% and 124% of Poverty, water burdens fall at less than 3% of income in 238 of the 239 zip codes, while at incomes of between 125% and 150% of Poverty, water burdens fall below 2% of income in 233 of the 239 zip codes. OCA St. 5 at 36.

391. For customers with income between 150% and 200% of Poverty, water burdens fall below 2% of income in 81 of the 239 zip codes, and between 2% and 3% of income in all 239 zip codes for customers with income between 150% and 184% of Poverty. OCA St. 5 at 36.

392. Households with income at 185% to 200% of Poverty have water burdens of less than 2% of income in 233 of the 239 zip codes. OCA St. 5 at 35-36.

393. The three-tier system proposed by Aqua significantly under-serves those customers with income less than 50% of Poverty. OCA St. 5SR at 24.

394. The more homogenous group, when viewed from the perspective of need, involves the group of customers from 50% to 150% of FPL. OCA St. 5SR at 24.

395. The data demonstrates the population at 0 – 50% of Poverty is distinct from the higher income populations. OCA St. 5SR at 25.

396. The point of establishing tiers is to group those customers with the most similar undiscounted burdens into the same tier. OCA St. 5SR at 25.

Incremental Costs of Proposed Changes to the Water Discount

397. In order to calculate the incremental cost of the changes, Mr. Colton calculated the total cost of providing the modified discounts and then subtracted the costs of providing the discounts proposed by Aqua. OCA St. 5 at 36-37.

398. The calculation of the incremental cost of modified discounts utilized three alternative estimated participation rates and set forth the incremental costs, before taking into account the reductions in cost of service such as working capital (and associated equity return and tax savings). OCA St. 5 at 36-37.

399. Table 11 presents the incremental costs for modifications as follows:

Table 11. Incremental Cost of Modified Discounts (before cost savings) at Alternative Participation Levels

Alternative Participation Rates	10%	15%	25%
Modified discounts	$4,016,770	$6,025,125	$10,042,488
Aqua PA Proposed discounts	$3,246,587	$4,869,881	$8,116,469
Incremental cost of modified discounts	$770,183	$1,155,244	$1,926,619

OCA St. 5 at 37, Table 11.

400. The first year of incremental costs are $770,000, and if participation increases to 25% of the total eligible population, the total incremental costs of the modifications is less than $2 million. OCA St. 5 at 37.

Proposed Wastewater Discounts

401. With the exception of the 0-50% income tier, the proposed wastewater bill discounts do a reasonably good job of achieving an affordable wastewater burden. OCA St. 5 at 37-38.

402. Due to system limitations, OCA witness Colton modified his recommendations in Surrebuttal Testimony to the following for wastewater: continuing to leave the discounts proposed for incomes at 100 - 150%, and for incomes over 150% to those recommended by Aqua and then recombining the 0 - 100% of FPL into one tier. OCA St. 5SR at 26-27.

403. For the 0-100% of FPL, the modified recommendation provides for an increase in Aqua's proposed discounts (75% off the fixed charge and 100% off the 1st 2000 gallons) to 100% off the fixed charge and 100% off the 1st 2000 gallons. OCA St. 5SR at 26-27.

Incremental Costs of the Changes to the Wastewater Discounts

404. Table 14 presents the incremental costs of the modified wastewater discount:

Table 14. Incremental Costs of Modified Wastewater Discount			
Participation rate	10%	15%	25%
Participants	412	618	1030
Aqua PA (0 - 100% FPL)	$43.59	$43.59	$43.59
Participants	412	618	1,030
Total monthly cost	$17,959	$26,939	$44,898
Total annual cost	$215,508	$323,268	$538,776
Modified			
Participants	197	295	492
0 -50% FPL	$53.12	$53.12	$53.12
Sub-total cost	$10,465	$15,670	$26,135
50 - 100% FPL	$43.59	$43.59	$43.59
Participants	215	323	538
Sub-total cost	$9,372	$14,080	$23,451
Total monthly cost: modified	$19,836	$29,750	$49,586
Total annual cost: modified	$238,038	$357,000	$595,038
Incremental cost	$22,530	$33,732	$56,762

OCA St. 5 at 40.

405. For Year 1 participation levels, the incremental system wide costs is less than $23,000, and as participation increases to 25%, the projected incremental system wide costs is less than $57,000. OCA St. 5 at 41.

Income Verification

406. Aqua proposed that self-attestation of income be permitted for enrollment in the bill discount program. Aqua St. 10-R at 4; OCA St. 5SR at 4-5.

407. I&E witness Wilson recommended that Aqua require participants to submit income verification in order to participate in the programs. I&E St. 1 at 45; I&E St. 1-R at 5.

408. There are theoretical problems with the use of self-attested income, that when tested in the real world, did not occur. Aqua St. 10-R at 4.

409. Aqua proposed that the Company review and monitor necessary requirements for participation. Aqua St. 10-R at 4.

410. Aqua should commit to engage in a review of a designated percentage of CAP participants, randomly selected, and report "error rates" (i.e., over-income customers who were enrolled) to BCS. OCA St. 5SR at 5.

411. If error rates were higher than deemed to be reasonable, BCS and Aqua could develop appropriate remedial actions. OCA St. 5SR at 5.

Percentage of Income Program

412. In its next base rate proceeding, Aqua should adopt a percentage of income program (PIP) similar to the percentage of income program operated by its sister utility, Peoples Gas. *See* OCA St. 5 at 31.

413. By making bills affordable through such a program, low-income payment patterns will improve with a percentage of income program. OCA St. 5 at 31.

414. A series of policy decisions by the Commission would first be needed before moving to a percentage of income program. OCA St. 5 at 31.

415. These policy decisions would include what water and wastewater burden should be deemed affordable. OCA St. 5 at 31.

416. Even if the current system lacks the functionality to implement a percentage of income program, the new customer information system should have the capability by 2023. OCA St. 5SR at 23.

417. A percentage of income program will more effectively target benefits to the customers that most need assistance and improve overall affordability. OCA St. 5 at 31.

418. Under a tiered discount program, a three-person household with a 2021 income at 100% of Poverty ($21,960) receives the same discount as a three-person household with a 2021 income of 50% of Poverty ($10,980). OCA St. 5-SR at 13.

419. Under a tiered discount program, a three-person household with a 2021 income at 100% of Poverty ($21,960) receives the same discount as a one-person household with a 2021 income ($6,440). OCA St. 5-SR at 13.

420. Rather than "encouraging conservation," the amount of the discount that Aqua proposes is *identical* for every level of consumption both above and below average. OCA St. 5SR at 14. Someone who consumes at a level ranging from 50% of average residential consumption to at 200% of average residential consumption (or more) will receive the same dollar discount under Aqua's proposed discount structure. OCA St. 5SR at 14-15, Table 3.

421. In a recent Evaluation, Aqua's sister utility, Peoples, specifically considered the impact of its PIP on the natural gas consumption of PIP participants. OCA St. 5SR at 16.

422. The Peoples Evaluation reported that nearly three times more Peoples PIP participants reduced their consumption under PIP than increased their consumption under PIP. OCA St. 5SR at 16. While 25% of PIP participants reduced their usage, only 9% increased their consumption. OCA St. 5SR at 16.

423. More than half of all PIP participants reported no change in their consumption. OCA St. 5SR at 16.

424. The experience of CAP participants in Peoples' percentage of income plan has been shown to decrease usage. OCA St. 5SR at 17.

425. The Peoples Evaluation found that 25% of PIP participants reported using less natural gas after they began their PIP participation than they did before they began their PIP participation. OCA St. 5SR at 17-18.

426. The program cost of the tiered discount is identical whether a program participant has usage at 50% of average residential consumption, at 100% of average residential consumption, or at 200% of residential consumption, or at any other usage above 200% of average residential consumption. OCA St. 5SR at 15-16.

427. The percentage of income program will deliver benefits to only those customers in need, and only in the amount needed for affordability. OCA St. 5SR at 19.

428. The costs of providing bill assistance that might increase due to a move to a percentage of income plan for bills for current service may be offset by cost reductions in other program components. OCA St. 5SR at 20-21.

429. Many percentage of income programs in Pennsylvania have adopted a series of "cost control mechanisms" that would not be applicable to a tiered discount program, such as minimum payment. OCA St. 5SR at 21.

430. Given Aqua's proposed discounts on the fixed customer charge, as well as the first consumption block, no minimum payment is available through the Company's tiered discount program. OCA St. 5SR at 21.

431. With every gallon of reduced water consumption that occurs due to the conservation effect, it will yield reduced program costs to non-participants. OCA St. 5SR at 21.

Cost Recovery for the Water and Wastewater Discount Programs in Base Rates

432. Aqua has proposed to recover the costs of the water and wastewater discount program through a reconcilable rider like the Company has for its sister company, Peoples Gas. Aqua St. 10 at 10. Only the net costs should be recovered rather than the gross costs. OCA St. 5 at 42.

433. The net costs should be included in base rates including a cost offset to reflect the benefits of the program to Aqua's uncollectible expenses. OCA St. 5 at 42.

434. Aqua should only be allowed to recover only the net costs of the program rather than the gross costs of the program. OCA St. 5 at 42.

435. An offset of the costs should be incorporated into base rates. OCA St. 5 at 42.

436. Aqua should not be allowed to recover billings that it would not have collected even in the absence of the program. OCA St. 5 at 42.

437. Aqua has collections contracts which provide contingency fees of from 18% to 40% of the amount collected. OCA St. 5 at 42.

438. An offset in the middle of that range (28%) should be approved. OCA St. 5 at 42.

439. The costs of Aqua's bill discount program should be reduced by this lost revenue adjustment. OCA St. 5 at 42.

440. In absence of an offset, Aqua will recover some parts of low-income rates twice. OCA St. 5SR at 30.

441. Aqua's proposal to include 100% of its low-income discount through rates assumes that, in the absence of the discount, 100% of the billed revenue to discount participants would have been collected. OCA St. 5SR at 30.

442. Nearly three-of-four (71.9%) of Aqua's low-income customers are in arrears. OCA St. 5 at 31.

443. Of those low-income customers in arrears, the average arrears is $595.12. OCA St. 5 at 31.

444. Of those low-income customers in arrears, the customers are 7.8 bills behind. OCA St. 5 at 31.

445. Of the low-income customers who are disconnected, the average arrears at the time of disconnection is $667.10. OCA St. 5 at 31.

446. These unpaid dollars are currently reflected in base rates. OCA St. 5 at 31.

447. Given that the Company concedes that it has performed no collectability study for its low-income customers, the only way to prevent the double collection is to adopt the OCA recommended lost revenue adjustment. OCA St. 5 at 32.

448. Aqua is the first water/wastewater utility in Pennsylvania to propose a reconcilable rider for its low-income discount program costs. OCA St. 5 at 42.

449. Both Pittsburgh Water and Sewer Authority (PWSA) and Pennsylvania-American Water Company (PAWC) recover the costs of their respective programs through base rates. OCA St. 5SR at 28-29.

450. PWSA offers a tiered discount and arrearage forgiveness program with additional benefits to customers with income at or below 50% of Poverty similar to what Mr. Colton has proposed in this proceeding. OCA St. 5SR at 29.

451. Aqua modeled the proposal after the riders in place at the Peoples Companies. Aqua St. 10 at 9.

452. The reconcilable riders for natural gas and electric distribution utilities are based upon the specific statutory language applicable only to energy utilities and would not apply to Aqua's proposed discount programs. OCA St. 5 at 43.

453. The costs of Aqua's proposed low-income programs are normal operating costs of the utility and the costs of the current Helping Hand program have been previously treated as normal operating expenses. OCA St. 5 at 43.

454. The amount of the expense should be built into rates based upon the level of expense incurred during the test year, including the Fully Projected Future Test Year Aqua should not be guaranteed cost recovery for all low-income programming costs. OCA St. 5 at 44.

455. As with any other Aqua expense, Aqua is allowed a reasonable opportunity to recover the costs incurred in providing service. OCA St. 5 at 45.

456. Whether under Aqua's proposed program design or the OCA's proposed program design, the proposed discounts are a small portion of the total revenues experienced by the Company. OCA St. 5 at 45.

457. Cost recovery through a reconcilable surcharge is not necessary because Aqua does not anticipate that there will be substantial fluctuations in costs. OCA St. 5 at 45.

458. The variability in costs, such as would be found in the energy CAPs, would also not be present in the Aqua program because, except for a small portion attributable to discounts on Tier 2 consumption for the lowest income, the vast bulk of discounts provided – whether using Aqua's proposed discounts or the OCA's—are discounts applicable only to the base facility charge and to the first tier of consumption (i.e., the first 2,000 gallons of use). OCA St. 5 at 45-46.

