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November 30, 2020

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor
Harrisburg, PA 17120

Via Electronic Filing

RE: Application of Aqua Pennsylvania Wastewater, Inc. Pursuant to Sections 1102, 1329, and 507 of the Public Utility Code for Approval of its Acquisition of the Wastewater System Assets of the Delaware County Regional Water Quality Control Authority; Docket No. A-2019-3015173


Dear Secretary Chiavetta:

Enclosed for filing with the Pennsylvania Public Utility Commission is the Motion to Admit into the Record the Declassified Direct Testimony and Exhibits of the County of Delaware, Pennsylvania, Witness Stan Faryniarz in the above-referenced proceeding.

As shown by the attached Certificate of Service and per the Commission's March 20, 2020, Emergency Order, all parties to this proceeding are being duly served via email only due to the current COVID-19 pandemic. Upon lifting of the aforementioned Emergency Order, we can provide parties with a hard copy of this pleading upon request.

Sincerely,

McNEES WALLACE & NURICK LLC

By 
Kenneth R. Stark

Counsel to County of Delaware, Pennsylvania

KRS/ams

Enclosure

c: The Honorable Angela T. Jones and F. Joseph Brady (via email only)
Pamela McNeal, Legal Assistant to ALJ (via email only)
Certificate of Service (via email only)

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CERTIFICATE OF SERVICE

I hereby certify that I am this day serving a true copy of the foregoing document upon the participants listed below in accordance with the requirements of Section 1.54 (relating to service by a participant).

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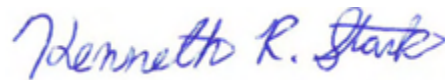
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Kenneth R. Stark
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Dated this 30th day of November, 2020, in Harrisburg, Pennsylvania

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Application of Aqua Pennsylvania	:	
Wastewater, Inc. pursuant to Sections 507,	:	
1102 and 1329 of the Public Utility Code	:	Docket No. A-2019-3015173
for, inter alia, approval of the acquisition of	:	
the wastewater system assets of the	:	
Delaware County Regional Water Quality	:	
Control Authority:	:	

**MOTION OF THE COUNTY OF DELAWARE, PENNSYLVANIA
TO ADMIT INTO THE RECORD THE DECLASSIFIED DIRECT TESTIMONY AND
EXHIBITS OF WITNESS STAN FARYNIARZ**

**TO THE HONORABLE ANGELA T. JONES AND F. JOSEPH BRADY,
PRESIDING ADMINISTRATIVE LAW JUDGES:**

Pursuant to Section 5.102 of the Pennsylvania Public Utility Commission's ("PUC" or "Commission") regulations, 52 Pa. Code § 5.102, the County of Delaware, Pennsylvania ("the County") hereby files this Motion to Admit into the Record the Declassified Direct Testimony and Exhibits of County Witness Stan Faryniarz ("Motion"). In support thereof, the County states as follows:

I. MOTION

1. On September 29, 2019, certain parties in this proceeding, including the County, submitted Direct Testimony and supporting exhibits. In County Statement No. 1, Direct Testimony of Stan Faryniarz, and supporting Exhibit No. SCF-2, the County marked certain information in both the written testimony and exhibit as confidential. The County marked such information as confidential because the source of that information, Excel files that were received in discovery from Aqua Pennsylvania Wastewater, Inc. ("Aqua") and the Delaware County Regional Water Quality Control Authority ("DELCORA"), were marked as confidential.

2. During the evidentiary hearing held on November 10, 2020, Presiding Administrative Law Judge Angela T. Jones admitted into the record the County's testimony and exhibits in this proceeding, including the following:

- The Confidential Direct Testimony of Stan C. Faryniarz, which was pre-marked as Confidential Delaware County Statement No. 1 and includes Confidential Exhibit No. SCF-2.
- The Public Direct Testimony of Stan C. Faryniarz, which was pre-marked as Delaware County Statement No. 1 and includes Exhibits Nos. SCF-1 and SCF-2.

3. County Statement No. 1 and County Exhibit No. SCF-2 both reference data from Confidential Excel spreadsheets provided by Aqua and DELCORA in response to discovery requests in this proceeding. Therefore, the County had marked that data confidential in County Statement No. 1 and County Exhibit No. SCF-2. However, recent discussions with Aqua and DELCORA confirmed that the Confidential designation applies only to the live Excel spreadsheets (with formulas intact) and not the raw numbers presented in the narrative testimony and certain interrogatory responses compiled in Exhibit No. SCF-2.¹

4. In the interest of public disclosure and to minimize confidential material in parties' briefs, the County proposes to declassify County Statement No. 1. Neither Aqua nor DELCORA opposes the proposal to declassify the information presented in County Statement No. 1 because the live Excel spreadsheets are not part of the County's testimony. The County has advised all parties of its proposal to declassify the information presented in County Statement No. 1, and has not received notice of any opposition to this request.

5. On November 24, 2020, counsel for the County requested leave from the presiding administrative law judges ("ALJs") to submit an unredacted Public copy of County

¹ The previously Confidential interrogatory responses in Exhibit SCF-2 are Attachment 1 to Aqua's response to County Set V-1 and Attachment 10 to DELCORA's response to County-II-11.

Statement No. 1 to the record to replace both the Public and Confidential statements admitted to the record at the hearing on November 10, 2020.

6. The County submits that the public interest is best served when the record, to the extent practicable under governing rules and regulations, is publicly available. *See generally Pa. PUC v. Seder*, 139 A. 3d 165 (Pa. 2016); 66 Pa. C.S. § 335. This Motion seeks to make publicly available the entirety of County Statement No. 1.

7. The record has not yet closed in this proceeding, and pursuant to the Commission's regulations, 52 Pa. Code §§ 5.403, 5.483, the presiding officers retain authority to control the receipt of evidence and admit evidence into the record. Therefore, the County respectfully requests that the presiding officers grant this motion to admit the unredacted Public Version of County Statement No. 1 into the record.

8. The County has appended the unredacted Public Version of County Statement No. 1 as **Attachment A** to this Motion, which is being served upon all parties of record. Upon approval of the Motion or as otherwise directed by the presiding ALJs, the County will provide the unredacted testimony to the assigned Court Reporter.

II. CONCLUSION

WHEREFORE, Delaware County respectfully requests that Your Honor grant this Motion to Admit into the Record the unredacted Public Delaware County Statement No. 1, consisting of the Direct Testimony and Exhibits of County Witness Stan Faryniarz.

Respectfully submitted,

McNEES WALLACE & NURICK LLC

By 
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Dated: November 30, 2020

Attachment A

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Application of Aqua Pennsylvania	:	
Wastewater, Inc. pursuant to Sections 507,	:	
1102 and 1329 of the Public Utility Code	:	
For, inter alia, approval of the acquisition of	:	Docket No. A-2019-3015173
The wastewater system assets of the	:	
Delaware County Regional Water Quality	:	
Control Authority	:	

DIRECT TESTIMONY

OF

STAN FARYNIARZ

OF DAYMARK ENERGY ADVISORS

ON BEHALF OF

THE COUNTY OF DELAWARE, PENNSYLVANIA

SEPTEMBER 29, 2020

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Exhibits

COUNTY Exhibit No. SCF-1, Resume of Stan Faryniarz

COUNTY Exhibit No. SCF-2, Compilation of Discovery Responses

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**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Application of Aqua Pennsylvania	:	
Wastewater, Inc. pursuant to Sections 507,	:	
1102 and 1329 of the Public Utility Code	:	
For, inter alia, approval of the acquisition of	:	Docket No. A-2019-3015173
The wastewater system assets of the	:	
Delaware County Regional Water Quality	:	
Control Authority	:	

**DIRECT TESTIMONY OF STAN FARYNIARZ
OF DAYMARK ENERGY ADVISORS
ON BEHALF OF
THE COUNTY OF DELAWARE, PENNSYLVANIA**

1 **I. INTRODUCTION**

2 **Q. Please state your name and business address.**

3 A. My name is Stan Faryniarz. My business address is 370 Main Street, Suite 325,
4 Worcester, MA 01608.

5 **Q. On whose behalf do you appear before this Pennsylvania Public Utility**
6 **Commission ("PUC" or "Commission")?**

7 A. I am appearing here on behalf of the County of Delaware, Pennsylvania ("the
8 County" or "Delaware County").

9 **Q. Mr. Faryniarz, what is your professional and educational background?**

10 A. I am a Principal Consultant at Daymark Energy Advisors. I serve as an energy
11 economist and power supply planning and management specialist with 34 years of
12 experience in areas including electric and water utility cost of service and rates,
13 power supply procurement and management, wholesale and retail power

1 transactions, power project financial analysis and due diligence, asset and utility
2 valuations, and integrated resource planning and analysis.

3 In addition to being a load forecasting specialist, directing Integrated Resource
4 Planning studies, and advising large commercial and industrial customers as well
5 as small utilities on electric power and natural gas portfolio management, my
6 experience includes the preparation or review of dozens of electric and water
7 utility allocated cost of service and rate design studies, rate unbundling studies,
8 and rate path projection studies, for or involving utilities in Georgia, Maine, New
9 Hampshire, Pennsylvania, Rhode Island, Utah, and Vermont.

10 **Q. Have you previously testified before this Commission?**

11 A. Yes. I sponsored testimony on behalf of the National Railroad Passenger
12 Corporation ("Amtrak") in several cases over the last dozen years. I also testified
13 on behalf of the Office of Consumer Advocate ("OCA") on a water utility case
14 many years ago.

15 My resume, with selected allocated cost of service, rate design and other
16 ratemaking experience, is provided in County Exhibit No. SCF-1.

17 In addition to my prior testimony before this Commission, I have testified as a
18 ratemaking expert before regulatory authorities in Georgia, Maine, Maryland,
19 New Hampshire, Pennsylvania, Rhode Island, Utah, and Vermont, and, in several
20 of those cases, on behalf of the Staff of the regulatory agency. A list of selected
21 expert witness appearances is also provided in County Exhibit No. SCF-1.

1 **Q. Please describe your firm.**

2 A. Daymark Energy Advisors (formerly La Capra Associates¹) is a consulting firm
3 specializing in energy planning and market analysis, regulatory and ratemaking
4 economics, and regulatory policy in the electricity, natural gas, and
5 water/wastewater utility industries. For forty years, our firm has served a broad
6 range of organizations involved with energy markets -- regulatory agencies,
7 consumer advocates, large end-use industrial consumers, public authorities (such
8 as the County), public and private utilities, energy producers and traders, financial
9 institutions and investors, and public policy and research organizations. Much of
10 this work has been done in Pennsylvania on behalf of various clients, including
11 the Pennsylvania OCA.

12 **II. PURPOSE OF TESTIMONY AND SUMMARY OF FINDINGS**

13 **Q. Please describe the purpose of your testimony.**

14 A. I am sponsoring testimony on behalf of the County, which is objecting to the
15 application filed by Aqua Pennsylvania Wastewater ("Aqua PA ") on March 3,
16 2020 ("Application") seeking approval to acquire the wastewater system assets of
17 the Delaware County Regional Water Quality Control Authority ("DELCORA").
18 This Application has been docketed by the Commission as Docket No. A-2019-
19 3015173.

20 As I will show herein, Aqua PA has generically asserted, but has failed to
21 quantify or otherwise demonstrate, benefits to DELCORA ratepayers. My

¹ In 2015, the firm name changed to Daymark Energy Advisors, Inc. from La Capra Associates, Inc.

1 testimony will detail how this transaction falls short from the perspective of
2 DELCORA customers.

3 Specifically, while Aqua PA asserts that "[t]he proposed transaction will not have
4 any immediate impact on the rates of either the acquired DELCORA customers or
5 the existing customers of Aqua,"² I will demonstrate the acquisition would lead to
6 substantially higher rates for DELCORA customers within approximately eight
7 (8) years following the merger if it is approved by the Commission. As I will
8 show, *inter alia*, DELCORA ratepayers would be more economically served over
9 the longer-term by continuing as customers of a stand-alone public authority.

10 **Q. What evidence did you review in this docket?**

11 A. I have reviewed the Application and appraisals prepared by Gannett Fleming and
12 Scott Madden & Associates. I also rely on responses of Aqua and DELCORA to
13 the following discovery available to me at this time, including:

14 COUNTY II-7
15 COUNTY II-8
16 COUNTY II-11
17 COUNTY III
18 COUNTY IV-1
19 COUNTY V-1
20 COUNTY VIII-6
21 COUNTY VIII-7
22 I&E Set 1 Nos. 1 thru 7
23 OCA-I
24 OCA-II
25 OCA-III, 3, 5, 9, 22, 29 thru 33 and 55
26 OCA-IV
27 SWDCMA Set 1, Nos. 1 thru 10
28 SWDCMA Set 2, Nos. 1 thru 4

² Aqua Statement No. 2 (Direct Testimony of William C. Packer) at 11:18-20.