459. Program costs, in other words, will not vary widely based on changes in total consumption as would occur with the energy CAPs (whether the discounts are applicable to the total bill). OCA St. 5 at 45-46.

460. The Commission should determine the appropriate allocation of the program costs at a future date. OCA St. 5 at 46-47.

Community Education and Outreach Plan

461. The current Helping Hands' outreach does not sufficiently address the areas with the greatest need for assistance. OCA St. 5 at 47-50.

462. The Company should improve the targeting of its outreach for low-income customers through a Community Education and Outreach Plan (CEOP). *See* OCA St. 5 at 49; *see also* OCA St. 5 at 47-50.

463. The Company should incorporate a strategy of reaching low-income customers where the community, lives, works, plays and prays and to be present at those locations rather than to sponsor events that community members must attend. *See* OCA St. 5 at 49; *see also* OCA St. 5 at 47-50.

464. The percentage of low-income customers enrolled in the Helping Hands arrearage forgiveness program in zip codes with a concentration of households having income of $20,000 or less is not substantially different from the percentage when no concentration exists. OCA St. 5 at 48, Table 15.

465. If [Aqua] were targeting neighborhoods with concentrations of low-income customers for outreach and enrollment, a higher concentration of Helping Hands participants would be present in neighborhoods that have higher concentrations of identified low-income customers. OCA St. 5 at 48.

466. Aqua should develop a CEOP that is directed toward areas within the Company's service territory with identified concentrations of low-income need. OCA St. 5 at 49-50.

467. The CEOP should incorporate the following elements:(1) the outreach should focus on community-based outreach; (2) the outreach is best implemented through "trusted messengers" that are part of the community toward which outreach is directed; (3) the outreach should be focused through boots-on-the-ground grassroots strategies, and (4) the outreach should be focused on efforts to go to where the community is rather than making the community come to the utility. OCA St. 5 at 49.

468. The CEOP should include a strategy to provide outreach "where the community, lives, works, plays and prays and to be present at those locations rather than to sponsor "events" that community members must attend." OCA St. 5 at 49.

469. Aqua's CEOP should be designed to identify the community partners with which it proposes to work; identify the grassroots community organizations that will provide boots-on-the-ground efforts; and identify those times and places Aqua proposes to meet the community members where they live, work, pray and play. OCA St. 5 at 49-50.

470. Outreach should focus on community-based outreach as well as utility-based outreach. OCA St. 5SR at 11.

471. Touchpoints can involve a presence at community centers, senior centers, local houses of worship, and local schools. OCA St. 5SR at 11.

472. Outreach is best implemented through trusted messengers that are part of the community toward which outreach is directed. OCA St. 5SR at 11.

473. Outreach should be focused through boots-on-the-ground grassroots strategies. OCA St. 5SR at 11.

Arrearage Forgiveness Program

474. Aqua proposes to extend the current arrearage forgiveness program to its pilot universal services program with no modifications to the current program. Aqua St. 10 at 9.

475. Aqua proposes to grant bill credits of $25 toward pre-existing arrears for each full and timely payment made by a program participant. OCA St. 5 at 50.

476. The proposed level of bill credits results in an unreasonably long period over which low-income customers would earn sufficient credits to reduce their pre-existing credits to $0. OCA St. 5 at 50. Aqua should increase its arrearage forgiveness credits so that program participants will reduce their pre-existing arrears to $0 over a three-year period. Aqua St. 5 at 50.

477. OCA witness Colton examined Aqua's current arrearage forgiveness program for its 875 current participants (as of August 2021) by looking at the history of the payments and balances of its current participants. OCA St. 5 at 51-52.

478. Of those participants, 347 (40%) had a pre-existing arrearage greater than $1,200 (Confidential Response to OCA-V-28), which would take 48 months (or more) to retire at $25 per month, assuming that all payments in that four year period were made in a timely fashion. OCA St. 5 at 52; *see also* OCA St. 5 at 53, Table 17.[1]

479. Of those participants, 277 (32%) had pre-existing arrearage greater than $1,500, which would take 60 months (or more) to retire at $25 per month, assuming that all payments in that five year period were made in a timely fashion. OCA St. 5 at 52; *see also* OCA St. 5 at 53, Table 17.

480. Of those participants, 170 (19%) had a pre-existing arrearage greater than $2,100, which would take 84 months (or more) to retire at $25 per month, assuming that all payments in that seven year period were made in a timely fashion. OCA St. 5 at 52; *see also* OCA St. 5 at 53, Table 17.

481. The average pre-existing arrears for participants in the Aqua arrearage forgiveness program as of August 2021 was $1,393. OCA St. 5 at 52; *see also* OCA St. 5 at 53, Table 17.

[1] As noted in OCA witness Colton's Direct Testimony, the OCA has confirmed with Aqua that the "confidential" nature of the response was limited to the customer-specific information contained therein, and not the data aggregated and discussed without reference to that personal information.

482. Given Aqua's proposed arrearage forgiveness credit of $25, therefore, it would take 56 months for program participants to reduce their pre-existing arrearages to $0, assuming they could make 56 full and timely payments in a row. OCA St. 5 at 52; *see also* OCA St. 5 at 53, Table 17.

483. According to Aqua, its average arrears ranged from roughly $1,200 to more than $1,300 throughout 2021. OCA St. 5 at 52; *see also* OCA St. 5 at 53, Table 17.

484. On average, it would take approximately 48 months to 60 months to reduce the balance to $0. OCA St. 5 at 53, Table 17.

485. In order to assess the arrearages for all low-income customers, the analysis examined the number of low-income involuntary disconnections for the most recent five months of data available (May 2021 through September 2021). OCA St. 5 at 53.

486. Aqua disconnected service to approximately 1, 571 low-income customers with an average arrearage of $1,000 or more. OCA St. 5 at 53, Table 18.

487. The same level of arrearages was common across all of Aqua's low-income customer base and not just those low-income customers enrolled in the arrearage forgiveness program. OCA St. 5 at 53.

488. Upon implementation of the new Customer Information System, Aqua has agreed to eliminate the "timely" payment requirement to receive arrearage forgiveness and will provide arrearage forgiveness benefits for each full CAP payment made, regardless of timeliness. Aqua St. 10-R at 10; OCA St. 5SR at 5-6.

489. Due to identified system limitations with the recommendation that Aqua provide arrearage forgiveness over three years, OCA witness Colton modified his recommendation to increase the level of the bill credit provided to customers from $25 to $45. OCA St. 5SR at 6-8.

490. Of the 1,884 low-income customers who enrolled in Aqua's arrearage forgiveness program, only 646 (34%) remained participants as of October 2021. OCA St. 5 at 58, Sch. RDC-1.

491. Nearly two-of-three of program enrollees, in other words, failed to remain in the program. OCA St. 5 at 58, Sch. RDC-1.

492. Of the 1,490 low-income customers who enrolled in 2020, only 445 remained in the program as of October 2021. OCA St. 5 at 58, Sch. RDC-1.

493. Of the 683 who enrolled in the program in the first six months of 2020, only 168 (25%) remain in the program as of October 2021. OCA St. 5 at 58, Sch. RDC-1.

494. As of October 1, 2021, none of the 30 customers who had enrolled 20 or 21 months prior to October 2021 remained in the program as of October. OCA St. 5 at 58-59, Sch. RDC-2.

495. As of October 1, 2021, of the 191 customers who enrolled 19 months prior to October 2021, only 46 (24%) remained (145 had exited the program). OCA St. 5 at 59, Sch. RDC-2.

496. As of October 1, 2021, of the 145 who exited the program, 74 had exited the program in the first twelve months of participation. OCA St. 5 at 59, Sch. RDC-2.

497. As of October 1, 2021, of the 264 customers who enrolled in the program 15 months prior to October 2021, only 66 (25%) remained in the program (198 had exited the program). OCA St. 5 at 59, Sch. RDC-2.

498. As of October 1, 2021, of those 198 who exited the program, 102 had exited the program in the first ten months of participation. OCA St. 5 at 59, Sch. RDC-2.

499. Even assuming that 100% of participants made a single full and timely payment during the months they participated before they exited the program, most participants earned only a small fraction in arrearage forgiveness compared to the debt that they owed. OCA St. 5 at 59-60, Sch. RDC-1, RDC-2.

500. Of the participants enrolled in 2020, 106 participants would have earned a total of only $25 in credits (1 month before exiting). OCA St. 5 at 59, Sch. RDC-1, RDC-2.

501. Of the participants enrolled in 2020, 93 participants would have earned a total of only $50 in credits (2 months before exiting). OCA St. 5 at 59, Sch. RDC-1, RDC-2.

502. Of the participants enrolled in 2020, 81 participants would have earned a total of only $100 in credits (4 months before exiting). OCA St. 5 at 59, Sch. RDC-1, RDC-2.

503. Of the participants enrolled in 2020, 59 participants would have earned a total of only $150 in credits (6 months before exiting). OCA St. 5 at 59, Sch. RDC-1, RDC-2.

504. Schedule RDC-1 shows us that while 1,496 low-income customers enrolled in arrearage forgiveness in 2020, 305 of those customers earned $100 or less in forgiveness credits (at maximum, assuming they made all their payments in a timely fashion during their participation before exiting the program); 377 earned $150 or less in forgiveness credits (at maximum); 486 earned $200 or less in forgiveness credits (at maximum). OCA St. 5 at 59-60, Sch. RDC-1, RDC-2.

505. For at least 24 program participants in August of 2021, the $25/month credit would require more than 200 months' of payments, or 17 years of timely payments, in order to earn the full credits provided through the program. OCA St. 5 at 61, referencing (Confidential OCA-V-28).

506. A substantial number of low-income customers enrolled in the Helping Hand program continued to accrue arrears. OCA St. 5 at 60.

507. For those customers that incurred arrears while enrolled in Helping Hands from January 2021 through August 2021, the number of customers in arrears and average arrears

increased from 52 customers with an average arrears of $953 in January 2021 to 257 customers with an average arrears of $1,315 in August 2021. OCA St. 5 at 60, Table 18.

508. Aqua's data shows that the average arrears at the time its existing Helping Hands customers entered the program was never as low as $900. OCA St. 5SR at 6.

509. Table 1 shows the average arrears from May 2020 through August 2021. OCA St. 5SR at 7, Table 1.

510. At the average arrears, the $25/month credit would require between four and five years to retire. OCA St. 5SR at 7, Table 1.

511. A $45/month credit would allow customers for this same time period to have arrearages forgiven from between 27 months to 39 months. OCA St. 5SR at 8, Table 2.

512. The $45/month credit allows a three-year forgiveness for customers with arrearages up to 25% greater than the average. OCA St. 5SR at 8, Table 2.

Arrearage Forgiveness Application Process

513. Customers who are currently participants in Aqua's arrearage forgiveness program should be automatically enrolled in the low-income bill discount program that is approved by the Commission. OCA St. 5 at 62.

514. Participation in the arrearage forgiveness program already indicates that the customer has demonstrated their low-income status to the satisfaction of the Company. OCA St. 5 at 62.

515. Customers should not be required to separately negotiate administrative hurdles to enrollment in the bill discount program. OCA St. 5 at 62.

516. Aqua clarified that the proposal in this proceeding was to replace the existing bill discount program, Helping Hand, with a discount program that includes both affordability and arrearage forgiveness components. Aqua St. 10-R at 2.

517. Participants who entered the program with an arrearage would receive the arrearage forgiveness benefit.

518. There would not be two separate applications or programs. Aqua St. 10-R at 2.

519. Current participants in the existing Helping Hand would have to separately apply to be enrolled in the bill discount program. *See* Aqua St. 10-R at 3.

520. While the Company plans to mail a letter to existing Helping Hand participants to encourage customers to apply, the existing Helping Hand arrearage forgiveness would no longer exist once the bill discount program is established. Aqua St. 10-R at 3; OCA St. 5SR at 2-3.

521. Under the application process, as proposed, there will be a group of customers who had been participating in the existing Helping Hand program; who have arrears that have not yet been completely forgiven (given the combined impact of the "timely payment" requirement, and the limitation to a $25/monthly credit, both of which Aqua has agreed to replace when able to do so); who will not (for whatever reason) apply to the new CAP and gain access to new arrearage forgiveness; and who will no longer have a Helping Hand program forgiveness through which they may complete reducing their arrearage balance. OCA St. 5SR at 3.

522. If Aqua needs to ensure only customers who enroll are eligible, it could limit the participation of those automatically migrated exclusively to the CAP arrearage forgiveness program component unless and until those customers submit a new application. OCA St. 5SR at 3.