1 **Q. Do you sponsor any exhibits with your testimony?**

2 A. Yes, I sponsor Exhibit No. SCF-1, presenting my resume and testimony
3 experience, which has been filed as a separate attachment to my testimony. I am
4 also sponsoring Exhibit No. SCF-2, which is a compilation of discovery responses
5 that I rely on and refer to in this testimony.

6 **Q. Please summarize your findings.**

7 A. Based on my review of the Application and evidence described above, I make the
8 following findings:

- 9 1) I find that this application does not offer substantial benefits to
10 DELCORA customers, according to the PUC's Standard of Review, as
11 discussed herein.
- 12 2) Further, I find that payments from the proposed Trust (described further
13 below) to limit increases in revenue requirements to 3% annually is a
14 short-lived rate mitigation mechanism (at most 8 years), and results in a
15 huge step increase (also known as "rate shock") in rates for DELCORA
16 customers immediately upon expiration of the Trust.
- 17 3) Also, I find that DELCORA's marginal cost of debt to fund its long-term
18 capital plan appears to be lower than Aqua PA's cost of debt. However,
19 even if the cost to borrow for Aqua PA is no higher than that at which
20 DELCORA could borrow, the requirement to recover a return on rate base
21 for Aqua PA's equity shareholders automatically results in a higher
22 necessary revenue requirement than if DELCORA were to borrow at its

1 lower cost of capital consisting exclusively of publicly-backed municipal
2 debt.

3 4) In addition, I will describe how the available Trust funds are directly
4 dependent on the sale price of the DELCORA assets, and this sale price,
5 however it was negotiated, is far below the average of the commissioned
6 appraisals of the DELCORA system assets. As described in the Direct
7 Testimony of County witness Brian Zidek, DELCORA's no-bid agreement
8 to be acquired at a price well below appraised value indicates the
9 transaction was not negotiated at arm's length and not the product of a
10 competitive marketplace.³

11 5) Finally, I discuss how the presentation by Aqua PA suggests that this
12 would be an economic merger for Aqua PA because the DELCORA
13 customers are being acquired today at a lower purchase price (rate base
14 amount) per retail customer, equal to about a third of Aqua PA's existing
15 rate base per customer. Aqua PA fails to note that by definition then,
16 existing DELCORA customers will ultimately be subject to combined
17 Aqua PA system rates and revenue requirements that support a higher
18 blended rate base per customer going forward. This problem is
19 exacerbated by the cost of capital disadvantage discussed in my previous
20 finding and later in this testimony. These advantages of municipal
21 operations can be overcome by demonstrated efficiencies of IOU

³ Consistent with my observation, the Corporate Finance Institute defines an arm's length transaction as one where the negotiation is expected to result in a transaction price that "closely matches the fair market value of the consideration." <https://corporatefinanceinstitute.com/resources/knowledge/deals/arms-length-transaction/>

1 operations, but Aqua PA has made no such showing that it can offer
2 incremental efficiencies above and beyond DELCORA's current
3 operations. This is not surprising as DELCORA already operates as a large
4 and sophisticated utility system.

5 6) In summary, I find that the primary objective of this transaction and this
6 application is to transfer an economic wastewater system from DELCORA
7 customers to Aqua PA's shareholders, providing Aqua PA the means to
8 grow market share at a cost-effective price per customer. This comes at a
9 cost that ultimately would be borne by DELCORA customers. My review
10 of the Application and discovery responses described above show that the
11 DELCORA customers will not benefit from the Proposed Transaction.

12 **III. OVERVIEW OF THE PROPOSED TRANSACTION**

13 **Q. What is the purpose of this proceeding?**

14 A. The purpose of this proceeding is to review and obtain approval for the Asset
15 Purchase Agreement ("APA") governing the sale of the sanitary wastewater
16 collection and treatment system owned by DELCORA ("Acquired Assets") to
17 Aqua PA (the "Proposed Transaction") under terms acceptable to the
18 Commission.⁴

⁴ See Docket No. A-2019-3015173, Application Exhibit B1, Asset Purchase Agreement dated September 17, 2019, Recitals at 2.

1 **Q. What is the proposed price for the purchase of the Acquired Assets?**

2 A. The purchase price agreed upon by both parties and set forth in the Application
3 will be \$276,500,000 ("Purchase Price")⁵, following negotiations and after review
4 of two independent appraisals, both of which assessed the value of these assets at
5 amounts considerably higher than the Purchase Price.

6 **Q. Please summarize your understanding of the standard of review for this**
7 **proceeding.**

8 A. Although I am not an attorney, my understanding of the standard of review is that
9 Aqua, as the applicant, must demonstrate that the Proposed Transaction is in the
10 public interest, will provide substantial benefit to customers, and can include
11 consideration of the impact on rates.⁶

12 **Q. What is Delaware County's interest in this proceeding?**

13 A. Delaware County is the incorporating municipality of DELCORA. Delaware
14 County is also served by DELCORA⁷.

15 As its protest describes, Delaware County does not believe Aqua PA has
16 adequately demonstrated that the system sale is in the public interest, the interests
17 of Delaware County, or the interests of DELCORA ratepayers.

18 **Q. Why is Aqua PA interested in acquiring DELCORA?**

19 A. Aqua PA has followed a strategy of growth through acquisition in Pennsylvania
20 for the purpose of obtaining market share and, as confirmed in a recent SEC 8-K

⁵ Application Exhibit B1 Asset Purchase Agreement, Section 3.02 Purchase Price and Additional Considerations at 16.

⁶ PA PUC Docket No. A-2019-3009502, Opinion and Order, Section III.A. Legal Standard at 14-16.

⁷ Protest of the County of Delaware, Pennsylvania.

filing by Aqua PA's parent company, Essential Utilities, Inc. ("Essential"), delivering growth in earnings per share in the 5-7% range to its shareholders.⁸ In the same shareholder presentation Essential refers to its "Municipal Initiative" as the driver for its wastewater business growth that requires opportunistic pursuit of large utilities, as shown below.⁹

Figure 1 Aqua PA Growth Strategy



⁸ Essential Form 8-K filed 2/27/2020, Slide 62, available at https://sec.report/Document/0001552781-20-000161/e20109_ex99-1.htm (last accessed Sep. 29, 2020).

⁹ Essential Form 8-K filed 2/27/2020, Slide 7, https://sec.report/Document/0001552781-20-000161/e20109_ex99-1.htm

1 **Q. How many wastewater customers does DELCORA serve?**

2 A. DELCORA maintains 16,000 wastewater customer connections and serves
3 197,000 Equivalent Dwelling Units (EDUs).¹⁰ Delaware County ratepayers
4 represent over 98% of the rate base of DELCORA.¹¹ In total, DELCORA serves
5 about a half million people in the Greater Philadelphia area, the vast majority of
6 which are in Delaware County.¹²

7 **Q. How many wastewater customers does Aqua PA serve currently?**

8 A. Aqua PA serves approximately 35,000 wastewater customers.¹³

9 **Q. If the Commission approves the Proposed Transaction, how many customers**
10 **would Aqua PA ultimately serve?**

11 A. When combined with DELCORA's nearly 16,000 wastewater customers, Aqua
12 PA's wastewater customer base will increase from 35,000 to 51,000 customers, or
13 by approximately 45%.¹⁴ However, even this figure understates the impact of the
14 transaction because of the extent of DELCORA's wholesale service. As noted
15 above, DELCORA serves 197,000 EDUs through its combined retail and
16 wholesale service operations.

¹⁰ Aqua Statement No. 2, Direct Testimony of William C. Packer at 9: 20-21.

¹¹ Response of DELCORA to OCA-I-43. Note: one wastewater connection can serve many EDUs.

¹² <https://www.delcora.org/about-us/areas-served/>

¹³ Aqua Statement No. 2, Appendix A 5 of 11.

¹⁴ This percentage increase appears in Aqua Statement No. 2 at 9:9.

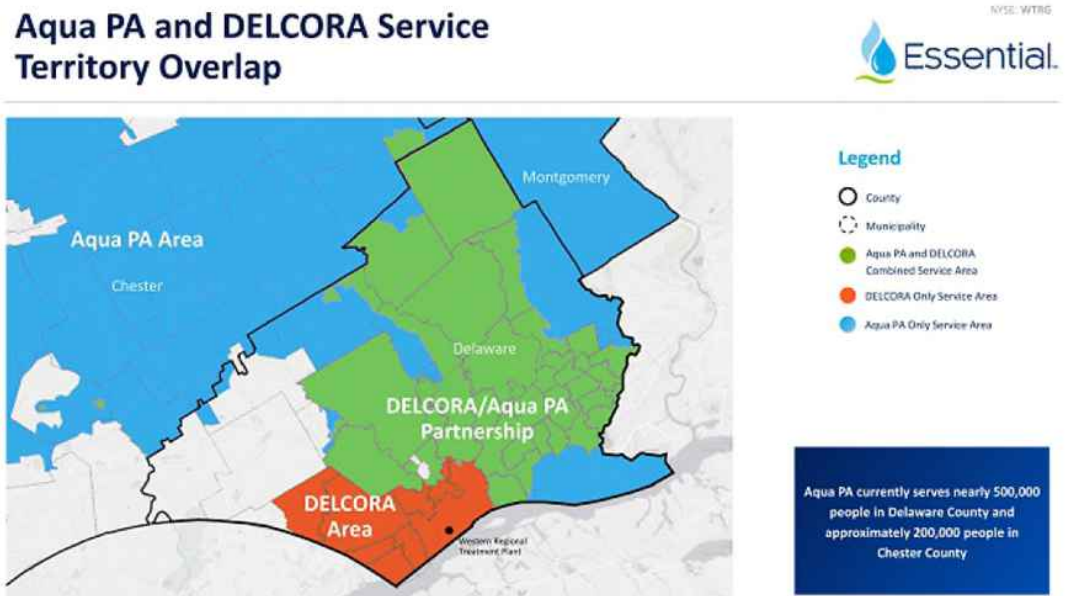
1 **Q. What percentage of Aqua PA's total customers are wastewater customers?**

2 A. Aqua PA recently reported that the percentage of existing wastewater customers
3 compared to total customers is 4.24%.¹⁵

4 **Q. Is it fair to say that such a large increase in wastewater customer counts and**
5 **EDUs will benefit Aqua PA's business?**

6 A. Yes, if approved, the Proposed Transaction will not only increase the customer
7 base for wastewater service but also the extent of Aqua PA's service territory. As
8 shown in Aqua PA's map below, the sub-areas highlighted in green and orange
9 show how Aqua PA's wastewater service territory will expand significantly.¹⁶

10 **Figure 2 Aqua PA and DELCORA Service Territory Map**



¹⁵ PA PUC Docket No. R-2018-3003068, Schedule C-4.4 at 1:10 (Aug 17, 2018).

¹⁶ Essential Form 8-K filed 02/27/2020, Slide 26, https://sec.report/Document/0001552781-20-000161/e20109_ex99-1.htm

1 **Q. What do you conclude about the case made by Essential in its Form 8-K**
2 **presentation for the acquisition of DELCORA?**

3 A. Aqua PA's parent company Essential views the purchase of the DELCORA
4 System Assets as integral to its future growth strategy. DELCORA's large size,
5 measured by both area and customer count, compared to Aqua PA's existing
6 system meets its search criteria to make opportunistic acquisitions. This purchase,
7 following a series of recent smaller acquisitions, represents an opportunity to
8 acquire assets relatively inexpensively.

9 **Q. Does Aqua PA acknowledge that this transaction will lead to rate increases**
10 **for DELCORA customers?**

11 A. Yes. In fact, Aqua PA agreed that proceeds remaining from the Purchase Price
12 after paying down DELCORA debt would be earmarked to establish a Trust
13 intended to mitigate increases in revenue requirements and stabilize rates - at least
14 for a time.
15 Our analysis of the Trust and its numerous shortcomings is described in the next
16 section of my testimony.