Arrearage Forgiveness Cost Recovery

523. A similar cost recovery mechanism as set forth for the discount program should be approved. OCA St. 5 at 65.

524. Based upon Aqua's proposed a 70% payment compliance rate and OCA witness Colton's experiences with the energy universal services program, an 85% payment compliance rate should be utilized. OCA St. 5 at 65.

525. As with the discount program, Aqua should only be permitted to recover the net costs of the arrearage forgiveness program. OCA St. 5 at 65, Table 21.

526. Aqua saves on collection costs for customers that are enrolled in the arrearage forgiveness program. OCA St. 5 at 66.

527. For qualified Aqua customers who participate in the arrearage forgiveness program, pre-program arrears are frozen at the time of enrollment. OCA St. 5 at 66.

528. Once enrolled in the program, Aqua no longer pursues collection of the customers' existing (or pre-program) arrears. OCA St. 5 at 66.

529. Given that even though the pre-program arrears remain part of the customer's balance even though they are not enforced upon, arrearages are included in the Aqua billings against which actual collections (i.e., receipts) will be compared to determine the total Company collection factor. OCA St. 5 at 66.

530. By definition, however, those pre-program arrearages are no longer being subject to collection once the customer enrolls in the arrearage forgiveness program. OCA St. 5 at 66.

531. If the pre-program arrearages are not removed from the billings in the calculation of the total Company collection factor, rates will be increased to reflect the resulting reduced collection factor. OCA St. 5 at 66.

532. The purpose of the offset factor is to prevent Aqua from double-collecting a portion of the arrearage forgiveness credits and reflects the fact that even in the absence of the arrearage forgiveness program, Aqua would not collect 100% of its low-income arrears. OCA St. 5 at 66. Aqua has not prepared a collectability study. OCA St. 5 at 66. Without having prepared a collectability study, it is not possible for Aqua to have adjusted rates to prevent a double-collection. OCA St. 5 at 66.

533. If Aqua does not know what percentage of its billed revenue it is collecting in the first place, it has no baseline against which to compare how much less billed revenue it provides arrearage forgiveness credits. OCA St. 5 at 66.

534. The offset proposed is similar to the offset that Mr. Colton proposed in Philadelphia Water Department's 2021 rate proceeding. OCA St. 5 at 66.

535. In this proceeding, a 25% Lost Revenue Adjustment Factor should be applied. OCA St. 5 at 67.

536. A 25% Lost Revenue Adjustment is an acknowledgement that Aqua would fail to collect 75% of the arrears subject to forgiveness. OCA St. 5 at 67.

537. The 75% is based upon OCA witness Colton's experience with other water utilities such as his work completing a Water Affordability Plan for the City of Toledo, Ohio. OCA St. 5 at 67-68.

Performance Management Adder

538. The analysis of Aqua's performance used customer service data, customer satisfaction data, collections performance data, and environmental compliance metrics to evaluate whether Aqua's performance merited a management performance adder. OCA St. 5 at 68-75.

539. The analysis was based upon Aqua's customer satisfaction data, collections performance data, and customer service outcomes data presented in the Commission's own reports and DEP orders. OCA St. 5 at 68-75.

540. The record in these critical areas of customer service and collections do not support a conclusion of superior or exemplary performance that would merit a management performance adder. OCA St. 5 at 68-75.

541. As a part of the analysis, Aqua's performance regarding customer complaints was reviewed. OCA St. 5 at 69-70.

542. The data reviewed was included in the 2020 UCARE Quarterly Update. OCA St. 5 at 69.

543. The data in the 2020 UCARE Quarterly Update showed that Aqua has a high rate of "justified" complaints that were handled by the Commission's Bureau of Consumer Services. OCA St. 5 at 69.

544. A justified complaint is a consumer complaint where, prior to BCS intervention, the company did not comply with Commission Orders, policies, regulations, reports, Secretarial Letters, tariffs or guidelines when the consumer brought the complaint to the company's attention. OCA St. 5 at 69 (citing 2020 UCARE Quarterly Report, Glossary of Terms, at 20).

545. Aqua's 2020 justified complaint rate of 15% was nearly two times higher than the average for all regulated Class A water utilities (8%) and three times higher than either Pennsylvania American Water Company (PAWC) (5%) or Other Class A water utilities (5%). OCA St. 5 at 69.

546. While Aqua's performance was somewhat better through the Third Quarter of 2021 (justified rate of 10%), that rate was still higher than all other Pennsylvania Class A water utilities. OCA St. 5 at 69.

547. In contrast, the number of justified payment arrangement request (PAR) complaints against Aqua substantially increased in the first three quarters of 2021. OCA St. 5 at 69.

548. As of the end of September 2021, 22% of the reviews of Aqua payment arrangement decisions were justified, compared to 12% for PAWC and to 8% for all other Class A water utilities. OCA St. 5 at 69.

549. The number of Aqua consumer complaints had increased 72% through the Third Quarter of 2021 (compared to 33% for PAWC and negative-2% for all other Class A water utilities). OCA St. 5 at 70.

550. Aqua takes the longest time to respond to consumer complaints and payment arrangement requests than any other water utility. OCA St. 5 at 70.

551. In 2020, Aqua took 14.6 days to respond to consumer complaints, higher than the 12.8 days of water utilities generally. OCA St. 5 at 70.

552. Aqua's 16.0 day response time to payment arrangement requests (PARs) was two times longer than the average response time for PA Class A water utilities generally (7.5 days), and nearly three times longer than PAWC's response time (5.6 days). OCA St. 5 at 70.

553. Through the Third Quarter of 2021, while Aqua's performance improved relative to other water utilities, it did not perform well with respect to those other utilities. OCA St. 5 at 70.

554. Aqua's 16.4 day response time to consumer complaints compares to 15.7 days for all water utilities; Aqua's 8.7 day response time to PARs compares to 9.4 for all water utilities. OCA St. 5 at 70.

555. The analysis reviewed the customer satisfaction data for the time period from April 2020 through the present as provided by Aqua was analyzed. OCA St. 5 at 71.

556. Significant numbers of Aqua customers were less than "very satisfied" with Aqua's performance in the period from April 2020 through the present. OCA St. 5 at 71.

557. Only 72% of customers having contact with the utility since April 1, 2020 were either "very" or "extremely" satisfied with respect to their "overall satisfaction." OCA St. 5 at 71.

558. Nearly one-of-three persons who had contact with the Company were less than very satisfied. OCA St. 5 at 71.

559. Nearly one-in-five expressed that they were not satisfied (either not very satisfied or not at all satisfied). OCA St. 5 at 71.

560. One of the areas in which customers were less than satisfied was in the area of customer effort. OCA St. 5 at 71.

561. Nearly one-in-three customers (29%) having contact with the utility either disagreed or neither agreed nor disagreed with the Aqua's customer effort when they had contact with Aqua. OCA St. 5 at 71.

562. The analysis reviewed the Company's collections performance in the Sixth Report to the General Assembly and the Governor Pursuant to Section 1415. OCA St. 5 at 72.

563. While Aqua performs better than PAWC in the percentage of residential customers in debt (14.23% vs. 18.15%), it performs substantially less well than other Pennsylvania water utilities. OCA St. 5 at 72.

564. The average percentage of residential customers in debt for other Class A water utilities was 10.62% in 2018 (the last year for which data is available), compared to 14.23% for Aqua. The average dollars of arrears for active residential customers was virtually the same for Aqua and PAWC as well. OCA St. 5 at 72.

565. As of 2018, while active Aqua residential customers had an average arrears of $176, active PAWC customers carried an average arrearage of $160. OCA St. 5 at 72.

566. Aqua is not improving its management over residential customer arrears. OCA St. 5 at 72-73.

567. According to the PUC's Sixth Report to the General Assembly (regarding Chapter 14), for example, while 3.16% of Aqua's residential billings were in debt in 2012, 3.47% of residential billings were in debt in 2018. OCA St. 5 at 72.

568. As shown in Table 22, the average arrearage of both active and inactive residential Aqua customers has increased during that time period. OCA St. 5 at 72, Table 22.

569. In 2017 and 2018, average arrears were substantively higher than they were in 2012 for both active and inactive accounts. OCA St. 5 at 72.

570. Table 23 shows the bills behind by year from 2012 through 2018.

Table 23. Bills Behind by Year (active and inactive customers)

(Aqua PA 2012 – 2018)

	2012	2013	2014	2015	2016	2017	2018
Active	2.4	2.7	3.5	2.6	2.8	3.1	2.9
Inactive	3.6	4.0	4.5	4.0	4.0	3.9	4.1

OCA St. 5 at 73, Table 23.

571. The analysis examined the number of disconnections from 2012 through 2018. OCA St. 5 at 73.

572. The deterioration in Aqua arrears has occurred despite the fact that Aqua has increased the number of accounts it disconnects more than ten-fold since 2012. OCA St. 5 at 73.

573. In 2018, Aqua disconnected more than 7,400 residential customers. OCA St. 5 at 73.

574. Aqua's rate of residential nonpayment disconnections (1.85 per 100 customers) was the highest of the seven years reported to the legislature. OCA St. 5 at 73.

575. Even though Aqua has increased its number of residential customer disconnections, arrearages in absolute dollars and Bills Behind, has increased. OCA St. 5 at 73.

576. In 2012, Aqua disconnected 0.14 residential accounts for each 100 residential accounts it had. OCA St. 5, at 73; OCA St. 5SR at 33.

577. By 2018, the rate of disconnection had increased to 1.85 disconnections for each 100 accounts, an increase of more than 1300% (i.e., more than ten-fold). OCA St. 5, at 73; OCA St. 5SR at 33.

578. The analysis reviewed the extent to which Aqua has been notified by the Department of Environmental Protection (DEP) on numerous occasions of violations of Aqua's National Pollutant Discharge Elimination System (NPDES) permit violations. OCA St. 5 at 74-75.

579. On May 12, 2020, DEP notified Aqua that "A review of Aqua Pennsylvania's Wastewater, Inc.'s Discharge Monitoring Reports (DMRs) has indicated a pattern of effluent violations with respect to the limitations set forth in NPDES Permit No. PA0061719." OCA St. 5 at 74.

580. The violations cited in the May 12, 2020 notice occurred over an extended period of time, beginning in September 2015 and continuing through June 2019. OCA St. 5 at 74.

581. On November 30, 2020, DEP notified Aqua that "A review of Aqua Pennsylvania Wastewater, Inc., Mast Hope Development's (Aqua-Mast Hope) Discharge Monitoring Reports (DMRs) has indicated a pattern of effluent violations with respect to the limitations set forth in NPDES Permit No. PA0060496." OCA St. 5 at 74.

582. The November 30, 2020 notice cited violations occurring from February 2019 to August 2020. OCA St. 5 at 74.

583. On July 16, 2021, DEP notified Aqua that it had "conducted an administrative review of the discharge monitoring reports" submitted pursuant to Aqua's NPDES permit (PA0228061). The correspondence identified "effluent results exceeding limitations set forth in. . .your NPDES Permit." OCA St. 5 at 74.

584. DEP told Aqua that "these effluent exceedances. . .constitute violations [of] your NPDES Permit and Section 202 of the Clean Streams Law. . ." OCA St. 5 at 74.

585. The list of violations cited in the July 16th correspondence began in October 2018 and continued December 31, 2020. OCA St. 5 at 74.

586. DEP told Aqua that "the above noted violations constitute unlawful conduct under Section 611 of the Clean Streams Law. . ." OCA St. 5 at 74.

587. As recently as October 12, 2021, DEP notified Aqua that an administrative review of the DMRs submitted in accordance with NPDES Permit PA0228061 revealed effluent results that continue to exceed limitations set forth in the Permit. OCA St. 5 at 74-75.

588. Regarding the October 12, 2021 notice, DEP again informed Aqua that "the above noted violations constitute unlawful conduct under Section 611 of the Clean Streams Law. . ." OCA St. 5 at 75.

CUSTOMER SERVICE ISSUES

Aqua's Commitments from the *Merger Settlement*

589. Aqua agreed to meet certain quality and customer service requirements in the 2018 Settlement of the Aqua-Peoples Merger. *Joint Petition for Approval of Non-Unanimous, Complete Settlement Among Most Parties***,** Docket Nos. A-2018-3006061, A-2018-3006062, A-2018-3006063 (June 26, 2019) (*Merger Settlement*).

590. The following quality and customer service requirements from the *Merger Settlement* are relevant to this proceeding:

> E. Service Related Commitments
>
> 83. Aqua commits to improve Aqua's call center performance to meet or exceed the same performance standards that the Peoples Companies agreed to meet in the 2013 Settlement concerning the acquisition of Equitable Gas Company (Docket No. A-2013-2353647 et al.) for the

following three metrics in each of the five calendar years (2020-2024) following closing:

i. percent of calls answered within 30 seconds of at least 82%,
ii. busy-out rate of no more than 0.25%,
iii. average call abandonment rate that is no higher than 4% for 2020-2021, no higher than 3% for 2022-2023, and no higher than 2.5% for 2024.

84. Aqua America will maintain, at the minimum, the Peoples Companies capital expenditures at pre-acquisition budgeted levels, and will provide to the OCA, I&E and OSBA with projected expenditures for 2019 and 2020.

85. Aqua PA will develop a system to track Aqua PA customer complaints in a live Excel spreadsheet, consistent with Paragraph 47 in the Joint Petition for Settlement submitted in Aqua PA's recent base rate case (Docket Nos. R-2018-3003558 and R-2018-3003561). Aqua PA will review this information and conduct a root cause analysis of adverse trends at least annually.

86. Aqua PA will commit to a significant reduction in the number of days to respond to customer complaints so that, within 24 months, the average is less than 10.

87. Aqua PA will develop and adopt a methodology to track whether appointments are made and kept for field operations in a manner similar to that used by the Peoples Companies within 18 months and adopt internal performance standards that meet or exceed those of the Peoples Companies for this performance standard for five years.

88. Aqua PA will meet its internal 2019 performance objectives as listed below and will continue to establish and strive to meet comparable or more strict performance objectives for five years:

i. Estimate read rate – less than 0.5%
ii. Actual read rate – 99%
iii. Lost time accidents – 19
iv. Responsible vehicle accidents – 4.1
v. Compliance with water regulations – 99.5%
vi. Compliance with wastewater regulations – 94.5%

89. Aqua PA will provide a report to OCA, I&E, and OSBA each calendar year for a period of five years following closing regarding its achievement of the service quality metrics listed in Paragraphs 83-88. The report will outline the actual metrics achieved and additional actions expected to be taken in the following year to further improve customer service. If Aqua PA has not achieved an identified metric, the report must also include the reasons for the failure and Aqua PA's plan to reach the service quality metric. Aqua PA must then convene a collaborative with OCA, I&E, and OSBA to discuss such report.

OCA St. 6 at 8.

591. None of Aqua's witnesses who testified on the behalf of the Company as part of this base rate case discuss Pennsylvania customer service performance, consumer protection policies, or otherwise referenced the service quality requirements of the Aqua-Peoples merger. OCA St. 6 at 3.

592. Aqua witness William Packer testified that Aqua should receive performance factor consideration, and that it has been fully supported and should be adopted if, for any reason, the Commission were to consider adopting an ROE of less than 10.75%. Aqua St. 1-R at 26.

593. The only effort identified by Mr. Packer related to customer service performance was the introduction of a new customer service interactive system map. Aqua St. 1-R at 26.

Aqua's Customer Service Performance

Call Center Performance

594. Aqua agreed to annual average performance levels in three areas: (a) answer at least 82% of customer calls within 30 seconds, (b) maintain a busy-out rate of no more than 0.25%, and (c) meet an abandonment call rate (measured by customers who hang up after entering the queue to speak to a representative) of no higher than 4% for 2020-2021, no higher than 3% for 2022-2023 and no higher than 2.5% for 2024. Aqua-Peoples Merger at ¶ 83; OCA St. 6 at 9.

595. Aqua has met the busy-out rate standard, but has not met the standards for calls answered and abandonment rate. OCA St. 6 at 9.

596. Aqua utilizes two call centers located in Illinois and North Carolina which handle calls from Pennsylvania customers. OCA St. 6 at 9.

597. The *Merger Settlement* requires annual average performance standards in the three areas that can be measured to reflect the performance provided to Pennsylvania customers. OCA St. 6 at 9.

598. Both call centers handle calls from all of Aqua's customers in several states, and Aqua's calculated performance standards reflect the average of all calls at both call centers. OCA St. 6 at 9.

Calls Answered

599. Regarding calls answered, Aqua has never met the 82% call answering standard as measured by the typical measurement of the percentage of calls in which the customer affirmatively seeks to talk to a live representative. OCA St. 6 at 10; (*See* Exh. BA-2 for calculation of annual average results for each of the performance standards using monthly information provided by Aqua).

600. As measured by the calls in which the customer selects the option to speak with a representative, the annual calls answered average for 2019 was 70.56%, for 2020 was 72.86%, and for 2021 through July was 50.64%. OCA St. 6 at 10; (*See* Exh. BA-2 for calculation of annual average results for each of the performance standards using monthly information provided by Aqua).

601. Aqua calculates the percentage of calls answered within 30 seconds based on the combination of the results for customers seeking to speak to a representative with all calls handled without that request through its automated menu Interactive Voice Response system, describing this calculation as an "aggregate." OCA St. 6 at 10.

602. Compliance with the *Merger Settlement* standards should not be measured by these "aggregate" calculations because the aggregate does not actually measure a customer's experience with attempting to reach a representative. OCA St. 6 at 10-11.

603. This performance may explain Aqua's below average customer satisfaction with Aqua's telephone service documented by its customer surveys relative to other Pennsylvania electric and gas distribution companies. OCA St. 6 at 10-11.

604. Recent data shows that only 73% of Aqua customers with recent telephone call center transactions rated satisfaction as "excellent" or "very good." OCA St. 6 at 11.

605. This level of satisfaction is low compared to Pennsylvania electric and gas companies where over 80% of customers typically express that they are "very satisfied" with their interaction with the utility's representative. OCA St. 6 at 11.

606. The *Merger Settlement* does not refer to the "aggregate" measurement. OCA St. 6SR at 4-5.

607. Aqua's use of aggregate calculations in determining its calls answered average is inappropriate from the perspective of customers who seek to speak to a customer service representative and as a measure of Aqua's compliance with requirements from the *Merger Settlement*. OCA St. 6SR at 4-5.

Abandonment Rate

608. Aqua's annual call abandonment rate has not been met. OCA St. 6 at 10.

609. The annual rates for call abandonment were 4.56% in 2019, 4.32% in 2020, and significantly deteriorated in 2021 to 13.15% through July. OCA St. 6 at 10.

610. Aqua measures the abandonment rate by combining the performance when customers affirmatively seek to speak with a customer service representative with *all* calls handled via the Interactive Voice Response system. OCA St. 6 at 10.

611. Aqua's measurement method results in an inaccurate measurement of customer experience for those attempting to reach a CSR. OCA St. 6 at 10.

612. The *Merger Settlement* does not contain any provisions related to "unanticipated circumstances". *See* OCA St. 6 at 8.

613. Aqua had very high abandonment rates of over 9% for November 2020 and 10% for December 2020. OCA St. 6SR at 5.

614. Aqua has demonstrated a pattern of repeated failure to meet the standard as evidenced by abandonment rates exceeding 4% for the past three years. OCA St. 6 at 10.

Customer Satisfaction Scores

615. Aqua does not have any walk-in customer service centers in Pennsylvania resulting in the vast majority of customer interactions with Aqua occurring via the toll-free telephone number and call center. OCA St. 6SR at 6.

Live Customer Complaint Spreadsheet and Root Cause Analysis of Customer Complaint Data

616. In the *Merger Settlement*, Aqua agreed to develop a live customer complaint spreadsheet and perform a root cause analysis of customer complaint data. OCA St. 6 at 12.

617. Pennsylvania public utilities are required to inform customers on how to file informal and formal complaints. OCA St. 6 at 11; 52 Pa. Code § 56.201(b)(7).

618. Utilities are required to investigate and respond to disputes received directly from customers in accordance with 52 Pa. Code § 56.151.

619. Tracking and evaluating disputes and informal or formal complaints are key to ensuring ongoing improvements in customer service because that evaluation is likely to spot the "red flag" that indicates a systemic issue or concern that requires management's attention and, in some cases, a change in policy or procedure. OCA St. 6 at 12.

620. Aqua provided a confidential spreadsheet which listed customer complaints with a column listing the "root cause" instead of providing an actual analysis of the root causes of each complaint. OCA St. 6 at 12.

621. Aqua is still working on meeting the requirement to perform a root cause analysis. OCA St. 6 at 12.

622. A root cause analysis requires a fundamental review of the policies and practices that resulted in the complaint and the internal evaluation of how to prevent the complaint or fix the underlying cause. OCA St. 6 at 12.

623. Aqua has not provided the requested information on the methodology and timetable for the completion of this root cause analysis. OCA St. 6 at 12.

624. Aqua has not indicated a methodology for tracking whether its responses to customer disputes or complaints were incorrect or improper, which is a key component of any root cause analysis of customer complaints. OCA St. 6 at 12.

625. Aqua's lack of analysis of complaint trends and root cause is especially concerning given the volume of "justified" complaints and "notices of infractions" from the Commission's Bureau of Consumer Services (BCS) after that office's handling of informal complaints submitted by Aqua customers. OCA St. 6 at 13.

626. A justified consumer complaint is one where, "prior to BCS intervention, the company did not comply with Commission Orders, policies, regulations, reports, Secretarial Letters, tariffs, or guidelines when the consumer brought the complaint to the company's attention." *See e.g.,* 52 Pa. Code §§ 54.152 and 62.32.

627. Aqua's informal process does not constitute a root cause analysis and is not the requirement contained in the *Merger Settlement*. OCA St. 6SR at 6-7.

628. Aqua's spreadsheet alone, even when final, does not constitute a root cause analysis. OCA St. 6SR at 6-7.

Requirement to Significantly Reduce Number of Days to Respond to Customer Complaints

629. In the *Merger Settlement*, Aqua agreed to significantly reduce the number of days to respond to customer complaints so that within 24 months, the average is less than 10. OCA St. 6 at 14.

630. Aqua's response time to customer complaints averaged 15 in 2020 and 13 in 2021 through October and the Merger Settlement required that the average is below 10 within 24 months of the *Merger Settlement*. OCA St. 6 at 14; OCA Exh. BA-5.

Aqua's Promises for Customer Service Benefits in Section 1329 Acquisition Proceedings

631. In the New Garden, Limerick, East Bradford, Cheltenham, and East Norriton Section 1329 proceedings, Aqua promised "enhanced customer service" and the ability of its new customers to obtain services via its unified call center to handle customer service matters, respond to outages and set up online accounts to pay bills. Aqua St. 1 at 17-18; OCA St. 6 at 8.

632. Municipal offices are not available for customers to pay Aqua bills and handle routine customer service requests and other issues. OCA St. 6 at 8.

Aqua's Compliance with Consumer Protection Regulations and Best Practices Pursuant to Chapter 56

Oversight of Call Center Compliance with Pennsylvania Consumer Protection Rules and Policies

633. Aqua employs call center representatives in Illinois and North Carolina to handle calls from Aqua customers in Pennsylvania. OCA St. 6 at 16.

634. Aqua has provided internal training documents that reflect Pennsylvania consumer protection policies and requirements but has not provided any documentation

demonstrating that the training is accompanied by routine oversight and auditing to ensure compliance. OCA St. 6 at 16.

635. Aqua should be required to develop a submit a plan that describes specific auditing and oversight policies applicable to its call centers with regular reporting on the results of such evaluations and audits. OCA St. 6 at 24.

636. Aqua has not provided any evidence that it has a program or process in place to regularly review compliance with the training materials it provides to its employees. OCA St. 6SR at 9-10.

Termination of Service

637. Aqua is obligated to attempt personal contact with a responsible adult at a property immediately prior to termination of service. 52 Pa. Code §§ 56.94, 56.334.

638. This interaction is required to ensure that the customer's rights are recognized in the event of:

(1) allegation of payment; (2) presence of medical emergency; (3) assertion of rights pursuant to victims of domestic violence or abuse; and (4) availability of universal service programs.

OCA St. 6 at 17.

639. Aqua failed to provide any internal training materials or documentation that it meets this regulatory requirement. OCA St. 6 at 16; OCA St. 6SR at 9-10.

640. Aqua witness Black agreed that the FSR training documentation should be updated to clearly reflect this requirement and it will update its process. Aqua St. 10-R at 20.

641. No updated training documentation was provided for the record. OCA St. 6SR at 10.

642. Aqua should be directed to provide updated training documentation that meets all requirements related to personal contact prior to terminating service as part of the final order in this proceeding. *See* OCA St. 6 at 24.

Reconnection of Service

643. Aqua reported a significant difference between accounts it terminated for nonpayment and the reconnections of service for those customers. OCA St. 6 at 19.

644. There were 14,101 disconnections documented between January 2019 and September 2021 but only 8,973 reconnections were made. OCA St. 6 at 19.

645. Regarding the difference of approximately 5,000 residential customers who were not identified as reconnected following termination for nonpayment in the last several years, after a certain time, Aqua's customer information system treats customers who were

terminated as a "move in" or a new customer account rather than a reconnection. OCA St. 6 at 19.