17 **IV. DESCRIPTION OF THE TRUST AGREEMENT**

18 **Q. Please describe your understanding of the purpose of the Trust.**

19 A. The DELCORA Rate Stabilization Fund and Trust Agreement between
20 DELCORA and Univest Bank and Trust Co. ("Univest"), effective on December
21 27, 2019, created a trust intended to benefit the DELCORA customers (the
22 "Trust"). The purpose of the Trust is to apply proceeds from the sale of the
23 DELCORA wastewater system to offset future rate increases implemented by

1 Aqua PA. The intent is for any rate increase over 3 percent, compounded
2 annually, to be offset by funds from the Trust until the Trust has been depleted.

3 **Q. How long will the Trust limit rate increases to 3 percent?**

4 A. Aqua PA projects rate increases will be limited to 3 percent through 2028, with a
5 partial offset to a rate increase in 2029.¹⁷ According to Aqua PA's projections, in
6 2029, the Trust will not have enough funds to limit that anticipated rate increase
7 to 3%, but the remaining funds will be used to lower the increase as much as
8 possible. At that point, the Trust would be fully depleted.

9 **Q. Is the 3 percent annual rate increase guaranteed to last through 2028?**

10 A. Not at all. The Memorandum of Understanding governing the Trust
11 disbursements only creates an obligation to apply Trust balances to limit rate
12 adjustments to the 3 percent compound annual increases for as long as funds
13 remain available. The projection by Aqua PA for rate increases to be limited to 3
14 percent annually through 2028 is an estimate based on projected Aqua PA annual
15 revenue requirements. As I describe later in my testimony, a variety of
16 circumstances can affect the duration of the Trust's ability to limit annual rate
17 increases to 3 percent per year on average.

18 **Q. Would payments from the Trust to Aqua PA be prorated over the life of the**
19 **Trust?**

20 A. No. As described above, the Trust has been set up to make payments to Aqua PA
21 in order to limit rate increases to 3 percent, compounded annually. This will result
22 in variable and generally escalating Trust payments while it exists. Each time

¹⁷ Response of DELCORA to OCA-III-12, Attachment 1.

Aqua PA increases its revenue requirement, the Trust disbursements must also increase. There are also instances where payments from the Trust can decrease from the prior year if Aqua PA does not increase its revenue requirement, since the 3% limit is measured against the prior year's revenue requirement after the credit by the Trust is applied (adjusted revenue requirement). For a visual example of fluctuating Trust contributions, see Table 1 below.¹⁸

Table 1 - Fluctuating Trust Payments			
Year	Revenue Requirement	Adjustment Revenue Requirement	Payment from Trust
2020	\$70,978,127	NA	NA
2021	\$87,939,887	\$73,107,471	\$14,832,416
2022	\$87,939,887	\$75,300,695	\$12,639,192
2023	\$87,939,887	\$77,559,716	\$10,380,171
2024	\$102,415,369	\$79,886,507	\$22,528,862

As you can see, the Adjusted Revenue Requirement in each year increases by 3 percent, even as the actual Revenue Requirement does not increase. The Payment from the Trust is calculated by subtracting the Revenue Requirement from the Adjusted Revenue Requirement in each year.¹⁹

Q. Who will serve as the Trustee?

A. Univest will serve as the Trustee, however, through a recently executed Information Sharing Memorandum of Understanding ("MOU"), another party, the "Calculation Agent" will have sole responsibility to confirm the application of

¹⁸ See Response of DELCORA to COUNTY V-1 Attachment 1.

¹⁹ Based on data from Response of DELCORA to OCA-III-12, Attachment 1.

1 funds from the Trust to DELCORA customer bills to offset future Aqua PA rate
2 increases.²⁰

3 **Q. How are the services of the Calculation Agent secured?**

4 A. The Calculation Agent is intended to be an accounting or financial advisory firm
5 who will enter into a service agreement with DELCORA defining responsibilities
6 with respect to the Trust Agreement, as described below.²¹

7 **Q. How will payments from the Trust be applied to customer bills?**

8 A. Aqua PA intends to include customer assistance payments from the Trust as a line
9 item on the customer bill.²²

10 **Q. Please explain the bill credit mechanism proposed?**

11 A. For any rate increase, Aqua PA would calculate both the new rate ("Full Cost
12 Rate") and the rate limited to a 3 percent annual average increase ("Existing Rate
13 Plus 3 percent). The difference between the customer's bill under the Full Cost
14 Rate and Existing Rate Plus 3 percent would be the amount credited on a
15 customer's bill ("Trust Portion" or "DELCORA Customer Assistance
16 Payment.")²³

²⁰ Response of DELCORA to OCA-I-36 SUPPLEMENTAL Attachment 1 (attaching the executed version of the MOU dated August 27, 2020).

²¹ Response of DELCORA to OCA-I-36 SUPPLEMENTAL Attachment 1, Article 1 Definitions, sections 1.1.d. and 1.1.e. at 2.

²² Aqua Statement No. 2 at 5:21-23.

²³ Response of Aqua to I&E-1-1 Attachment 1, Sample Bill with proposed trust line item amount.

1 **Q. How does the recently executed MOU amend the credit bill mechanism**
2 **described above?**

3 A. Following approval of the MOU by the Commission, Aqua PA will calculate the
4 Total Customer Assistance Amount to be applied to each customer bill and
5 convey this amount to the Calculation Agent within 20 business days after the
6 close of each billing period.²⁴

7 **Q. What is the role of the Calculation Agent as described in the MOU?**

8 A. The Calculation Agent would receive and confirm the Total Customer Assistance
9 Amount within 10 business days. Once confirmed, the Calculation Agent would
10 notify DELCORA and tell Aqua PA to place the Customer Assistance Amount
11 and adjusted amount due on each DELCORA bill.

12 **Q. How is the Trustee informed of the amount to be distributed from the Trust?**

13 A. Following the actions of the Calculation Agent described above, DELCORA
14 would direct the Trustee in writing to distribute the verified Total Customer
15 Assistance Amount from the Trust to Aqua PA after which Aqua PA would apply
16 the Customer Assistance Amount to DELCORA customer bills.²⁵

²⁴ Note: with the advent of the MOU executed on August 27, 2020, the term "DELCORA Customer Assistance Payment" has been replaced by the term "Total Customer Assistance Amount".

²⁵ Response of DELCORA to OCA-I-36 SUPPLEMENTAL Attachment 1, Article 4.2 Payment of Total Customer Assistance Amount at 4.

1 **V. DISCUSSION OF FINDINGS**

2 **Q. Throughout your testimony, you make projections of future revenue**
3 **requirements under various scenarios. Please provide an overview of your**
4 **methodology.**

5 A. Tables 2 – 8 project future revenue requirements for Aqua PA ownership under
6 various sale price scenarios. The revenue requirements derive from the
7 methodology utilized by witness Packer in -COUNTY-V-1 Attachment 1. This
8 methodology is based on standard IOU ratemaking, as described later in my
9 testimony. Operations and maintenance expenses grow each year, based on an
10 inflation rate utilized by Mr. Packer. The capital expenditures projections are
11 based on information provided by Witness Bubel. For the "DELCORA no sale"
12 projections shown in Tables 2, 4, and 5, I used the methodology provided in
13 County-II-11 Attachment 10 - Rate Model 2020 – CONFIDENTIAL, which is
14 based on a municipally-owned utility ratemaking methodology, also described
15 later in my testimony. The capital expenditures provided by Mr. Bubel are also
16 used in this methodology based on the assumption that these would occur
17 regardless of the ownership structure.

18 **Q. Do your tables account for the timing of rate case filings?**

19 A. In Tables 2-8, I make no assumptions regarding periodic rate case filings. Instead,
20 I show the annual projected revenue requirements, based on the given ratemaking
21 methodology, as if a rate case occurred every year in a magnitude to meet that
22 year's revenue requirement. This eliminates the speculation of when rate cases
23 would occur and simply shows the impact of a growing investments in the system

1 under the various scenarios and different ownership structures. I also make no
2 assumptions for Act 11 subsidies, as described later in my testimony. The only
3 exception is Table 1, which is intended to model how Trust payments can
4 fluctuate year-to-year.

5 **A. FINDING 1)**

6 **Q. Please discuss how you reached Finding 1) that the Proposed Transaction**
7 **does not offer substantial benefits to DELCORA customers?**

8 A. Based on my review of the evidence and following various analyses using Aqua
9 PA and DELCORA revenue requirements models (in some cases with updated or
10 modified assumptions), I was able to isolate the impacts to DELCORA's
11 customers in both the near and longer-terms. Specifically, I find that the Trust's
12 suppressive effect on DELCORA revenue requirements under the Proposed
13 Transactions is limited at best and will be followed by significant rate increases to
14 DELCORA customers. After performing the rate path projections both with and
15 without sale of DELCORA assets to Aqua PA, I find that any benefit from the
16 rate stabilization proposal under the Proposed Transaction in the near term is
17 more than offset by the increases in revenue required to fund DELCORA's long-
18 term capital expenditure plan at Aqua's higher cost of capital.

19 **Q. Can you isolate the first-year rate impact caused by the change of ownership**
20 **from DELCORA to Aqua PA?**

21 A. Yes. By using DELCORA's actual 2020 Council-approved revenue requirement
22 compared to Aqua PA's projected revenue requirement, we are able to see the
23 immediate impact caused by the ownership structure changing from a

1 municipally-owned system to an investor owned ("IOU") system. DELCORA's
2 2020 revenue requirement is \$70,978,127.²⁶ This compares to Aqua PA's 2020
3 revenue requirement projection²⁷ of \$78,361,849.

4 This difference of \$7,383,721 is a significant burden placed on DELCORA
5 customers. To be conservative, the capital expenditures planned by Aqua PA in
6 2020 can be removed and the revenue requirement would only decrease to
7 \$76,086,786. In other words, approximately \$15 million of Aqua's projected
8 2020 revenue requirement is being driven by the equity component earned on a
9 rate base of \$276.5 million (the sale price).

10 **Q. The revenue requirement under Aqua PA ownership is projected to be**
11 **\$146 million in 2029 when the Trust has been fully exhausted. How does**
12 **this compare to a projected revenue requirement under DELCORA**
13 **ownership?**

14 A. The projected revenue requirement in 2029 under Aqua PA ownership is
15 projected to be \$146 million, while under DELCORA ownership it will only be
16 approximately \$113 million as shown in Table 2 below.²⁸

17 **Q. Do the revenue requirements for Aqua PA and DELCORA ownership**
18 **include similar capital expenditures?**
19

²⁶Aqua Statement No. 2, Appendix A 1 of 11.

²⁷ Calculation derived from Response of DELCORA to COUNTY-V-I Attachment 1.

²⁸ Responses of DELCORA to COUNTY V-1 Attachment 1 and COUNTY II-11 Attachment 10 – Rate Model 2020 – CONFIDENTIAL.

1 A. Yes. Specifically, both the DELCORA and Aqua PA revenue requirement
2 projections referenced throughout this testimony assume that DELCORA's sewer
3 service contract with Philadelphia Water Department ("PWD") is terminated in
4 2028 and the expansion of the Western Regional Wastewater Treatment Plant is
5 completed to treat the volumes diverted from PWD's treatment plant at a cost of
6 \$450 million.²⁹

Table 2: Revenue Requirements Comparison for DELCORA vs. Aqua w/Trust		
Year	DELCORA no sale	Aqua w/Trust
2020	\$70,978,127	\$70,978,127
2021	\$67,754,039	\$73,107,471
2022	\$68,973,113	\$75,300,695
2023	\$75,328,305	\$77,559,716
2024	\$83,788,448	\$79,886,508
2025	\$87,837,306	\$82,283,103
2026	\$89,407,570	\$84,751,596
2027	\$101,931,332	\$87,294,144
2028	\$101,939,204	\$118,920,886
2029	\$113,460,959	\$146,208,143
2030	\$115,724,467	\$146,330,696
2031	\$117,897,846	\$147,055,959
2032	\$120,620,368	\$148,975,187
2033	\$124,141,994	\$152,073,517
2034	\$128,374,653	\$155,584,070
2035	\$131,725,551	\$158,960,753
2036	\$135,994,218	\$160,348,040
2037	\$138,364,117	\$161,089,047
2038	\$138,644,590	\$161,581,056
2039	\$141,176,194	\$161,917,331
2040	\$143,705,172	\$162,201,238
Total	\$2,297,767,578	\$2,612,407,281
PVRR at 7.37%	\$1,039,447,534	\$1,153,212,759

²⁹ Aqua Statement No. 4 (Testimony of Mark J. Bubel, Sr.) at 8: 19-21, and Aqua Statement No 5 (Direct Testimony of Robert Willert, Executive Director of DELCORA) at 9:11-17.

1 **Q. Does this support your argument that DELCORA customers are better off**
2 **without the sale?**

3 A. Yes. Although there is a short period where customers are projected to pay lower
4 rates under Aqua PA ownership, this only occurs because of the Trust-subsidized
5 revenue requirement. Once the Trust runs out, customers will begin to pay the full
6 the revenue requirement associated with Aqua PA ownership, and they will
7 continue to pay more over time as part of the Aqua PA customer base.

8 **B. FINDING 2)**

9 **Q. Please explain Finding 2) that the Proposed Transaction would result in**
10 **"rate shock" for DELCORA customers.**

11 A. Rate shock is a sudden, abrupt, and substantial increase in rates. Above, I
12 discussed the increased revenue requirements that DELCORA customers would
13 experience in the long term under Aqua ownership. In addition to the general
14 upward trajectory of the increasing revenue requirements, there also exists a
15 concern with the rate impacts occurring immediately upon expiration of the Trust.
16 Disbursements from the Trust limit rate increases to 3 percent, compounded
17 annually, in the beginning under the Proposed Transaction. However, this rate
18 mitigation is temporary and illusory in the sense that customers are immediately
19 exposed to the higher tariff rates once the Trust is depleted.
20 Table 3 displays the projected rate impact when the Trust expires.³⁰

³⁰ Calculation derived from Response of DELCORA to COUNTY-V-I Attachment 1.

1

Table 3 - Rate Shock					
Year	Revenue Requirement	Revenue Requirement Increase	Adjusted Revenue Requirement	Adjusted Revenue Requirement Increase	Payment from Trust [i]
2020	\$70,978,127	NA	NA	NA	NA
2021	\$88,253,121	24%	\$73,107,471	3%	\$15,145,650
2022	\$93,597,488	6%	\$75,300,695	3%	\$18,296,793
2023	\$99,650,852	6%	\$77,559,716	3%	\$22,091,136
2024	\$106,735,892	7%	\$79,886,508	3%	\$26,849,384
2025	\$112,612,323	6%	\$82,283,103	3%	\$30,329,220
2026	\$126,716,985	13%	\$84,751,596	3%	\$41,965,389
2027	\$130,683,688	3%	\$87,294,144	3%	\$43,389,544
2028	\$141,246,722	8%	\$118,920,886	36%	\$22,325,836 [ii]
2029	\$146,208,143	4%	\$146,208,143	23%	\$0 [iii]
[i] Payments from the Trust are estimated based on annual increases to Aqua PA annual revenue requirements. [ii] The remaining funds in the Trust are not enough to limit the rate increase to 3%. [iii] First year after Trust is depleted.					

2 By 2028, the Trust is projected to be insufficient to fully limit the rate increase to
3 a 3 percent annual average increase, resulting in an Adjusted Revenue
4 Requirement increase of 36 percent. In 2029, another increase would be required.
5 From 2027-2029, customers would experience a rate increase of 67 percent
6 $((\$146,208,143 - \$87,294,144) / \$87,294,144)^{31}$
7 As demonstrated above, DELCORA customers will experience an approximately
8 70% rate increase upon expiration of the Trust. From a ratemaking perspective,
9 rate increases driven by revenue requirements of this magnitude are characterized
10 as rate shock and disfavored by both regulators and customers.

³¹ Based on data from Response of DELCORA to COUNTY-V-1 Attachment 1.

1 **Q. Are customers at least assured that the Trust would defer any rate shock**
2 **until at least 2028?**

3 A. No. Variables such as future acquisitions, Commission policy initiatives,
4 changing environmental regulations, or changing market conditions affecting
5 Aqua's authorized rate of return could impact the level future rate increases
6 approved by the Commission for Aqua, which directly affects the revenue
7 shortfall to be recovered through Trust disbursements. For example, Aqua PA
8 witness Erin M. Feeney indicates an intention to apply the Distribution System
9 Improvement Charge ("DSIC") to DELCORA customers following transfer of the
10 system to Aqua PA.³² Aqua PA has further confirmed that DSIC charges would
11 also be offset by the Trust.³³ Depending on the rate of future DSIC charges, the
12 available funds in the Trust could be depleted much faster than projected.

13 **C. FINDING 3)**

14 **Q. Please explain how you determine that DELCORA customers would be**
15 **better off if DELCORA remained independent and funded its capital plan**
16 **exclusively with publicly backed municipal debt.**

17 A. I analyzed the impact of the Proposed Transaction assuming that DELCORA's
18 capital investment plan is maintained through 2030 and evaluated the difference
19 in revenue requirement under different weighted average cost of capital (WACC)
20 assumptions.

³² Aqua Statement No. 3 (Direct Testimony of Erin M. Feeney), at 6:7-10.

³³ Response of DELCORA to County-I-4(a).

1 This analysis begins with the following review of the difference in ratemaking for
2 Municipals versus Investor Owned Utilities ("IOUs) like Aqua.

3 **Municipal vs. IOU ratemaking**

4 **Q. What are the most significant differences in the revenue requirement**
5 **calculations of a municipal utility and an IOU?**

6 A. Municipal ratemaking is designed to allow the municipal-owned utility to recover
7 operating expenses, make payments on their debt ("debt service"), and ensure an
8 additional reserve above operating income available for debt service ("debt
9 service coverage")³⁴. IOU ratemaking is designed to recover operating expenses,
10 including taxes and annual depreciation expense, and earn a fair return on their
11 capital investments ("rate base"³⁵). Therefore, the major differences between
12 municipal utilities and IOUs are that IOU rates need to be set to earn a return, pay
13 taxes, and recover depreciation expense.

14 **Q. What is the impact of an IOU earning a return on rate base?**

15 A. Generally speaking, while both ownership structures recover O&M and certain
16 other expenses, the most significant difference is the recovery of the cost to
17 finance capital expenditures ("CapEx"). The utility business, including
18 wastewater, is a capital-intensive business requiring continuous investment in
19 infrastructure in order to safely and reliably serve customers. This necessity for

³⁴ Debt service coverage is often expressed as a ratio of available cash flow to pay current debt obligations.

³⁵ Rate base is defined as Gross Plant in Service Net of Accumulated Depreciation, also known as Net Plant in Service.

1 ongoing capital expenditures exists for both municipal utilities and IOUs. The
2 difference is how they recover costs to finance the CapEx. Municipal utilities
3 typically fund CapEx through bonds issued by the municipality or municipal
4 authority. IOUs will fund CapEx mainly through a combination of debt and
5 equity. The debt portion is the money borrowed by the utility. The equity portion
6 is shareholder funded. As part of what is known as the "regulatory compact",
7 insofar as it has made "prudent" and "used and useful" investments in the
8 enterprise, a utility is granted the opportunity to earn a fair return on their
9 investments in order to pay interest on debt and a "bottom line" net revenue which
10 accrues to shareholders. This is also known as the return on equity ("ROE"). A
11 PUC-approved ROE is designed to allow the IOU the opportunity to earn a fair
12 return for shareholders in line with a proxy group of utilities facing similar risk
13 profiles.

14 **Q. Is the rate on the municipal bonds the same as the interest rate on the debt of**
15 **an IOU?**

16 A. The difference between the interest rate paid on municipal bonds and IOU debt
17 can differ in both directions. A municipality or municipal authority may be able to
18 obtain a lower rate because the interest paid to bondholders is not subject to state
19 and federal taxes and is backed by the municipal taxpayers, all else equal allowing
20 for a lower rate. At the same time, it is also possible that a large IOU may also be
21 able to achieve lower rates on incurred debt due to a lower risk profile. For the
22 purpose of this analysis, I have assumed the interest rate paid by DELCORA to be

1 4.0 percent based on DELCORA's own rate model for 2020³⁶ and the interest rate
2 paid by Aqua PA to be 4.43 percent based on data provided by Aqua³⁷.

3 **Q. If interest rates on debt for DELCORA and Aqua are similar in your**
4 **analysis, why does a municipal utility tend to have a significantly lower**
5 **overall costs of capital?**

6 A. The difference in capital costs are attributed to the difference in the weighted
7 average cost of capital ("WACC"). Since DELCORA CapEx will be fully funded
8 through debt, the WACC will equal the interest rate on its debt.
9 However, Aqua PA, an IOU, has presented a capital structure of roughly 47
10 percent debt and 53 percent equity, assuming a debt rate of 4.43 percent and a
11 ROE of 10 percent, which equates to a WACC of 7.37 percent.³⁸

12 **Q. How would a higher WACC under an IOU ownership structure impact**
13 **DELCORA customers?**

14 A. The difference between the municipal rate of interest on debt, which we have
15 assumed for now is 4.0 percent and Aqua PA's assumed WACC of 7.37 percent,
16 is 3.37 percent. When this higher WACC is evaluated in isolation, assuming all
17 other costs are the same, over a 21-year period, the revenue requirement, not
18 adjusted by Trust contributions, is \$542 million
19 higher under the IOU structure. The present value of revenue requirements
20 ("PVRR") is \$266 million higher under the IOU structure. Table 4 illustrates the

³⁶ Response of DELCORA to COUNTY-II-11 Attachment 10.

³⁷ Aqua Statement No. 2, Appendix A 1 of 11

³⁸ Aqua Statement No. 2, Appendix A 1 of 11.

1 higher revenue requirement in each year for a 21-year period, driven by a higher
2 WACC.³⁹

Table 4: Revenue Requirements Comparison for DELCORA vs. Aqua		
Year	DELCORA no sale	Aqua
2020	\$70,978,127	\$78,361,849
2021	\$67,754,039	\$88,253,121
2022	\$68,973,113	\$93,597,488
2023	\$75,328,305	\$99,650,852
2024	\$83,788,448	\$106,735,892
2025	\$87,837,306	\$112,612,323
2026	\$89,407,570	\$126,716,985
2027	\$101,931,332	\$130,683,688
2028	\$101,939,204	\$141,246,722
2029	\$113,460,959	\$146,208,143
2030	\$115,724,467	\$146,330,696
2031	\$117,897,846	\$147,055,959
2032	\$120,620,368	\$148,975,187
2033	\$124,141,994	\$152,073,517
2034	\$128,374,653	\$155,584,070
2035	\$131,725,551	\$158,960,753
2036	\$135,994,218	\$160,348,040
2037	\$138,364,117	\$161,089,047
2038	\$138,644,590	\$161,581,056
2039	\$141,176,194	\$161,917,331
2040	\$143,705,172	\$162,201,238
Total	\$2,297,767,578	\$2,840,183,954
PVRR	\$1,039,447,534	\$1,305,089,904

3
4 **Q. Do the contributions from the Trust offset the higher revenue requirement**
5 **under Aqua PA ownership over the 21-year period?**
6 A. No. The total of the Aqua PA ownership revenue requirement over the 21-year
7 period is projected to be \$315 million higher on a

³⁹ Responses of DELCORA to COUNTY V-1 Attachment 1 and COUNTY II-11 Attachment 10 – Rate Model 2020 – CONFIDENTIAL.

1 cumulative basis and \$114 million higher on a PVRR basis,
2 as shown in Table 5.⁴⁰

Table 5: Revenue Requirements Comparison for DELCORA vs. Aqua with Trust Payments		
Year	DELCORA no sale	Aqua with Trust Payments
2020	\$70,978,127	\$70,978,127
2021	\$67,754,039	\$73,107,471
2022	\$68,973,113	\$75,300,695
2023	\$75,328,305	\$77,559,716
2024	\$83,788,448	\$79,886,508
2025	\$87,837,306	\$82,283,103
2026	\$89,407,570	\$84,751,596
2027	\$101,931,332	\$87,294,144
2028	\$101,939,204	\$118,920,886
2029	\$113,460,959	\$146,208,143
2030	\$115,724,467	\$146,330,696
2031	\$117,897,846	\$147,055,959
2032	\$120,620,368	\$148,975,187
2033	\$124,141,994	\$152,073,517
2034	\$128,374,653	\$155,584,070
2035	\$131,725,551	\$158,960,753
2036	\$135,994,218	\$160,348,040
2037	\$138,364,117	\$161,089,047
2038	\$138,644,590	\$161,581,056
2039	\$141,176,194	\$161,917,331
2040	\$143,705,172	\$162,201,238
Total	\$2,297,767,578	\$2,612,407,281
PVRR	\$1,039,447,534	\$1,153,212,759

3

⁴⁰ Responses of DELCORA to COUNTY V-1 Attachment and COUNTY II-11 Attachment 10 – Rate Model 2020 – CONFIDENTIAL.