646. To ensure that customers who are terminated for nonpayment are reconnected, Aqua should develop internal documentation of how the rights of customers who are seeking reconnection at the same location are met. OCA St. 6 at 19.

647. Aqua should be required to either revise its procedures and document compliance with restoration of service rights and remedies or establish how its current policies reflect these obligations. OCA St. 6 at 24.

648. The Company's current customer information system "cannot easily distinguish between reconnected service and a "move in" for service for customers who are activating water service after a period of time." Aqua St. 10-R at 21-11.

649. Aqua's process makes it impossible to accurately track whether a customer whose service has been terminated has been reconnected, whether it be as a "move in" in the same location or in a new location resulting in the inability to assess whether termination and reconnection customer protection requirements are being met. OCA St. 6SR at 10-11.

Best Practices in Identifying Customer Disputes

650. Aqua's training materials do not reflect an obligation to affirmatively ask whether a customer is satisfied with the resolution of their contact with Aqua when reporting an issue. OCA St. 6 at 20. Aqua relies on a customer's indication that they are not satisfied with the resolution or explanation provided during the transaction. OCA St. 6 at 20.

651. Aqua's approach is not a best practice because it may significantly undercount the actual customer disputes because unless a customer is affirmatively informed that their "satisfaction" is crucial to the resolution of the transaction, customers who are speaking to a monopoly utility may not understand their rights and fail to express their views. OCA St. 6 at 20.

652. Customers do not routinely know or have detailed knowledge of their rights and remedies. OCA St. 6 at 20.

653. Aqua should be required to affirmatively seek to determine whether a customer is satisfied by explicitly asking customers if they are satisfied with Aqua's response to an inquiry or concern to identify potential customer disputes. OCA St. 6 at 24.

654. Aqua's documentation does not explicitly require Aqua's customer service representative to ask the customer if they are satisfied with the Company's response. OCA St. 6SR at 11.

655. The documentation shows that the customer has to indicate their dissatisfaction by stating that: "[a] dispute is *when the customer indicates* they are not satisfied with the resulting resolution/explanation pertaining to the subject of the bill" (emphasis added). OCA St. 6SR at 11.

656. There is no evidence to support Aqua's statement that it affirmatively asks the customer if they are satisfied with the Company's response to the customer's issue. OCA St. 6SR at 11.

657. A customer may not be willing to speak up about whether they are satisfied with a response unprompted. OCA St. 6SR at 11.

Third Party Payment Fees

658. Aqua promotes bill payment by methods which require payment of fees to third-party vendors. OCA St. 6 at 20-22.

659. Aqua's website and Interactive Voice Response system promote the option for a customer to pay via credit/debit card or check. OCA St. 6 at 20.

660. Aqua's termination notices promote payment by credit/debit card or check with a separate toll-free number printed in bold that connects the customer to Aqua's payment processing center. OCA St. 6 at 20-21.

661. This payment option requires the customer to pay a $2.25 processing fee which is charged by Aqua's third-party vendor, Speedpay. OCA St. 6 at 21.

662. Aqua's web portal also offers payment at a variety of retail locations via Western Union for a fee not identified on its web portal. OCA St. 6 at 21.

663. Aqua received about 27,000 customer payments via Speedway per month in 2021 which amounts to around $60,750 per month in processing fees. OCA St. 6 at 21.

664. Because it promotes these payment methods that have an additional fee, Aqua should be required to consider the effects of its decision to promote fee-based methods on its customers especially for those customers to avoid further collection actions that may result in termination of service. OCA St. 6 at 21.

665. Aqua should provide no-fee payment options and include reasonable or necessary payment processing fees in its revenue requirement, similar to handling payments via mail. OCA St. 6 at 21.

666. No-fee payment options are likely to generate a higher volume of customer payments and reduce costs associated with handling payments via the mail system which has been notoriously slower than in the past. OCA St. 6 at 21.

667. Elimination of payment fees could lead to increased ability to recover overdue bills as well as promote ongoing payment of current bills. OCA St. 6 at 21.

668. Aqua projects a bill processing and postage expense of $2,206,957 for the three year period ending March 31, 2023. Aqua Exh. 1-A.

669. In exploring no-fee payment options via its Interactive Voice Response system and e-billing web portal, the Company may be able to reduce this bill processing and postage expense. OCA St. 6 at 24.

670. Aqua should evaluate any costs and benefits associated with this recommendation and report to stakeholders. OCA St. 6 at 24.

671. Promotion of the fee-based payment option on termination notices is especially concerning because a customer faced with a termination notice likely feels a sense of urgency to settle the overdue amounts as quickly as possible to avoid termination and additional fees. OCA St. 6 at 20-21.

672. Aqua's decision to promote fee-based payment options should come with Aqua's responsibility to explore promotion of no-fee options. OCA St. 6 at 21.

673. This review of no-fee options is an opportunity for Aqua to provide improved customer service and an opportunity to look to decreasing costs associated with more expensive mail and in-person payment options which are included in rates. OCA St. 6SR at 12.

Late Fees During COVID-19 Pandemic

674. Aqua reports over $700,000 in late fees recovered from its customers during the COVID-19 pandemic for the period April 2020 through March 2021. OCA St. 6 at 22.

675. Aqua has been charging late fees even though terminations were halted during the pandemic pursuant to the March 13 Emergency Order issued by Chairman Gladys Brown Dutrieuille. *Emergency Order*, Docket No. M-2020-3019244 (March 13, 2020).

676. When customers are informed of a halt to termination, most might assume that they would not incur a penalty for the late payment or be at risk of building up a larger overdue bill. OCA St. 6 at 22.

677. Aqua Exhibit RFB-3R, is a letter that was sent monthly to customers who were not making payments during the pandemic, and it encourages customers to contact the Company but does not inform customers that late fees will accrue. OCA St. 6SR at 13.

678. Aqua Exhibit RFB-3R is designed only to encourage customers to call the Company to negotiate payment plans. OCA St. 6SR at 13.

QUALITY OF SERVICE

Unaccounted For Water

679. Unaccounted for water (UFW) is "Total Water Delivered for Distribution & Sale" minus "Total Sales" minus "Non-Revenue Usage and Allowance." OCA St. 7 at 3.

680. The term "Non-Revenue Usage and Allowance" includes "Main Flushing," "Blow-off Use," "Unavoidable Leakage," "Located & Repaired Breaks in Mains & Services" and "Other". OCA St. 7 at 3.

681. Calculating UFW is important because it determines the amount of non-revenue water in a distribution system, helping to identify leaks and inaccurate meter readings. OCA St. 7 at 4.

682. When UFW is measured, non-revenue water can be reduced which reduces chemical and power costs, provides for water conservation, and helps improve operational efficiency. OCA St. 7 at 4.

683. The Commission considers levels of UFW above 20% to be excessive. 52 Pa. Code § 65.20(4).

684. Aqua provided American Water Works Association (AWWA) Water Audits for six divisions. OCA St. 7 at 4 (*See* Exh. TLF-1W for summary information from these six audits).

685. Aqua also provides a UFW calculation in the PUC Section 500 method for all of its systems on a combined basis. *See* Exh. TLF-2W.

686. The total water delivered amount provided in Aqua's Section 500 report varies by over 3% from the totals calculated according to the AWWA Audit, which represents more than a rounding error. OCA St. 7 at 5.

687. The amount of water supplied to the distribution system shown on Section 500 of the Annual Report is 1,327.76 MG less than shown on the AWWA Audit totals. OCA St. 7 at 5; *see* Exhibit TLF-3W.

688. The amount of water sold on Section 500 is 258.59 MG less than the AWWA Audit totals. OCA St. 7 at 5; *see* Exhibit TLF-3W.

689. Aqua should submit a Section 500 UFW calculation for each of its water systems and the information submitted should be based on the same data that is required for AWWA Audits and the annual Chapter 110 Reports submitted to DEP. OCA St. 7 at 6.

690. Submitting a Section 500 form for each of Aqua's operating divisions would be less burdensome than providing an AWWA Audit report for each separate water system. OCA St. 7SR at 2.

691. In future rate cases, use of the Section 500 forms will provide uniformity in Aqua's UFW reporting and eliminate confusion resulting from differences in numbers because of the different reporting methodologies. OCA St. 7SR at 2.

692. In future rate cases, use of only the Section 500 form going forward will remove any calculation discrepancies and the need for parties to question these differences in future rate cases. OCA St. 7SR at 2.

Pressures and Pressure Surveys

693. The Commission's pressure regulations are set forth in 52 Pa. Code § 65.6 (Pressures). 52 Pa. Code § 65.6.

694. The DEP requires the following regarding system pressures:

> 1. Pressure
>
> All water mains, including those not designed to provide fire protection, shall be sized after a hydraulic analysis based on flow demands and pressure requirements. The pipe system and its appurtenances shall be designed to maintain a minimum pressure of 20 pounds per square inch, gauge (psig) at ground level at all points in the distribution system under all conditions of flow. The normal working pressure in the distribution system should be approximately 60 psig.

Public Water Supply Manual, Part II, Community System Design Standards, May 6, 2006 at 186-87.

695. The Commission regulations include a maximum and minimum pressure criterion where DEP requirements include a minimum and normal working pressure criterion. OCA St. 7 at 8.

696. The Commission pressure regulation's minimum requirement is 25 psi at the main while DEP's minimum is 20 psi at ground level. OCA St. 7 at 8.

697. Generally, the representative points where pressure surveys should be conducted are the highest and lowest ground elevations of the distribution in each pressure zone. OCA St. 7 at 8.

698. To address potential pressure problems, Aqua has installed pressure gauges, replaced aged waterlines, modified well and pump station outputs and storage tank alternatives, installed flow control valves at booster stations to regulate and stabilize flow, installed new boundary valves, modified boundary limits of existing pressure zones, and created new pressure zones at higher elevation areas. OCA St. 7 at 9.

699. Pressure results that are 20% above or below normal pressure are reported for further investigation. OCA St. 7 at 8.

700. Over 220 facilities in Southeastern Pennsylvania (SEPA) and the majority of the Company's systems across Pennsylvania are connected to the Company's Supervisory Control and Data Acquisition (SCADA) system which records analog readings such a pressure, flow and tank level each hour. OCA St. 7 at 9 (referencing Aqua response to OCA-VIII-15).

701. The Pennsylvania systems not connected to SCADA are recorded via chart recorders. OCA St. 7 at 9.

702. Aqua does not maintain a list of customer locations that have a normal pressure with less than 25 psi or greater than 125 psi, instead it monitors pressures at sources and addresses low or high pressure reports from customers as they occur. OCA St. 7 at 9.

703. Many of Aqua's approximately 114 water systems have more than one pressure zone. OCA St. 7 at 10.

704. A satisfactory pressure survey will consist of pressure readings at only a low and high pressure point.

705. For purposes of evaluating pressures, pressure information obtained from hydraulic computer models and SCADA systems, when they are accompanied by a complete complaint log including all customer pressure complaints can be informative. OCA St. 7 at 10.

706. The complaint log will indicate if the pressure complaints are due to correctable company or customer facilities or if the computer model or SCADA needs to be modified. OCA St. 7 at 10.

707. Aqua's SEPA division has 120 operating pressure zones for which Aqua has SCADA data and a long history of hydrant pressure readings. OCA St. 7 at 10.

708. The two representative points, a high and low point, should be easily estimated. OCA St. 7 at 11.

709. Aqua should submit pressure survey information for its systems from computer models or SCADA systems where available, at two representative points, for each pressure zone if a computer model or SCADA system is unavailable. OCA St. 7 at 11.

710. Aqua could be required to submit pressures at the two representative points for all of its pressure zones. OCA St. 7 at 11.

711. Aqua's customer complaint log did not include a main searchable category for "pressures." OCA St. 7 at 12.

712. Pressures should be recorded in a separate category of the customer complaint log to make it easier to identify and review these complaints. OCA St. 7 at 12.

713. Aqua should reduce normal operating pressures in the areas mentioned above that exceeded 125 psi in order to protect customer service lines and inside plumbing if the PRV fails. OCA St. 7 at 13.

714. According to maps submitted by Aqua, Roaring Creek, Shenango Waymart, and roughly 20% of the Southeastern Pennsylvania systems exceeded 125 psi, and very few areas had pressures less than 25 psi. OCA St. 7 at 11-12.

715. The Commission pressure regulation at 52 Pa. Code §65.6(d) requires that high and low pressure readings be made at "representative" points. OCA St. 7SR at 4.