1 **Q. Has Aqua provided evidence showing benefits accruing to DELCORA**
2 **customers that could justify paying a higher cost of capital compared to**
3 **DELCORA ownership?**

4 A. No. It is generally true that IOU ownership under certain circumstances can
5 provide efficiencies compared to municipal ownership, such as economies of
6 scale and improved customer service, and early adoption of technology
7 advancements. While DELCORA provided a discovery response pointing to
8 anticipated customer service and capital planning improvements under Aqua
9 ownership, these claims are unsubstantiated and particularly unpersuasive in light
10 of comments from DELCORA's Executive Director indicating that DELCORA
11 wastewater operational expertise is superior to Aqua's.⁴¹ Further, as DELCORA
12 operates conveyance and treatment facilities that mostly serve wholesale
13 municipal and industrial customers, expanded customer service capabilities are
14 not as relevant as they might be for a utility serving primarily end-use customers.

15 **D. FINDING 4)**

16 **Q. Please discuss why the Purchase Price indicates this is not an arm's length**
17 **transaction.**

18 A. DELCORA agreed to be acquired at a price well below appraised value, which
19 indicates that the transaction was not conducted at arm's length. The Corporate
20 Finance Institute defines an arm's length transaction as one where the negotiation

⁴¹ See DELCORA Response to OCA Set III, No. 9; *but see* Exhibit No. BPZ-3 (Deposition of Robert Willert in Court of Common Pleas) at 48:1-5.

1 is expected to result in a transaction price that "closely matches the fair market
2 value of the consideration."⁴² County witness Brian Zidek concurs, as follows:
3 "Without a competitive bidding process, this transaction appears to fall far short
4 of the requisite arm's length negotiation."⁴³
5 Additionally, a detailed examination of the valuation conducted for DELCORA
6 casts further doubt on the competitiveness of the purchase price. ScottMadden
7 evaluated DELCORA's system assets by three methods as shown in the figure
8 below from the ScottMadden appraisal of the assets⁴⁴:

Table 3: Conclusion of Value for the Subject Interest

Valuation Approach	Indicated Value	Weight	Weighted Value
Cost	\$292,413,993	45%	\$131,586,297
Market	\$613,520,480	5%	\$30,676,024
Income	\$291,863,370	50%	\$145,931,685
Indicated Value		100%	\$308,194,006

9
10 ScottMadden concluded the fair market value (FMV) of DELCORA's system
11 assets at a weighted average where the weights differ for each of the three
12 valuation approaches, and produced an FMV of \$308.19 million, significantly
13 above the Purchase Price of \$276.5 million. However, if you assume an equal
14 weighting of the valuation approaches assumed in the appraisal (as done in the
15 appraisal conducted by Aqua's valuation expert), this suggests that the FMV
16 should be closer to a much higher value of \$400 million.

⁴² <https://corporatefinanceinstitute.com/resources/knowledge/deals/arms-length-transaction/>

⁴³ Direct Testimony of Brian P. Zidek, at 5:7-9.

⁴⁴ Aqua Exhibit R, Fair Market Value Appraisal, ScottMadden Table 3, "Conclusion of Value for the Subject Interest" at 12.

1 **Q. Does this mean that the amount available to fund the Trust is directly**
2 **dependent on the sale price of the DELCORA assets?**

3 A. Yes it does, as I will explain using different sale price assumptions below.

4 **Q. Are there alternative scenarios that impact the revenue requirements?**

5 A. Yes. I have already discussed the higher costs under any IOU ownership model,
6 all else being equal, due to the equity component of the revenue requirement.
7 However, to test this finding under other sale scenarios, I analyzed how
8 DELCORA's revenue requirements change under varying sale price scenarios.
9 My analysis examined the following scenarios: 1) A higher sale price, equivalent
10 to an adjusted average⁴⁵ appraised value of the DELCORA system, which
11 increases Trust funding, and 2) a sale price set to pay off DELCORA debt only,
12 which is insufficient to fund a Trust, but does ensure a lower starting rate base.

13 **Q. What would be the effect of a higher sale price for the DELCORA system?**

14 A. A higher sale price would increase the net proceeds, which under Aqua's proposed
15 Trust paradigm, would increase the amount of funding available for the Trust.
16 With more initial funding, the Trust could stabilize rates at the 3 percent annual
17 cap for longer than the projected 8-year horizon. The current sale price of \$276.5
18 million is well below the appraisals by both ScottMadden and Gannett Fleming so
19 one could argue that a higher sale price is justified.

20 For illustrative purposes, I have modeled future revenue requirements based on a
21 sale price of \$400 million as discussed above. This sale price increases the

⁴⁵ See discussion of the weighting of the different valuation approaches used by Scott Madden in its appraisal on the previous page.

1 starting value of the Trust by \$133 million from \$200 million to \$333 million.
2 The additional \$133 million added to the Trust, would be sufficient to offset
3 increased revenue requirements facing DELCORA customers for an additional
4 one year.

5 **Q. Why does an additional \$133 million only last one year?**

6 A. The first \$200 million in the Trust is projected to last approximately eight years,
7 but an additional \$133 million only increases the duration of the Trust by one year
8 because as time goes on and Aqua PA continues to make capital investments,⁴⁶
9 the revenue requirement will grow, requiring a larger contribution from the Trust
10 to limit annual rate increases to 3 percent on average.

11 **Q. Are there downsides to an increased sale price?**

12 A. Yes. One major downside is the magnification of the rate shock issue I discussed
13 early and illustrated in Table 3. While the Trust lasts one year longer, the non-
14 Trust subsidized Aqua PA revenue requirement continues to grow at the same
15 pace as projected under the negotiated \$276.5 million sale price. Consequently,
16 the gap between the adjusted revenue requirement and the actual revenue
17 requirement increases. So instead of a 67 percent increase in the first two years
18 after the Trust expires, the rate shock escalates to a 75 percent increase. Due to
19 the higher sale price, the rate base on which Aqua PA's return is calculated would
20 also be greater immediately upon close of the Proposed Transaction. Table 6

⁴⁶ Including the costly improvements to the Western Regional Wastewater Treatment Plant as described in Aqua Statement No. 4 at 7-9.

below illustrates the additional two years of the Trust and the magnified rate shock.⁴⁷

Table 6 - Rate Shock w/ Higher Sale					
Year	Revenue Requirement	Revenue Requirement Increase	Adjusted Revenue Requirement	Adjusted Revenue Requirement Increase	Payment from Trust
2020	\$70,978,127	NA	\$70,978,127	NA	NA
2021	\$102,843,896	45%	\$73,107,471	3%	\$29,736,425
2022	\$107,711,883	5%	\$75,300,695	3%	\$32,411,188
2023	\$113,382,852	5%	\$77,559,716	3%	\$35,823,135
2024	\$120,094,307	6%	\$79,886,508	3%	\$40,207,800
2025	\$125,607,211	5%	\$82,283,103	3%	\$43,324,108
2026	\$139,358,496	11%	\$84,751,596	3%	\$54,606,900
2027	\$142,981,495	3%	\$87,294,144	3%	\$55,687,351
2028	\$153,210,022	7%	\$89,912,968	3%	\$63,297,054
2029	\$157,845,956	3%	\$154,847,296	72%	\$2,998,660
2030	\$157,651,866	0%	\$157,651,866	2%	

Q. Please explain the downside of a higher rate base.

A. As I explained earlier, an IOU earns a return based on the amount of rate base or net plant in service. The larger the rate base, the larger the allowed return, and consequently, the larger the revenue requirement. In the short-run, a larger Trust benefits customers more than it harms them with an increased rate base, because the return on rate base is spread out over a number of years, whereas the benefit from the Trust is available immediately to DELCORA customers. But in the long run, once the Trust is exhausted, that higher rate base results in a steep increase in

⁴⁷ See Response of DELCORA to COUNTY V-1 Attachment 1.

revenue requirements and therefore higher rates to DELCORA's customers. Table 6 above shows a higher revenue requirement in each given year than Table 3. The driving factor is a higher rate base to which the WACC return is applied. Table 7 below provides a side-by-side comparison of the revenue requirements under the negotiated sale price and a higher sale price based on the average of the valuations.⁴⁸

Table 7: Revenue Requirements Comparison - Negotiated \$276 million Sale Price w/ Trust vs. Higher \$400 million Sale Price w/ Trust		
Year	Negotiated Sale Price w/ Trust	Higher Sale Price w/ Trust
2020	\$70,978,127	\$70,978,127
2021	\$73,107,471	\$73,107,471
2022	\$75,300,695	\$75,300,695
2023	\$77,559,716	\$77,559,716
2024	\$79,886,508	\$79,886,508
2025	\$82,283,103	\$82,283,103
2026	\$84,751,596	\$84,751,596
2027	\$87,294,144	\$87,294,144
2028	\$118,920,886	\$89,912,968
2029	\$146,208,143	\$154,847,296
2030	\$146,330,696	\$157,651,866
2031	\$147,055,959	\$158,069,450
2032	\$148,975,187	\$159,688,930
2033	\$152,073,517	\$162,496,151
2034	\$155,584,070	\$165,723,207
2035	\$158,960,753	\$168,823,857
2036	\$160,348,040	\$169,943,003
2037	\$161,089,047	\$170,423,039
2038	\$161,581,056	\$170,660,820
2039	\$161,917,331	\$170,750,338
2040	\$162,201,238	\$170,793,960
Total	\$2,612,407,281	\$2,700,946,244
PVRR at 7.37%	\$1,153,212,759	\$1,178,653,971

⁴⁸ See Response of DELCORA to COUNTY V-1 Attachment 1.

1 The PVRR of a higher sale price is \$25 million more than the PVRR of the
2 negotiated sale price.

3 **Q. As an alternative scenario, and based on the premise of a lower DELCORA-**
4 **related rate base being a long-term benefit to customers, did you model**
5 **revenue requirement projections based on a lower sale price?**

6 A. Yes. This is the aforementioned lower sale price scenario. I modeled a scenario
7 where the sale price was only high enough to allow DELCORA to pay off its
8 existing debt. That sale price of \$76 million results in no remaining funds to
9 create a Trust but also generates a much lower rate base addition for the
10 DELCORA system. It is important to note that this is an illustrative scenario and
11 not an endorsement for the reasonableness of a \$76 million purchase price for the
12 DELCORA system. The revenue requirement under this scenario is actually
13 projected to be lower than before the acquisition. It takes about three years for the
14 post-Proposed Transaction to revenue requirement to equal the DELCORA no-
15 sale 2020 revenue requirement.

16 **Q. Is there a downside to the lower sale price scenario?**

17 A. Yes. Although it takes three years for the revenue requirement in this lower sales
18 price scenario to equal the 2020 DELCORA Board-approved revenue requirement
19 there is a subsequent time period where rates are projected to be higher than they
20 would have been after being offset by a contribution from the Trust. Over this
21 period, customers would actually pay higher rates. These comparative higher rates
22 under the lower sale price scenario are short-lived because they only persist

1 throughout the rate stabilization period from the Trust funded under a higher sale
2 price scenario. At the time the Trust expires, the revenue requirement under the
3 higher sale price scenario begins to outpace the revenue requirement under the
4 lower sale price scenario. For example, a negotiated \$276.5 million purchase
5 price is projected to generate a 2029 revenue requirement of \$146 million
6 compared to \$127 million projected revenue requirement under a \$76 million
7 purchase price.

8 Table 8 displays this comparison.⁴⁹

Table 8: Revenue Requirements Comparison - Negotiated Sale Price w/ Trust vs. Lower Sale Price		
Year	Negotiated Sale Price w/ Trust	Lower Sale Price
2020	\$70,978,127	\$61,322,099
2021	\$73,107,471	\$64,624,116
2022	\$75,300,695	\$70,739,857
2023	\$77,559,716	\$77,413,035
2024	\$79,886,508	\$85,102,779
2025	\$82,283,103	\$91,567,395
2026	\$84,751,596	\$106,244,617
2027	\$87,294,144	\$110,768,274
2028	\$118,920,886	\$121,872,953
2029	\$146,208,143	\$127,361,290
2030	\$146,330,696	\$127,996,603
2031	\$147,055,959	\$129,220,744
2032	\$148,975,187	\$131,624,947
2033	\$152,073,517	\$135,195,186
2034	\$155,584,070	\$139,164,836
2035	\$158,960,753	\$142,988,051
2036	\$160,348,040	\$144,809,833
2037	\$161,089,047	\$145,973,531

⁴⁹ See Response of DELCORA to COUNTY V-1 Attachment 1.