716. In order to gain a useful and comprehensive understanding of high and low pressures in a system, it is not only logical but also consistent with the OCA's understanding and OCA witness Fought's experience that Aqua take pressure readings from points where the highest and lowest pressures are likely to occur. OCA St 7SR at 4.

Isolation Valves

717. According to the National Environmental Services Center at West Virginia University, experts recommend exercising valves annually, if possible, or at least once every two years. OCA St. 7 at 15.

718. Exercising an isolation valve is operating the valve through complete full open and close cycles until it operates with little resistance. OCA St. 7 at 14.

719. It is important to exercise isolation valves to prevent the valves from seizing up and getting stuck from corrosion or other deposits adjacent to the valve. OCA St. 7 at 14.

720. An isolation valve that cannot be fully closed will increase the water loss during a water main break and increase the number of customers affected. OCA St. 7 at 14.

721. If an isolation valve becomes inoperable due to lack of being exercised, the valve will have to be repaired or replaced which can be very expensive. OCA St. 7 at 14.

722. Aqua has a total of 83,547 isolation valves in all of its systems. OCA St. 7 at 15-16; *See* Exh. TLF-6W (Aqua's response to OCA VIII-9 related to isolation valves).

723. Aqua does not keep records of the location of its isolation valves that have not been exercised in the last five years. OCA St. 7 at 15-16; *see* Exh. TLF-6W (Aqua's response to OCA VIII-9 related to isolation valves).

724. Approximately 6,000 to 8,000 valves were exercised in 2020, 222 valves were repaired during 2020, and Aqua exercises 270 critical valves at least once every four years. OCA St. 7 at 15-16; *see* Exh. TLF-6W (Aqua's response to OCA VIII-9 related to isolation valves).

725. As part of Aqua's responsibility to maintain all of its equipment, the Company should start maintaining records of their attempts to exercise every isolation valve and whether it was successful. OCA St. 7 at 16.

726. Aqua should exercise (or attempt to exercise) 16,700 isolation valves per year until all the non-critical valves have been exercised in a 5 year period. OCA St. 7 at 16.

727. The critical isolation valves that could not be exercised should be repaired or replaced as soon as practicable after the time they are found to be inoperable. OCA St. 7 at 16.

728. If the non-critical valves are not repaired shortly after the time they were found to be inoperable, then, once per year, for example on April 15th, Aqua should submit a schedule

to the OCA and other parties for replacing or repairing those isolation valves that could not be properly exercised during the prior year. OCA St. 7 at 16.

729. This recommendation was adopted in the Commission's March 28, 2017 Opinion and Order in City of DuBois' 2016 rate case. *See Pa. PUC v. City of Dubois Bureau of Water*, Docket No. R-2016-2554150, Order at 122 (Mar. 28, 2017).

730. After exercising all of its valves and repairing or replacing any of those it could not exercise, Aqua should be able to develop a reasonable schedule going forward for exercising its isolation valves. OCA St. 7 at 16.

Fire Hydrants

731. There are 16 public fire hydrants that cannot provide the minimum fire flow of 500 gallons per minute at 20 pounds per square inch. OCA St. 7 at 17.

732. Each of the 16 fire hydrants that cannot provide the minimum fire flow should be marked as such so that they will only be used to flushing and blow-offs and Aqua should provide confirmation to the OCA and other parties when this is completed. OCA St. 7 at 17.

733. Marking the hydrants should be done regardless of Aqua' plan to replace or relocate the hydrants. OCA St. 7SR at 8.

Flushing

734. While there are no Commission or DEP requirements for main flushing, most water utilities consider it good practice to flush the system annually when possible. *See* OCA St. 7 at 17.

735. Over time sediments can build up in the pipes and could result in discolored water during flow surges resulting from firefighting and main breaks. This especially occurs in older mains. OCA St. 7 at 17.

736. Too much sediment in the mains can also affect the taste, clarity and color of water. OCA St. 7 at 17.

737. Aqua has a main flushing program and all systems were flushed in 2020, but six systems were not flushed in 2019 due to short-term staffing problems. *See* OCA Exh. TLF-8W.

738. Aqua opened 4,008 work orders regarding flushing in the SEPA division during 2019 through September 2021, but the entire water complaint log contained only 3,633 work orders during that period. OCA St. 7 at 18.

739. In the water complaint log, only 2,705 concerned flushing which is less than the 3,633 work orders for flushing during 2019-September 2021. OCA St. 7 at 18.

740. A regular flushing program in the SEPA system is reasonable and would likely proactively eliminate many customer complaints. OCA St. 7R at 9.

741. Approximately 58.7% of the 2,635 customer complaint work orders for the SEPA system concerned flushing. OCA St. 7SR at 9.

742. Regular flushing may eliminate the need for Aqua to constantly assess whether and when to flush the system. OCA St. 7SR at 9.

PFAS

743. Aqua provides information to the public on a website about its testing and treatment for Per- and Polyfluoroalkyl substances (PFAS) contamination in its water supplies. www.waterfacts.com.

744. The most recent test results for some water sources were from 2016, 2017 and 2018 without explanation why more recent test results were not provided. OCA St. 7 at 19.

745. Aqua should add a statement to its waterfacts website explaining why testing was stopped for those sources that it no longer tests, to help clarify to customers that though some information is several years old, it is the most recent available information. OCA St. 7 at 19.

Customer Complaint Logs

746. Aqua's water and wastewater customer complaint logs to be incomplete as they did not include high pressure complaints in the Chesterbrook community. OCA St. 7SR at 4.

747. Aqua's live Excel spreadsheet appears to be based off of Aqua's work order log. OCA St. 7SR at 4-5.

748. If the Company will be using its work order log as a complaint log, in its next rate case, it should provide the entire work order log which shows customer names and addresses and all of the complaints received by the Company for both water and wastewater service. OCA St. 7SR at 9-10.

Appendix D
Proposed Conclusions of Law and Ordering Paragraphs

OCA PROPOSED CONCLUSIONS OF LAW

1. Aqua Pennsylvania Inc. is a public utility as defined in section 102 of the Public Utility Code. 66 Pa. C.S. § 102.
2. The Commission has jurisdiction over the parties and subject matter of this proceeding. 66 Pa. C.S. § 101, *et seq*.
3. The utility requesting the rate increase has the burden of establishing the justness and reasonableness of every element of its requested rate increase. 66 Pa. C.S. §§ 315(a), 1301, and 1308(e).
4. Aqua Pennsylvania Inc. has the burden of proving that the rate involved is just and reasonable. 66 Pa. C.S. §§ 315(a), 1301, and 1308(e).
5. The Commission has broad authority to consider a utility's customer service and quality of service and is required to evaluate the "efficiency, effectiveness, and adequacy of service" in reviewing existing and proposed rates. 66 Pa. C.S. §§ 523(a), 1501.
6. The Commission has authority to prescribe just and reasonable standards and practices to be furnished by a utility and to require changes and improvements, as necessary to make such service and facilities adequate, efficient, safe, and reasonable. 66 Pa. C.S. §§ 1501, 1504.
7. As a consequence of the COVID-19 pandemic's impact on the health and economy of the Commonwealth and the world, many of the Fully Projected Future Test Year projections included in Aqua's filing cannot be found to be just and reasonable.
8. The Commission has considered the ongoing impact of the COVID-19 pandemic on Aqua's ratepayers.
9. Aqua has established that it is not entitled to additional annual revenue for its water operations and water revenue should be decreased by $35,285,637; Wastewater base revenue should be increased by $11,751,447; Limerick wastewater revenue should be increased by $4,528,399; East Bradford wastewater revenue should be increased by $680,025; Cheltenham wastewater revenue should be increased by $1,906,973; East Norriton wastewater revenue should be increased by $2,286,963; and New Garden wastewater revenue should be increased by $1,989,353.
10. The Company has not met its burden of proving that the rates, rules, and regulations in its existing and proposed tariffs are just and reasonable.

OCA PROPOSED ORDERING PARAGRAPHS:

It is hereby ORDERED THAT:

1. Aqua Pennsylvania Inc. shall not place into effect the rates, rules and regulations contained in Suspension Tariff Supplement No. 1 - Tariff Water - Pa. P.U.C. No. 3 and Suspension Tariff Supplement No. 1 - Tariff Sewer - Pa. P.U.C. No. 3 which have been found to be unjust, unreasonable, and therefore, unlawful.
2. In light of the impact of the COVID-19 pandemic, and the adjustments and recommendations adopted herein, Aqua Pennsylvania Inc. shall only be authorized to file tariffs, tariff supplements, or tariff revisions containing rates, provisions, rules, and

regulations, consistent with the findings herein, to produce a wastewater revenue increase consistent with that recommended by the OCA and to produce a water revenue decrease.

3. Aqua Pennsylvania Inc. shall file detailed calculations with its water and wastewater tariff filings, which shall demonstrate to this Commission's satisfaction that the filed rates comply with the proof of revenues, in the form and manner customarily filed in support of compliance tariffs.
4. Aqua Pennsylvania Inc. shall comply with all directives, conclusions, and recommendations contained in this Commission's Opinion and Order that are not the subject of individual ordering paragraphs as if they were the subject of specific ordering paragraphs.
5. Aqua Pennsylvania shall allocate the authorized increase in operating revenues to each customer class and rate schedule within each class in the manner set forth in this Order.
6. The Complaints filed by various parties to this proceeding at Docket Number R-2021-3027385 and R-2021-3027386 are granted in part and denied in part, to the extent consistent with this Commission's Opinion and Order.

Appendix E
Summary of Public Input Hearing Testimony

SUMMARY OF PUBLIC INPUT HEARING TESTIMONY

November 8, 2021 at 6pm:

1. Mary Owen, a water and wastewater customer from Downingtown, called to object to the rate increase when she already pays a base rate of $18 a month for water and $74 a month for wastewater. Tr. 50. The rate increase is inexplicable and unjustifiable when her community is still dealing with the pandemic, and when Aqua will receive significant federal infrastructure dollars. Tr. 51-52

2. Shaylyn Forte, a water and wastewater customer from Elkins Park, called to explain how her bill has more than doubled since moving from Philadelphia to Elkins Park in 2020. Tr. 55. She also questioned whether Aqua had a 20% profit last quarter, when a utility's typical profit is 10%. Tr. 55-56.

3. Suzanne Snajdr, a wastewater customer from Toughkenamon, was concerned about Aqua's status as a for-profit company and how that status might incentivize them to cater to shareholders rather than customers. Tr. 57-58.

4. Swen Swenson III, a water customer from Conneaut Lake, called to emphasize that water is a necessity, not a luxury, and customers do not have an option to shop around. Tr. 60. Swen Swenson objected to the rate increase because he believes Aqua is treating it as an opportunity to increase its cash flow. Tr. 61. He noted that he has not seen any structural improvements except for one new well being drilled. Tr. 61.

5. Edward Nathan, a water and wastewater customer from West Chester, called to object to the rate increase because it is significantly higher than inflation, and because the recently passed Federal Infrastructure Bill could provide Aqua with funds for preparing and saving water infrastructure. Tr. 65. Mr. Nathan also noted how Essential Utilities has been "binge purchasing numerous water systems" to make money for shareholders at no benefit to rate-payers. Tr. 66.

6. Christine Weaver, a wastewater customer from Lake Harmony, called to object to the rate increase and to flat-rate wastewater charges in Lake Harmony when he only uses his home there once in a while. Tr. 70. He requested that wastewater usage in his community be metered. Tr. 71.

7. Stephen Moore, a wastewater customer from Cochranville, called to object to the rate-increase because he believes it is motivated by profit, not necessity. Tr. 75. He also noted that since Aqua essentially has a monopoly, it leads to "poor customer service, undermined accountability, and little pressure to make changes." Tr. 76. He stated that the rate hike is unjustified and contrary to the public interest. Tr. 76.

November 9, 2021 at 1pm:

8. Henry Bienkowski, a water and wastewater customer from Glouchester, testified about how Aqua's website and the documents that they provided to explain the rate increase were "very vague and generic." Tr. 98. Mr. Bienkowksi works in environmental services and has seen labor costs go down and processing systems become more efficient, and so he wants more explanation about why the rate increase is necessary. Tr. 99.

9. Stephen Bogush, a wastewater customer, testified about Aqua's service at his second residence in the Poconos . Tr. 101. His residence there is unmetered and he is charged a flat service fee, so he requested that his residence be metered. Tr. 101-102.

10. Carol Meerschaert, a water customer from Paoli, called to testify that double-digit rate increases are not sustainable for individuals on fixed incomes. Tr. 104.

11. James Coffey, who is not an Aqua customer, called in because he was asked by an Environmental Specialist for Aqua to testify. Tr. 107. Mr. Coffey talked about Aqua's financial support for projects that have supported watershed protection. Tr. 108.

12. Frederick Anton, a wastewater customer from Lake Harmony, called in to request metered wastewater. Tr. 111-112. He also noted how small homes and large homes are charged the same flat wastewater rate, including one house that sleeps 28 people and appears to be packed each weekend. Tr. 112.

13. Tim Senchel, who is not an Aqua customer, called to testify about the partnership between Aqua PA and the Schuylkill River Restoration Fund. Tr. 115. Mr. Senchel works for the Schuylkill River Greenways National Heritage Area. Tr. 114. He described how Aqua PA has played a "key role" in providing leadership, support, and input in the selection and success of restoration projects. Tr. 116-117. On cross-examination, Mr. Senchel clarified that he had been asked by Aqua to testify. Tr. 118.

November 9, 2021 at 6pm:

14. Karina Gonzalez, speaking on behalf of Senator Carolyn Comitta of the 19th District in Chester County, requested that the PUC deny the proposed rate increase because it will place an “undue burden” on those in her district dealing with fixed incomes, the ongoing pandemic, and fallout from Hurricane Ida. Tr. 140-141. The people of Chester County are already dealing with financial difficulties and the rate increase would increase demand for assistance when there are already limited resources. Tr. 141.

15. Adam Anders, a water and wastewater customer, testified that he paid a base rate of $92/month for water and sewer service, which is far more than the rates in surrounding areas such as Downingtown, West Wheatland, and West Chester. Tr. 144.

16. Upendra Tyagi, a water and wastewater customer in Downingtown, testified that his water had “high iron content” that is “discolored at times.” Tr. 148. He stated that Aqua responded to his complaints by telling him to run the water for about ten minutes, after which the discoloration goes away but Mr. Tyagi has to pay for the water used during that time. Tr. 150-151. Mr. Tyagi noticed discoloration in his shower and sinks, including his tap water, which he drinks. Tr. 151-152. Mr. Tyagi is also in his Homeowners Association and has heard his neighbors complain about discolored water. Tr. 152.

17. Elizabeth Kearns, a water and wastewater customer on fixed income in West Chester, opposed the 31.2% rate increase when there was a 35% increase to the average wastewater customer two years ago. Tr. 154. She testified that Aqua is making it impossible for customers to pay their own way without assistance. Tr. 157.

18. Rosemary Horstman, a wastewater customer from Royersford, wanted confirmation that Aqua was doing everything it can to "reduce operating costs and optimize efficiency" since Aqua is doubling Limerick Townships wastewater bill. Tr. 159-160. Ms. Horstman also asked about whether Aqua has a low-income assistance program to prevent people that cannot afford their bills from being disconnected. Tr. 160.

19. David Miller, a water customer, opposed the rate increase because it would make his water bill "close to a thousand dollars a year." Tr. 163. Mr. Miller also testified that that his neighbors had issues with their pressure reduction valves, and one of them even installed a pressure meter and saw that it was 210 PSI at one point. Tr. 163.

20. Marguerite Woodeshick, a wastewater customer from Lake Harmony, opposed Aqua's flat rates for wastewater bills because her Lake Harmony property is a second residence that her family only uses approximately 60 days per year. Tr. 166. Other properties are occupied by their homeowners or renters year-round, and yet they pay the same wastewater rates. Tr. 167. Ms. Woodeschick requested a wastewater meter. Tr. 168.

21. Lorraine Rocci, a water and wastewater customer from Royersford, testified that the rate increase is unfair when Aqua originally contracted not to raise prices when they purchased the wastewater system from the township. Tr. 170. As someone living on fixed income, Ms. Rocci is worried about being forced to move out of her home since she cannot afford her bill. Tr. 171.

22. Catherine Moran, a water customer from West Chester, objected to the rate increase because it would amount to a 28.7% increase within three years. Tr. 172. Ms. Moran also questioned whether the increase is so high because Aqua is putting the costs of purchases of water utilities on customers. Tr. 173.

23. John Goodale, a wastewater customer from Blakeslee, believed the rate increase was unwarranted because past meter readings have shown water usage to be on average 1,100 gallons per month, and people in townships with comparable usage paid about $40/month while Goodale paid $103/month, and with the proposed increase will pay about $120/month. Tr. 176. Mr. Goodale talked extensively about Section 1329 and how it incentivizes public utilities to buy new assets to maximize their profits, and how this may cause consumer rates to increase. Tr. 178-179. Mr. Goodale believes that $14 million of what customers will be paying for in this rate increase will go toward five of Aqua's acquisitions. Tr. 180. He testified that these are "illegal predatory practices" to increase profits, and that the PUC should deny the rate increase. Tr. 180. Mr. Goodale referenced a Commission decision at docket A-2016-2575001. Tr. 181.

24. Tanmry Basb, a water and wastewater customer from New Hope that works for Siemens, a company that serves water and wastewater industries, objected to the rate increase. He has lived at his home since 2001, and noticed a "stinking, hydrogen sulfide smell" that began "five, six years ago" that prevented him and his neighbors from using their outdoor areas in the summer time. Tr. 185. Aqua sprayed so much water that it would puddle in the area adjoining Mr. Basb's driveway and grew "different colored algae, bacteria amuck, all over." Tr. 186. It took Mr. Basbs "forever" to get a response from Aqua, despite him sending them multiple calls and emails. Tr. 186-187. Mr. Basb has also had two pipe leaks in his house that he speculated are due to high sulfur levels in the water.

Tr. 187. Mr. Basb also noted that his home has very low water pressure in both his showers and sinks, and Aqua has not addressed this. Tr. 187, 190. He described the pressure as a "flow." Tr. 190.

25. Jennifer Kasius, a water and wastewater customer from Elkins Park who uses an estimated 2,200 gallons of water a month on average, objected to the rate increase. Tr. 192. When Aqua took over her service, her bill increased from about $40/month to being between $75 and $100 per month. Tr. 193.

26. Maureen Quimby, a wastewater customer from Kennett Square, wanted to stay at her home but is worried that with Aqua's continuing rate increases she will eventually not be able to afford to. Tr. 196. Ms. Quimby requested that the impact of the rate increase on herself and on other fixed-income people be considered. Tr. 197.

27. Donald Osinski, a wastewater customer from Blakeslee, moved there while the area was undergoing a transition from Tobyhanna Township providing wastewater services to Aqua providing wastewater services. Tr. 199. Mr. Osinski testified that the rates were too high and he wants metered service. Tr. 201. Mr. Osinski's community also has a meter where he and his neighbors track their service and they found that they, as a community, use roughly one thousand gallons per month. Tr. 202. The flat rate being charged to Mr. Osinski's community is the same as the rate being charged in Twin Hills, where the average use is about 4,200 gallons per month. Tr. 202.

November 10, 2021 at 1pm:

28. Cynthia Ziegler, a water and wastewater customer from Downingtown, called to object to the rate increase because it is "extraordinarily high." Tr. 224-225. She acknowledged that Aqua PA was able to fix an odor that was coming from a sewer plant near her neighborhood, but still testified that the rate increase was too much, especially during the pandemic. Tr. 226. Ms. Ziegler's husband is an essential worker who had to shower two times a day, which exacerbated the problem. Tr. 226.

29. Richard Gage, a water customer from Chesterbrook, described a "long history of either legally high or excessively high water pressures with Aqua PA since 2007." Tr. 230. Mr. Gage filed two informal complaints and two formal complaints which were settled by Aqua, and on November 1st he filed a third formal complaint. Tr. 230. Mr. Gage discussed the issues with a Mr. James McGinley, an Operations Manager at Aqua, but then filed a formal complaint after "months of him dodging [Mr. Gage's] phone calls and never returning [Mr. Gage's] voicemail messages." Mr. Gage also described a situation in 2007 when his pressure-reduction valve failed and burst as a result of pressure that exceeded 165 PSI. Tr. 231 . Aqua initially refused to do any repairs on the valve, despite there being a regulation at the time that PSI be limited to 125 max. Tr. 233. Aqua eventually settled with Mr. Gage for $2,900. Tr. 234. Mr. Gage had another issue in May of 2020, when the pressure-reduction valve burst again. Tr. 234. Aqua informed him that the pressure coming through his valve was between 190 and 200 PSI. Tr. 234. Aqua once again initially refused to pay for the necessary repairs until a formal complaint was filed. Tr. 234. The valve burst again in June 2020, resulting in a "four column water fountain" in Mr. Gage's garden and flooding in the streets. Tr. 234. The issue this time was "a circular washer, a black rubber of some sort" that had been "blown apart." Tr. 234. Aqua told Mr. Gage that he only needed a pressure-reduction valve with a 250 PSI max, but Mr. Gage already had one with a 300 PSI max. Tr. 237. Aqua then suggested that Mr. Gage's plumbing was too narrow, and that he should have two pressure reduction valves. Tr. 238-239. When Mr. Gage asked

his manufacturer of the pressure valve about this, the manufacturer said Aqua's suggestions would not resolve the issue. Tr. 239. Mr. Gage's neighbors described similar issues with water pressure to him. Tr. 241. Mr. Gage finished his testimony by describing how after his last settlement with Aqua PA, the Aqua lawyer stated that Aqua was aware of the "pressure issue" but that "Aqua doesn't want to deal with this issue" and would rather deal with them as they occur." Tr. 242. Finally, Mr. Gage described a recent broken water filter in his refrigerator/freezer that had leaked all over his kitchen as a result of high pressure. Tr. 243.

30. Carroll Stroh, a wastewater customer from Cochranville called to object to the flat rate fee of $102 for wastewater that is charged in his community. Tr. 255. He and his wife use approximately 1,500 gallons of wastewater per month, and he testified that he and others in his community are being charged more than their fair share. Tr. 254.

November 10, 2021 at 6pm:

31. Donald Campbell, a water and wastewater customer from West Chester, objected to the rate increase and requested metered wastewater. Tr. 277.

32. Representative Christina Sappey, testifying in her capacity as a state representative, called to describe how the rate increase would negatively impact over 16,500 customers in her district (the 158th Legislative District in Chester County). Tr. 279-280. Almost 30 percent of Chester County residents over the age of 75 are “economically-insecure” and all residents are still dealing with the COVID-19 pandemic, so Rep. Sappey asks the PUC to deny the rate increase. Tr. 280-281.

33. Elien and Michael Canci, wastewater customers from West Grove, described how the rate increase would be particularly difficult for them as retirees on fixed income. Tr. 283-284.

34. Jace Hepler, a wastewater customer from West Grove, urged the PUC to reject the rate increase because “rates are already excessive.” Tr. 287.

35. Robert Larson, a wastewater customer from Cochranville, objected to the rate increase because his bill will increase to $125/month, which Mr. Larson says will be an increase of 87.49 percent in less than three years. Tr. 290. Mr. Larson lives in Honeycroft Village, which is a “plus 55 community.” Tr. 290. The rate increase ignores the “long established principle of gradualism in ratemaking.” Tr. 290.

36. Douglas Otter, a wastewater customer from Cochranville, objected to the rate increase because he believes that he is being charged for upgrades to other properties, when his own sewage system has never needed excessive maintenance. Tr. 292.

37. Jeri Ramagnano, a wastewater customer from Cochranville, objected to the rate increase because it inhibits his ability to spend money elsewhere and specifically to support his local economy. Tr. 295.

38. Danielle Slifer, a wastewater customer from West Grove, is a senior who lives on a fixed income, similar to many other people in her township. Tr. 297-298. Her taxes have increased as a result of a new high school being built, her Medicare prices are “constantly being raised”, and now she has to pay more for her wastewater as well, so she objected to the rate increase. Tr. 298.

39. John Stull, a wastewater customer from West Grove, testified that the rate increase is unjustified because residential customers' rates are being raised but commercial customers' rates are decreasing. Tr. 300. Mr. Stull also questioned why he was being billed for water he uses to water his plants when that water is untreated. Tr. 301. He requested metered wastewater. Tr. 301.

40. Wayne Weismandel, a former ALJ at the PUC and a current employee of the Office of Special Assistants at the PUC who worked with Judge Long at one point, called to object to the rate increase. Tr. 304. Mr. Weismandel is an Aqua wastewater customer from Cochranville. Tr. 304. Mr Weismandel requested that Judge Long and the Commission take official notice of Appendix A, table four of the Commission Opinion and Order at Docket Number R-2018-3003561; of the title page and pages 2 and 8.4 of Aqua PA Tariff Sewer-PA PUC Number 2; and of pages 2, 6, and 10.3 of Aqua PA wastewater proposed tariff PA PUC Number 3 (the subject of this proceeding). Tr. 305-306. Judge Long took official notice of the first two requests, but not the third because it is already the subject of this proceeding. Tr. 307. Mr. Weismandel then described how the documents showed that Aqua's rate increases amount to nearly 88 percent in three years, producing "rate shock." Tr. 308. Mr. Weismandeal then offered the principle of gradualism as a remedy to rate shock. Tr. 312.