2038	\$161,581,056	\$146,876,365
2039	\$161,917,331	\$147,612,975
2040	\$162,201,238	\$148,285,786
Total	\$2,612,407,281	\$2,456,765,272
PVRR	\$1,153,212,759	\$1,102,337,476

1 The PVRR under a lower sale price (\$1,102,337,476) is lower than the negotiated
2 sale price (\$1,153,212,759) and the higher sale price (\$1,178,653,971), but it is
3 still higher than the no sale scenario (\$1,039,447,534).

4 As a result, I conclude that regardless of the sale price, the requirement to recover
5 a return on rate base for Aqua PA's equity shareholders automatically results in a
6 higher necessary revenue requirement than if DELCORA were to borrow at its
7 lower cost of capital consisting exclusively of publicly-backed municipal debt.

8 **Q. How did you confirm that DELCORA's marginal cost of debt to fund its**
9 **long-term capital plan appears to be lower than Aqua PA's cost of debt?**

10 A. I found references to DELCORA's prior debt issuances for sewer revenue bonds
11 at various interest rates over the last several years as low as 4.0 percent,
12 suggesting that DELCORA's embedded cost of debt is comparable to Aqua PA's
13 assumed debt rate of 4.43 percent, if not lower. Additionally, I noted that
14 DELCORA used this same 4 percent interest rate for projected debt in its own rate
15 model for 2020.⁵⁰ With 100 percent debt financing, DELCORA's WACC is by
16 definition also 4.0 percent compared to Aqua PA's higher debt component (4.43
17 percent), which results in a WACC of 7.37 percent when combined with Aqua
18 PA's equity component, as shown in COUNTY V-1 Appendix A, item 2 and
19 reproduced here.

⁵⁰ Response of DELCORA to COUNTY-II-11 Attachment 10.

1

2.) **Rate of Return**

	<u>Ratio</u>	<u>Cost Rate</u>	<u>WACC</u>
Debt	47.15%	4.43%	2.09%
Equity	52.85%	10.00%	5.29%
	100.00%		7.37%

2

3 **E. FINDING 5)**

4 **Q. What is the basis for your conclusion that existing DELCORA customers will**
5 **be subject to higher blended rate base per customer going forward?**

6 A. I recognize that large acquisitions are often driven first by an intent to purchase
7 market share for the benefit of shareholders, and second to realize operating
8 efficiencies. My observations are supported by witness testimony included in the
9 Application and recent guidance provided to shareholders in SEC Form 8-K,
10 discussed in detail in Section II above.

11 **Q. What is the metric used by Aqua PA to demonstrate that the Proposed**
12 **Transaction will allow it to acquire DELCORA customers at a discount?**

13 A. Aqua PA emphasized the fact in testimony that it is able to acquire DELCORA
14 customers at about a third of Aqua PA's existing rate base per customer.

15 **Q. Please explain why the Purchase Price of \$276.5 million, the Proposed**
16 **Transaction, has been undervalued.**

17 A. My view that this purchase price undervalues the worth of the DELCORA system
18 is illustrated directly by Aqua PA in its filing. The Company acknowledges the
19 low cost as offering "economies of scale" to the combined entity and makes its
20 case for the acquisition by comparing the rate base per customer for both Aqua
21 PA and DELCORA:

1 The Company's current rate base per customer for its
2 existing systems included in its most recent rate case is \$7,750. As
3 calculated above, the approximate purchase price per connection of
4 DELCORA's retail customers is \$2,250. Therefore, the Company is
5 acquiring these customers at less rate base per customer than its existing
6 systems, which indicates there are economies of scale that will be realized
7 from this Proposed Transaction.⁵¹

8 The observation that economies of scale exist usually refers to the opportunity to
9 lower per unit costs by spreading costs over a larger customer base. While this
10 acquisition includes a mechanism to hold increases in revenue requirements to 3
11 percent per year for a period of time, because rate base is certain to increase over
12 time due to Aqua PA's capital investment plan, an increasing rate path is
13 inevitable.

14 **Q. Does Aqua PA acknowledge that this transaction will lead to rate increases**
15 **for Aqua PA customers?**

16 A. Yes, Aqua PA acknowledges that

17 "While the rates of the DELCORA customers are reasonably
18 expected to increase, either on their own, or whether acquired by the
19 Company, when part of Aqua, there is more flexibility and opportunity to
20 deal with those impacts over a much larger customer base."⁵²

⁵¹ Aqua Statement No. 2 at 12:14-19.

⁵² Aqua Statement No. 2 at 12:11-14.

1 **Q. Please describe the risks associated with the difference in rate base per**
2 **customer and the Company's acknowledgement of economies of scale.**

3 A. Aqua PA has acknowledged that this Proposed Transaction likely will have an
4 impact on rates for a couple of reasons. First of all, at some point in the future,
5 Aqua PA may be allowed to impose a DSIC surcharge on the acquired customers,
6 whether DELCORA is operated as a separate division or not. Second, it is
7 possible that Aqua PA could reprioritize DELCORA's long-term capital
8 investment plan in a way that would accelerate capital investment and bring costs
9 forward, resulting in a revenue deficiency that must be offset by a rate increase
10 earlier than planned.

11 **Q. Are there any features associated with the Proposed Transaction that are**
12 **intended to mitigate an increasing rate path besides the establishment of the**
13 **Trust as explained earlier in your testimony?**

14 A. Yes, there are two features associated with this Application that appear intended
15 to mitigate an increasing rate path.
16 The first feature is the establishment of a Trust as described earlier, whose terms
17 are described in a separate agreement signed by both parties. The terms of the
18 Trust Agreement call for the Trust to be funded with net proceeds from the
19 Purchase Price after retiring DELCORA's existing debt. The same agreement
20 would enable disbursements from the Trust in amounts intended to help stabilize
21 revenue to avoid a deficiency leading to a rate increase of greater than 3 percent,
22 compounded annually.

1 However, a second feature of the Application is the opportunity for Aqua PA to
2 use Act 11⁵³ to shift costs of wastewater operations, including those of
3 DELCORA, to Aqua PA's water customer base.

4 **Q. Do you agree that these tools ensure that customers benefit from the**
5 **Proposed Transaction?**

6 A. No. My review of the record in this proceeding shows that the ability of either the
7 proposed rate stabilization or reliance on Act 11 revenue reallocations to provide
8 rate benefits for DELCORA customers is at best limited and short-lived. Both of
9 the mechanisms relied upon by Aqua PA to portray purported rate benefits
10 accruing from the transaction are flawed and steeped in uncertainty.

11 1) Although Aqua PA touts the use of Act 11 to reduce rate pressure in certain
12 discovery responses⁵⁴, any future reallocation of Aqua PA's sewer revenue
13 requirements cannot be definitively assumed because such reallocations must
14 be approved by the Commission in a separate proceeding. This is significant
15 because Aqua has not previously sought nor received Commission approval
16 for Act 11 subsidies of the magnitude that would be necessary to bridge the
17 gap between the projected Aqua revenue requirements for DELCORA and the
18 revenue requirements projected under continued DELCORA ownership.
19 Moreover, even if Aqua receives approval to allocate revenue from
20 DELCORA customers to its water customers under Act 11, Aqua fails to

⁵³ See PA PUC Docket No. R-2018-3003068, Aqua Pennsylvania, Inc., 1-A Water and 1-B Wastewater Revenue Requirement Summary, Schedule Act 11 at 1 (showing the amount shifted from wastewater to water customers proposed by the Company).

⁵⁴ Response of Aqua to COUNTY V-1 (d)

1 account for the reality that the vast majority of DELCORA customers are also
2 Aqua water customers and would therefore still pay a portion of the Act 11
3 reallocation through their water bill.

4 2) As for the Trust, as described earlier in this testimony we undertook a
5 thorough analysis of the impact of disbursements from the Trust and found
6 that it is likely to be exhausted by or before 2029, at which time the
7 DELCORA ratepayers will be forced to absorb bill increases up to the tariff
8 rates that had been offset by Trust subsidies up to that point.

9 As previously noted, we expect this differential in rate base per customer to close
10 over time consistent with an expectation for an acceleration in Aqua PA rate
11 increases, rather than the flat 3 percent annual average proffered by Aqua PA. Our
12 expectation is based on three observations made by Aqua PA:

13 1) Aqua PA conceded that the differential in acquisition cost metrics leads to
14 economies of scale that it suggests can benefit existing and acquired
15 customers.⁵⁵

16 2) Aqua PA predicts that future infrastructure investments across the state,
17 driven by normal replacement cycles will be shared at lower incremental
18 cost per customer for all of Aqua PA's customers over time.⁵⁶

19 3) Representations made by Aqua PA regarding its regulatory expertise and
20 favorable rulings across all jurisdictions in which it operates that allows it
21 to share costs following acquisitions.⁵⁷

⁵⁵ Aqua Statement No. 2 at 12:19.

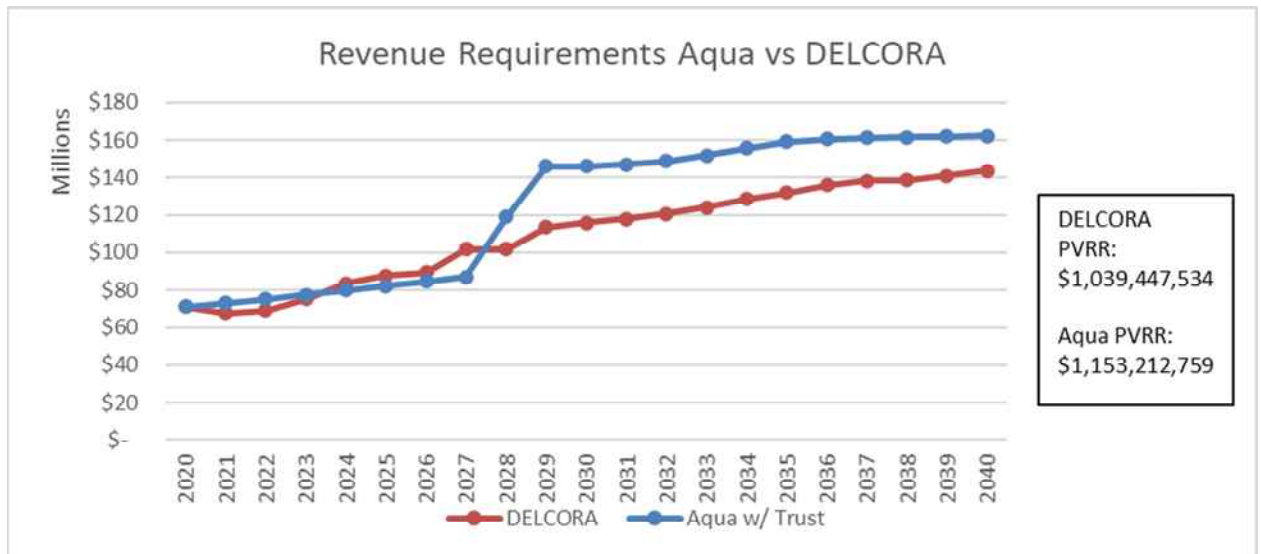
⁵⁶ Aqua Statement No. 2 at 14:14-18.

1 **Q. Please summarize your findings for the Commission**

2 A. I contend that the foregoing mechanisms proposed by the Company to mitigate
3 rate increases do not offer benefits to DELCORA customers sufficient to
4 overcome the higher costs of service under Aqua ownership.

5 The chart below succinctly summarizes my analysis that, based on the record
6 available today, DELCORA customers would be better off in the long term under
7 continued DELCORA ownership. Furthermore, if acquired by Aqua PA, they
8 would be subject to rate shock by 2028 [i.e. where the blue line (Aqua w/ Trust)
9 crosses the red line (DELCORA stand-alone) and remains higher thereafter]

10 **Figure 3 Revenue Requirements Aqua vs DELCORA**



⁵⁷ Essential 2019 Financial Report p. 3 and p. 5.

1 **VI. CONCLUSIONS AND RECOMMENDATIONS**

2 **Q. Please summarize your conclusions.**

3 A. I conclude that the Proposed Transaction does not offer substantial benefits
4 because, as I demonstrated above, DELCORA customers would be better off with
5 DELCORA remaining a stand-alone municipal authority. This is because Aqua
6 PA has higher costs of capital compared to DELCORA and because, aside from a
7 limited upfront savings from the Trust, no quantifiable benefits from operational
8 efficiencies or other incremental benefits under Aqua PA ownership have been
9 established. Indeed, Aqua PA has itself indicated that rates are likely to increase.
10 We conclude that this transaction will primarily benefit Aqua PA shareholders by
11 growing the organization's wastewater footprint and do not believe the
12 Application presents affirmative benefits for other key stakeholder groups,
13 including DELCORA customers.

14 **Q. Please summarize your recommendations to the Commission.**

15 A. I respectfully recommend that the Commission:
16 1) Deny the Application because the Proposed Transaction is expected to cause
17 rate shock due to short term rate subsidization from the Trust and higher
18 revenue requirements due to Aqua PA's higher cost of capital;
19 2) Deny the Application because the Proposed Transaction does not offer
20 affirmative public benefits sufficient to offset the higher revenue
21 requirements; or
22 3) At minimum, adopt the recommendation detailed in the testimony from
23 County Witness Zidek to direct DELCORA to issue a Request for Proposals

1 for sale of the wastewater system in order to provide assurance of an arm's
2 length transaction prior to further consideration of the Application.

3 **Q. Does this conclude your testimony at this time?**

4 A. Yes, at this time it does. However, I reserve the right to amend my testimony
5 should new information become available in this proceeding.

County Exhibit No. SCF-1



Stan Faryniarz, CEP

Principal Consultant

Mr. Faryniarz is a member of Daymark Energy Advisors senior management team, leads the firm's rate design and procurement and portfolio management (PPM) practices, and served for several years on its Board of Directors. He has consulted on power procurement & transactions, economic and rate analyses and strategic matters for a wide variety of energy industry and other clients in New England, the U.S. and Canada, concentrating in particular on public power agencies, industrial clients and regulators. Mr. Faryniarz has an extensive range of skills and experience in economic and financial analyses, contract negotiations, ratemaking and pricing, regulatory, government and consumer relations for utilities, customers and industry groups, economic impact studies and studies for clients undergoing legislative or regulatory scrutiny. He has substantial expertise in the New England, New York & PJM power markets, which has lead to highly successful outcomes for clients for whom various wholesale and retail power procurements and transactions have been conducted. Mr. Faryniarz is the primary advisor to, or manager of, client power supply portfolios totaling almost 300 MW, with combined annual spend approaching \$200 million. Over a 35 year career he has overseen well over \$1 billion in energy transactions. He also specializes in operational and economic analyses for utilities, industrial and aggregated commercial customers, and regulators. Mr. Faryniarz has evaluated, prepared and defended financial proformas, load forecasts, power cost and allocated cost of service analyses, rate design studies and tariffs, integrated resource plans, market studies, special contracts, asset valuations and other components of successful utility and power purchasing programs and operations.

He holds a BA in Economics and M.P.A. (Finance and Managerial Economics concentration) from the University of Vermont, and the Certified Energy Procurement (CEP) Professional designation from the Association of Energy Engineers.

PROFESSIONAL EXPERIENCE

Power Procurement, Transactions, Commerce & Resource Planning

- Lead procurement and portfolio advisor for 21 years to the National Passenger Railroad Corporation (Amtrak) in: utility interconnection issues, rates, special contracts and other rate designs, and retail purchase power procurement and power supply management for an annual \$100 million, 200+ MW portfolio of traction and non-traction accounts in eight states and three northeastern U.S. control areas. Structure and negotiate power procurements and hedging transactions, special contracts, counterparty credit guarantees, rate designs and provide expert testimony, saving Amtrak tens of millions of dollars supplying its electrified Northeast Corridor train and station service, while stabilizing costs.
- Lead procurement and portfolio advisor to the Massachusetts Port Authority on electricity and natural gas energy procurement and management for this industrial operation since 2012. Prepare and assist with managing its \$26 million energy budget, designed and implement its energy hedging plan and strategy, lead its participation in the ISO-NE wholesale marketplace, lead special projects including its energy related environmental policies, assistance with capital budgeting and benefit-cost analyses associated with its Central Heating Plant, advisor to its Real Estate Division on energy related projects associated with Conley Terminal properties.

- Energy advisor to Materials Innovation and Recycling Authority on its waste to energy and jet engine peaking generation units totaling almost 200 MW, advisor on its participation in the ISO-NE wholesale marketplace for its generation assets, lead its energy market price forecasting and revenue projection efforts and its participation in the ISO-NE Forward Capacity Market.
- Advisor to large retail electricity end-users and utilities, ranging from commuter rail providers to defense contractors to small wholesale utilities, on portfolio development, power supply procurement, load forecasting and integrated resource planning (IRP). Oversaw the development of comprehensive time-series and econometric load forecasting models, and developed Monte-Carlo based simulation models to identify preferred portfolio paths for numerous IRPs for public power utilities transitioning their portfolios from fossil-fuel based to renewables and storage technology based.
- Assisted the WI CUB, Wisconsin Power & Light (WPL), WI PSC staff and interested parties in developing hedge position limits, purchasing strategy and protocols for WPL's Risk Management Plan, a confidential guidebook governing electricity and natural gas procurement practices and protocols for this 2,500 MW Wisconsin utility. These services led to modifications to the Risk Management Plan that helped ensure cost-effectiveness was an important criterion in considering the merits of various hedge transactions, in addition to power costs, retail rates and earnings stabilization.
- Advisor to Harvard University for a number of years, a direct ISO-NE wholesale participant supplying Harvard's retail load in Boston and Cambridge, on the economics, portfolio fit and contracts with proposed renewable projects and other resources.
- Power supply manager for Littleton (NH) Water & Light Department since 2004. Manage the ISO-NE participation, load and resources bid submissions, bill verification, annual budget and monthly reporting functions. Assisted in Littleton's becoming a direct ISO-NE wholesale market participant, obtaining an investment grade Moody's credit rating, and identifying and securing long-term, renewables-based resources to supplement its supply portfolio.
- Power supply manager for Washington Electric Cooperative for 11 years, and led its efforts to contract for and develop renewable resources as substantial additions to this system's power supply portfolio. Advised on the power cost resources portfolio management strategy, long-term power cost and transmission budget, rates, power contracts and procurement. Assisted in procuring or developing a number of landfill methane baseload and wind resources, and marketing renewable energy certificates. Assisted WEC with replacement of an expired nuclear entitlement in 2002 and backfilling with renewable-based supply since then for over 30% in total power cost savings (over 50% in total with RECs resales). Was a lead advisor and figured prominently in the successful regulatory approvals and receipt of close to \$10 million in low-cost debt financing for development of a substantial and growing 8.0 MW landfill methane project, one of only 2 new sizeable baseload power projects developed in Vermont in the last decade. Primary author of its strategic 20-year Integrated Resource Plans.
- A lead advisor to Vermont Electric Cooperative, which was successful in more than doubling its size via acquisition of a larger Vermont IOU system. Provided expert testimony to the Vermont Public Service Board on associated valuation matters, including forecast market prices and costs for the combined system's net short position, and the decrement to value of a substantial partial-contract disallowance of one of the IOU system's major supply contracts. Simultaneously advised this utility on successfully procuring power supply to meet a 50% net short position following its acquisition of the IOU system. A lead author of its six most recent strategic 20-year Integrated Resource Plans.
- An advisor to numerous of financial organizations and utilities on proforma development, value and financing requirements of numerous renewable energy projects including hydro, landfill methane, biomass and wind projects.

- An advisor to numerous renewable (hydro, landfill methane, biomass and wind) project developers on financial modeling, contractual provisions and control area export and import commerce issues for developers of New England projects and New York State projects selling into New England.
- Prepared feasibility studies and, in one case, a subsequent business plan, for Harvard University, Southeastern Pennsylvania Transit Authority, and several Chambers of Commerce in Vermont and Rhode Island on creation of alternative commercial and industrial sector aggregation programs and power purchase models.
- Prepared, defended and achieved regulatory approval for numerous integrated resource plans (IRPs) for municipal electric and cooperative utilities in Vermont, pursuant to Public Service Board regulations and Vermont 20-Year Electric Plan guidelines.
- In a Block Island Power Company rate case (RI PUC Docket 3655), prepared testimony that showed how rates and demand response could be integrated, together with appropriate system planning, to forestall the need for significant investment in additional diesel generation on Block Island, New Shoreham, RI.

Financial & Valuation

- For minority shareholders in a 96 MW Connecticut oil and gas-fired peaking unit, led a team that valued their interest in the facility, to support their position in a litigated civil proceeding with the majority shareholders.
- For Amtrak, recently valued the project and advised on the commitment by Amtrak of over \$20 million in capital improvements to repower a strategic merchant hydro generation asset used by Amtrak to power its Northeast Corridor (NEC) intercity high speed rail operations, in a transaction that secured a discounted price, long-term PPA. Prepared a project finance-based, benefit-cost model associated with the potential purchase of an eastern Pennsylvania substation and transmission power lines to Maryland, from two utilities to whom Amtrak pays for transmission under their respective OATTs. These models were used to develop break-even maximum purchase price limits to offer the utilities for those assets. Assisted Amtrak more recently with negotiations and ultimately a condemnation, and serving as its current expert witness on litigation before either the Pennsylvania PUC or FERC involving a substantial substation/transmission asset required to anchor its most critical south end generation resource.
- For Littleton (NH) Water & Light Department, currently advising the utility on the economic benefits of a proposed looped transmission infrastructure project creating a redundant feed for the town. This analysis is ongoing, and will lead to a financial proforma to develop and support the bond financing for this multi million dollar upgrade. Advised on how then-current forward market energy and capacity prices affected the value of a TransCanada hydroelectric station in a property tax dispute between TransCanada Hydro Northeast and the Town of Littleton, in Grafton County Superior Court.
- For Penn Warehousing Inc., oversaw development of a project pro-forma to analyze the economics of installing a gas-fired 1 MW microturbine cogeneration project to meet produce storage, steam-for-cooling and electricity requirements. In a similar fashion, oversaw analysis of a potential community-scale wind project at the site.
- Provided valuations to private capital firms and Penobscot River Restoration Trust on various northern New England hydro facilities and other renewable power projects.
- Sponsored valuations and expert testimony involving a NASDAQ-traded energy company, an investor-owned transmission utility and consumer-owned electric utilities in Maine and Vermont.
- For the Delaware County Electric Cooperative and Steuben Rural Electric Cooperatives, assisted with development of cash flow based financial pro-formas and analysis of offtake options in order

to maximize net revenues for LFG generation projects then under development by these two cooperative utilities in upstate New York. The analysis explored a range of offtake options which maximized project value and finance capability, including sales to the local IOU distribution utility, specific nearby customers or wheeling to New England in order to market project renewable energy certificates.

- For the Cape Light Compact, prepared analysis of ISO-NE financial assurance exposure associated with various power supply configurations (bilateral contracts vs spot market) for serving an approximately 20 MW load on Cape Cod. This analysis supported minimizing spot market price exposure and creating instead a high hedge fraction through bilateral contracts.
- For Washington Electric Cooperative, advised WEC on development, regulatory and proforma economic support, and associated agreements to construct a now 8 MW landfill gas generating plant (the Coventry LFG Project), including eventual expansions. Assisted WEC with development of the long-term PPA with its subsidiary, the Coventry Clean Energy Corporation. Developed the cash flow pro-forma and provided expert analysis and testimony in support of WEC's successful receipt of over \$10 million in federal project financing for the Coventry Project, as well as federal and state regulatory and siting approvals.
- For Montague Energy, oversaw preparation of a financial pro-forma to support the resurrection of a mothballed 20 MW coal-fired power plant in central Massachusetts, based on grid electricity production, and steam sales to a neighboring manufacturer, as well as pursuit of \$3.7 million in project financing.
- For the Northeast Solid Waste Committee (NESWC), assisted with protection of its investment in a Power Purchase Agreement (PPA) with an offtaker counterparty entering bankruptcy. Provided an assessment of the going-forward market value of the plant's output over the remaining 13 months of the PPA to inform the NESWC member towns of the potential benefits of termination, and selling the station's output at then-current market-based prices.
- For the Massachusetts Technology Collaborative, provided a pro-forma project finance valuation opinion and assisted with negotiations for a successful long-term RECs supply contract with the MTC for production from the Ameresco Chicopee landfill-gas project.
- For the Massachusetts Technology Collaborative, evaluated the economic and non-economic features of various renewable energy project proposals, for selection of some for long-term RECs supply contracts to the MTC under the MGPP program. Evaluated over 15 different large-scale renewable energy projects (wind, hydroelectric, landfill gas and biomass) during two rounds of MGPP solicitations.
- For different private venture capital firms, prepared valuations of specific hydro generation units in Maine to support merchant operator's purchase decisions as New England power markets were restructuring.
- Developed pro-forma and bottom-up capital cost models for determining estimates of the busbar cost of power from generic new combined cycle and combustion turbine generation assets, to support valuations made by the firm in stranded cost and market deregulation proceedings in various northeastern U.S. states.
- Developed a cross-sectional regression model based on publicly-available information on domestic utility generation asset sales, which provided statistically-significant estimates of the value of various natural gas, oil, coal-fired and nuclear stations baseload generation plant, combustion turbine peakers, and run-of-river and pondable hydro units. This work supported valuations made by the firm in stranded cost and property-tax proceedings throughout the U.S.