41. Nancy Deutsch, a wastewater customer from Kennett Square, objected to the timing of the rate increase since people are still dealing with COVID-19, and as a business owner she is worried about having to pass increasing costs onto the customer. Tr. 315.

42. Nathan Russo, a water and wastewater customer from Downingtown, has had an average bill of about $220/month for his family of four. Tr. 319-320. When Mr. Russo lived in East Goshen Township, he was still an Aqua water customer but his sewer system was owned by the township, and he only paid about $100/quarter for sewer services. Tr. 320-321. Mr. Russo noted that the fixed costs alone were already high at about $94/month before any water usage. Tr. 321.

43. Fred Weiner, a wastewater customer from Lake Harmony, objected to the rate increase and asked for metered wastewater. Tr. 323-324. He also noted that many homes in Lake Harmony had private wells for water. Tr. 324. Mr. Weiner's Lake Harmony home is a second residence that he spends an estimated four days/month at, but his water bill is $103.38/month when the bill at his primary residence is $75/month. Tr. 324.

44. George Pozega, a water customer from Hermitage, objected to the rate increase because Aqua has continued to post rising dividend payments to shareholders, and because he has already been charged for Aqua's improvements. Tr. 327-328. Mr. Pozega also noted that Aqua's customers in his township pay $18 per month while Aqua customers in the town four miles away from him in Poland, Ohio pay $13.56 per month, and he is not sure why. Tr. 328.

45. James Luitweiler, a wastewater customer from Schwenksville, retired in 2013 as vice president and chief environmental officer of Aqua America. Tr. 332. He stated that while in some circumstances Aqua's acquisitions have substantially improved environmental compliance and quality of service for ratepayers, in others, Aqua's acquisitions of "well-managed municipal systems at exorbitant prices" has been a way to make money on the back of ratepayers. Tr. 333. Mr. Luitweiler opposed the rate increase because 1) the proposed rates are excessive, 2) the rate base includes contributed property which ratepayers have already paid for by purchasing their property, and 3) Aqua bills are based on

metered water consumption that includes water used for irrigation that does not go into the sewer system. Tr. 333. Mr. Luitweiler also described how when he purchased his home, the cost of maintenance for his sewer pump was rolled into the cost of his property, and with the rate increase customers would "in effect be paying twice for that wastewater infrastructure associated with their property." Tr. 335.

46. Elizabeth Fleschar, a water and wastewater customer from New Hope, called in to present three exhibits with Ms. Lesh and Ms. Iverson. Tr. 338. Ms. Fleschar went first and she is a retired chemist who at one point was responsible for managing water quality contracts in her area. Tr. 340. She and her colleagues testified about their own experiences and the experiences of the 212 other residents in her community, 109 of which submitted comment forms to the PUC. Tr. 340-341. She described how her community pays 26 percent more for water than other Aqua residential customers. Tr. 341. Ms. Fleshcar objected to the opacity of Aqua's rate increase, and stated that if Aqua is going to increase rates they should improve quality of service for their existing facilities before acquiring new ones. Tr. 344-46. She describes satellite images of her community that show uncontained sewage in irrigation fields, and she describes a sewer stench and runoff in her community as well. Tr. 348. Further, an analysis of the facility that serves her town estimated that it cost "roughly $260,000 per annum" to run, and Aqua collected $508,000 annually. Tr. 349.

47. Tamara Lesh testified with the same exhibits as Ms. Fleshchar, and is also a water and wastewater customer from New Hope. Tr. 352. She described how her community pays more for water and wastewater than surrounding townships. Tr. 354.

48. Jacqueline Iverson was the third customer to testify with Ms. Lesh and Ms. Fleschar, and she is also a water and wastewater customer. Tr. 356. She testified about how the frequency of the approved rate increases in her community is at odds with provisions of Title 66, Sections 1301 and 1304, because the rate increase is not just nor reasonable. Tr. 357. She also mentioned how Aqua has several sources of profit and stands to collect funds from the federal infrastructure bill. Tr. 360-361. Finally, Ms. Iverson cited McCloskey v. Pa PUC, 355. A.3d 416 (Apr. 19, 2021) for the language about utilities ratemaking being intended to compensate utilities at a reasonable cost. Tr. 362.

November 11, 2021 at 1pm:

49. Senator Katie Muth testified on behalf of her constituents that they are concerned about being able to afford the rate increase, particularly in light of Tropical Storm Ida and COVID-19. Tr. 381-382.

50. Edward Coccia, a wastewater customer from East Norriton, testified that the rate increase is excessive, particularly because he has not seen any infrastructure improvements in his area. Tr. 386. His bill is four times the bills in neighboring communities such as Conshohocken Borough and North Penn Borough. Tr. 387. Mr. Coccia also mentioned how his local taxes recognized a deduction meter to credit the town for irrigation, but Aqua will not support the deduction meter, meaning customers are billed for more than just that which goes through the sewer. Tr. 388.

51. Geoffrey Meyer, a wastewater customer from Landenberg, developed an exhibit with two of his neighbors (Mr. Mrozimski and Mr. Ferguson) to present at the hearing. Tr. 392. He objected to the opacity of Aqua's filing, and the failure to adequately explain terms such as "purchased wastewater", despite that term being the largest expense. Tr. 393. Mr. Meyer also requested more information

about Brandywine Septic, and about Aqua's historical performance to determine whether an increase is justified. Tr. 395-296. He also objected to the rate increase being passed onto consumers. Tr. 398-399.

52. Peter Mrozimski testified with the same exhibits as Mr. Meyer, and he discussed issues with the sale of his townships wastewater system to Aqua that affected the rates. Tr. 402. The original sale included a limit of 24 percent of compound annual growth rate, but the present rate increase will be by 37 percent. Tr. 403-404. Mr. Mrozimski also referenced a provision in the New Garden Township wastewater sale that rates in his township would not exceed the rates in Rate Zone 1. Tr. 407. In Aqua's filing, the rates in rate zone 11 will exceed the rates in rate zone 1. Tr. 407.

53. Bill Ferguson was the third wastewater customer to testify with the exhibits introduced by Mr. Meyer. Tr. 409. He discussed how the quotes that Aqua has used to predict future charges do not make sense when compared with what the charge would be based on Mr. Meyer's actual usage. Tr. 410-411. Mr. Ferguson also noted a discrepancy in Aqua's filing where pages 146-147 state that the fixed charge is $17 less than page 324 of the filing states for the same rate zone. Tr. 411-412. Finally, Mr. Ferguson discussed how it is unfair that customers are forced to pay Aqua prices, since they cannot turn elsewhere for water service. Tr. 413-415. He also noted that Aqua is already making a significant profit, and questions the Company's need for a rate increase. Tr. 418.

54. Stephen Arraya, a water and wastewater customer from Downingtown, described how Aqua's rates already limit his family's ability to use water, stating "we have to limit showers and baths to a very short amount of time." Tr. 424. He also stated that the pressure of these bills takes a toll on mental health. Tr. 424. Mr. Arraya noted that if the PUC allows this increase, Aqua will only request another one in a few years time, and he stated that Aqua also stands to benefit from the federal infrastructure bill. Tr. 426, 428.

55. Eileen Somers, a water customer from Ridley Park, testified about the impact that the rate increase would have on her clients. She is an attorney that represents low-income families in Delaware County. Tr. 430. She spoke about how many of her clients already pay more than 50 percent of their incomes towards rent and bills, and how an additional rent increase would be taking money that people would otherwise spend on other necessities such as groceries, rent, and medical needs. Tr. 432-433. She emphasized how important it is that Aqua implement its proposed customer assistance program in light of this. Tr. 433.

56. John Day, a wastewater customer from Lake Harmony, objected to the rate increase and to Aqua's current unmetered wastewater flat rate charges in his township. Tr. 436. He noted that the proposed rate increase to $125 for wastewater service would be 92 percent higher than the wastewater rate paid in his area three years ago. Tr. 437. He also objected to Aqua's assumption that residential units consume 4,000 gallons of water per month, when he feels that in his area the average is less since many homes are infrequently used. Tr. 438-439. Mr. Day believes that charging a flat rate for wastewater usage creates a disincentive for conservation. Tr. 440.

57. Robert Hyslop, a water and wastewater customer from Glenside, testified that he has reported 32 sewer backups during storms with as little as one inch of rainfall since moving into him home in 1989. Tr. 443. He noted that Aqua has been proactive in fixing that issue than Cheltenham Township had been, and for that reason Mr. Hyslop would support a justified rate increase. Tr. 443-444. He

also described how Aqua has reduced contamination from PFOS and PFAS in the water. Tr. 445. He noted that all of his billing for water and wastewater is metered. Tr. 445.

58. Vivian George, a wastewater customer from Lake Harmony, opposed the rate increase because her property is a vacation home that she estimates using at most 50 days a year. Tr. 447 . She requested metered wastewater billing because she does not think it is fair that her bill is the same as the bills for vacation homes that are occupied every weekend. Tr. 447-448.

Appendix F
List of OCA-Sponsored Testimony and Exhibits Admitted into the Record

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Re:	Pennsylvania Public Utility Commission	:	
		:	Docket Nos. R-2021-3027385 (Water)
	v.	:	C-2021-3028466 (Water)
		:	R-2021-3027386 (WW)
	Aqua Pennsylvania, Inc. and Aqua	:	C-2021-3028467 (WW)
	Pennsylvania Wastewater, Inc.	:	

LIST OF THE EVIDENCE OFFERED BY THE OFFICE OF CONSUMER ADVOCATE

The Office of Consumer Advocate (OCA) submitted the following evidence into the record in the above-captioned proceedings at the hearing on December 20, 2021.

OCA Statement 1, Direct Testimony of Ralph C. Smith

Attachment RCS-1

Exhibit LA-1 (Schedules A, A-1, B, B-1, C, C-1, D)

Exhibit LA-2 (Schedules B-1 through B-3 and Schedules C-1 through C-18)

Exhibit LA-3

Exhibit LA-4 (Highly Confidential)

OCA Statement 1SR, Surrebuttal Testimony of Ralph C. Smith[1]

Exhibit LA-5 (Schedules A, A-1, B, B-1, C, C-1, D)

Exhibit LA-6 (Schedules B-1 through B-5 and Schedules C-1 through C-20)

Exhibit LA-7

Exhibit LA-8

OCA Statement 2, Direct Testimony of Morgan N. DeAngelo

[1] An errata to OCA Statement 1SR was filed on December 17, 2021.

Appendix A

OCA Statement 2SR, Surrebuttal Testimony of Morgan N. DeAngelo

OCA Statement 3, Direct Testimony of David J. Garrett[2]

Appendix A

Appendix B

Exhibits DJG-1 through DJG-17

OCA Statement 3SR, Surrebuttal Testimony of David J. Garrett

OCA Statement 4, Direct Testimony of Glenn A. Watkins[3]

Schedules GAW-1 through GAW-8

Schedule GAW-9 (Highly Confidential)

OCA Statement 4 Supp., Supplement Direct Testimony of Glenn A. Watkins

OCA Statement 4R, Rebuttal Testimony of Glenn A. Watkins

OCA Statement 4SR, Surrebuttal Testimony of Glenn A. Watkins

Schedule GAW-1SR

Schedule GAW-2SR (Highly Confidential)

OCA Statement 5, Direct Testimony of Roger D. Colton

Schedule RDC-1

Schedule RDC-2

Appendix

OCA Statement 5SR, Surrebuttal Testimony of Roger D. Colton

OCA Statement 6, Direct Testimony of Barbara R. Alexander

Exhibits BA-1 through BA-7

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[2] An errata to OCA Statement 3 was filed on December 3, 2021.

[3] An errata to OCA Statement 4 was filed on November 12, 2021.

OCA Statement 6SR, Surrebuttal Testimony of Barbara R. Alexander

Exhibit BA-8

OCA Statement 7, Direct Testimony of Terry L. Fought

Exhibits TLF-1W through TLF-9W

Exhibit TLF-1WW

Exhibit TLF-2WW

Appendix A

OCA Statement 7 Supp., Supplemental Direct Testimony of Terry L. Fought

OCA Statement 7SR, Surrebuttal Testimony of Terry L. Fought

OCA Hearing Exhibit 1

List of the Evidence Offered by the Office of Consumer Advocate

OCA Hearing Exhibit 2

Aqua Responses to OCA Interrogatories, served 12/17/21[4]

[4] Separately, Aqua submitted its witnesses' verifications for these responses.