- For the Arkansas Public Service Commission Staff, prepared valuations of over \$1 billion of generation assets for determinations of Entergy Arkansas Inc. stranded cost position as Arkansas was considering deregulation of its power markets.
- In a proceeding on behalf of the Ohio Consumers Counsel (OCC), prepared stranded cost valuations of utility generation assets and purchased power contracts for support in developing policies regarding recovery of those costs as the state restructured its power markets.
- In a Bennington Vermont Family Court civil matter, prepared and sponsored Plaintiff testimony in a valuation of Environmental Power Corporation, a NASDAQ-traded generation company comprised of 3 domestic U.S. natural gas-fired cogeneration power projects and others in development.
- For the Vermont Department of Public Service, prepared a valuation opinion and delivered testimony before a joint session of the Senate Finance and House Commerce Committees of the Vermont General Assembly, on the value of the Vermont Electric Power Company (VELCO), the transmission utility for the State of Vermont.

Cost Allocation & Rate Design

- For Amtrak, reviewed the Baltimore Gas & Electric 2020 multi-year plan (MYP) rate filing, made recommendations for rates parity and sponsored expert witness testimony supporting rate reform to Schedule T (transmission level service customers distribution rate) and other retail rates.
- For the Georgia Public Service Commission Staff, reviewed, made recommendations, and sponsored expert witness testimony concerning Georgia Power Company plans for retail rate modernization and tariff reform in Docket 42516.
- For the New Hampshire Public Utilities Commission Staff, led a team that advised on the going-forward New Hampshire Net Energy Metering (NEM) program and tariff design; served as expert witness for the NH PUC Staff in Docket DE 16-576.
- Assisted the Manitoba Public Utilities Board (PUB) with a comprehensive review of and report on the most recently filed Manitoba Hydro cost of service study (COSS) and rate design.
- Led a team on behalf of the Kauai (HI) Island Utility Cooperative (KIUC), in developing an LED streetlight tariff (Transmittal 2015-03, approved), and a statutorily-driven Community-Based Renewable Energy (CBRE) tariff (approval pending, Docket 2015-0382). Presently overseeing a team preparing a rate case and a comprehensive rate redesign intended to help KIUC integrate and fairly compensate significant distributed energy resources (DER, mostly customer-sited solar) into its system, scheduled to be filed in 2020. Assisted KIUC with participation on rate design issues in a statewide HI PUC proceeding on further integration of DER into the Hawaii island grids (Docket 2014-0192).
- For the Stowe (VT) Electric Department, led a team that prepared a load research study compiled from smart meter data, developed custom cost allocators using this load research, prepared a comprehensive allocated cost of service study (ACOSS) reflecting customer class consolidation, and a voluntary seasonal time-of-use (TOU) and critical peak pricing (CPP) rate design. Offered supporting testimony before the Vermont Public Service Board (Docket 8463) and gained approval from the VT Department of Public Service (DPS) and PSB without changes.
- Lead a team on behalf of Norwich (CT) Public Utilities that conducted an independent analysis of the rates proposed by the Sewer Authority of the City of Norwich in response to a civil suit by two of its customers (Docket KNL-CV-12-6013751-S, Superior Court Judicial District of New London), and prepared a report and draft expert testimony for presentation on behalf of the defendant, Norwich Public Utilities.

- Testified before the Utah Public Service Commission in Dockets 13-035-184 & 14-035-114, on behalf of the Utah Division of Public Utilities (DPU), regarding the rate design and implementation proposals, and a proposal for a new net metering charge, sponsored by Rocky Mountain Power.
- Prepared and sponsored in testimony over a dozen cost of service, cost allocation, rate design, special contracts, and three demand elasticity studies for numerous electric and water companies in Maine, New Hampshire, Pennsylvania, Rhode Island and Vermont.
- For Amtrak, developed special contracts and tariffs across 3 service territories from Connecticut Light & Power to Narragansett Electric Company (RI PUC Docket 2867) to Boston Edison Company when Amtrak electrified its north end high speed rail system, which reflected the unique characteristics of Amtrak's high-speed train loads. More recently, negotiated appropriately-priced special contracts in the Baltimore Gas & Electric territory for distributed generation dedicated to serving Amtrak. Advised Amtrak with a now-expired load retention special contract, and assisted with negotiations with Philadelphia Electric Company on preservation of conjunctive demand billing for Amtrak traction power deliveries which led to a stipulated settlement. Currently assisting Amtrak with a PA PUC complaint based on a pancaked transmission tariff arrangement Amtrak is under in PJM.
- For Washington (VT) Electric Cooperative (VT PSB Dockets 7427 & 7575); completed, successfully defended and obtained Public Service Board approval for a contested long-term marginal cost-based rate design. Prepared for filing Open Access Distribution and Transmission Tariffs applicable to distributed generation and renewable power projects.
- For the Vermont Public Power Supply Authority, led a team that trained its in-house rate analysts using proprietary Daymark Energy Advisors cost allocation, billing curve and rate design models. Assisted VPPSA with preparation for filing of an embedded cost allocation and marginal cost-based rate design involving several of its systems. These have included a unique special contract design for a ski area that encourages minimization of demand during system coincident peak conditions, a design for one system which recognizes the requirement to integrate output from a hydro station approximately equivalent to the load for the entire system, and an electric vehicle charging rate.
- For Littleton (NH) and Woodsville (NH) Water & Light Departments, assisted with proforma rate decreases occasioned by more economic power supply arrangements we arranged, and reviewed and made recommendations on and developed its allocated cost of service studies and rate redesigns.
- For the Town of New Shoreham (RI), in a Block Island Power Company rate case (RI PUC Docket 3655), prepared testimony that showed how rates and demand response could be integrated, together with appropriate system planning, to forestall the need for significant investment in additional diesel generation on Block Island.
- For Belmont (MA) Municipal Electric Department, oversaw first draft time-of-use and seasonal cost allocation study and rate design, which led to eventual seasonal rates for all customers, and inclining block rates for residential customers. Advised the Municipal Light Advisory Board on various time-of-use rate designs, including critical peak pricing (CPP) and real-time pricing (RTP) approaches.
- For Bar Harbor (ME) Water Company, prepared an allocated cost of service study and rate design that phases from declining block to uniform volumetric rates and reduced allowances for year-round and seasonal customer classes.
- For a large industrial customer intervener in an Aqua Maine Water Company rate case (Maine PUC Docket 2010-72), reviewed company workpapers and testimony, and supported successful negotiations that led to modifications in the Aqua Maine design to more fairly reflect the capacity costs of serving that largest customer on the system, without having to produce prefiled testimony.
- For the Pennsylvania Office of Consumer Advocate (York Water Company v Pennsylvania PUC, Dockets R-00016236 & R-00016236C0001-C0006), filed testimony supporting changes to the York

Water Company excess capacity allocations to reflect a more equitable revenue requirement responsibility for and better price signals to the residential class.

EMPLOYMENT HISTORY

Daymark Energy Advisors (formerly La Capra Associates, Inc.) <i>Principal Consultant</i> <i>Managing Consultant</i> <i>Senior Consultant</i>	Boston, MA 2015 – Present 2008 – 2014 1999 - 2007
Decisions Economics LLC <i>President and Consultant</i>	Underhill, VT 1994 – 1999
Weil & Howe, Inc. <i>Consultant</i>	Augusta, ME 1990 – 1999
Vermont Department of Public Service <i>Special Counsel for Financial Analysis</i>	Montpelier, VT 1986 – 1990

EDUCATION

Association of Energy Engineers <i>Certified Energy Procurement (CEP) Professional</i>	Atlanta, GA 2008
University of Vermont <i>Masters in Public Administration with extensive M.B.A. curriculum in Finance, Managerial Economics</i>	Burlington, VT 1986
Michigan State University <i>NARUC Graduate Studies Program in Regulatory Economics</i>	East Lansing, MI 1986
University of Vermont <i>B.A. in Economics, Cum Laude with Departmental Honors Omicron Delta Epsilon, International Economics Honor Society</i>	Burlington, VT 1982

CERTIFICATES, TESTIMONY & RECENT PRESENTATIONS

Certificates

Certified Energy Procurement (CEP) Professional, Association of Energy Engineers, Atlanta, GA | 2008

Expert Testimony

FORUM	ON BEHALF OF	MATTER
Maryland Public Service Commission	National Railroad Passenger Corporation (Amtrak)	Case No. 9645 Application of Baltimore Gas and Electric Company for an Electric and Gas Multi-Year Plan

FORUM	ON BEHALF OF	MATTER
Georgia Public Service Commission	Georgia PSC Public Interest Advocacy Staff	Docket No. 42516 In the Matter of Georgia Power Company's 2019 Rate Case
Vermont Public Utility Commission	Town of Stowe Electric Department	Petition of Town of Stowe Electric Department pursuant to 30 V.S.A §§ 225 and 227(a) for a 7.9% rate increase to take effect on a service-rendered basis August 15, 2018 Case No. 18-2372-TF. June 2018.
Public Service Commission of Utah	Utah Division of Public Utilities	Investigation of the costs and benefits of PacifiCorp's net metering program, which addressed allocated cost of service, rate design, and net energy metering rate design Docket No. 14-035-114. July 2017
New Hampshire Public Utilities Commission	New Hampshire Public Utilities Commission Staff	Development of new alternative net metering tariffs and/or other regulatory mechanisms and tariffs for customer-generators (net energy metering, rate design) Docket No. DE 16-576. December 2016, January 2017, and March 2017.
Public Service Commission of Utah	Utah Division of Public Utilities	Application of Rocky Mountain Power for authority to increase its retail electric utility service rates in Utah and for approval of its proposed electric service schedules and electric service regulations Docket No. 13-035-184. May, June, and July 2014.
Pennsylvania Public Utility Commission	National Railroad Passenger Corporation (Amtrak)	Pennsylvania Public Utility Commission vs. PPL Electric Utilities Corporation Docket No. R-2015-2469275
Pennsylvania Public Utility Commission	National Railroad Passenger Corporation (Amtrak)	Petition of PPL Electric Utilities Corporation for waiver of the distribution system improvement charge cap of 5% of billed revenues Docket No. P-2015-2474714
Rhode Island Public Utilities Commission	Town of New Shoreham	Block Island Power Company request for a rate change application Docket No. 3655
Rhode Island Public Utilities Commission	National Railroad Passenger Corporation (Amtrak)	Narragansett Electric Company's proposal to introduce two new companion generic tariffs to its existing tariffs relating to High Voltage Delivery Service. Docket No. 2867
Public Service Commission of Utah	Utah Division of Public Utilities	Application of Rocky Mountain Power for authority to increase its retail electric utility service rates in Utah and for approval of its proposed electric service schedules and electric service regulations
Vermont Public Service Board (now Vermont Public Utility Commission)	Town of Stowe Electric Department	Petition for approval of the company's 2015 rate design and tariff amendments (rate design) Docket No. 8463
Vermont Public Service Board	Washington Electric Cooperative	Petition for approval of rate design changes and a change in rate schedules pursuant to 30 V.S.A. § 225

FORUM	ON BEHALF OF	MATTER
		(rate design) Docket No. 7575
Vermont Public Service Board	Washington Electric Cooperative	Petition for: (1) a Certificate of Public Good pursuant to 30 V.S.A. § 248(j) authorizing the Second Coventry Project Expansion; and (2) approval of Washington Electric Cooperatives' promissory note to the Rural Utilities Service pursuant to 30 V.S.A. § 108 to finance the Second Coventry Project Expansion. (Certificate of Public Good) Docket No. 7455
Vermont Public Service Board	Washington Electric Cooperative	Petition for: (1) a Certificate of Public Good pursuant to 30 V.S.A. § 248(j) authorizing the First Coventry Project Expansion; and (2) approval of Washington Electric Cooperatives' promissory note to the National Rural Utilities Cooperative Finance Corporation (CFC) pursuant to 30 V.S.A. § 108 to finance the Coventry Project Expansion (IRP, Certificate of Public Good) Dockets No. 6896 & 7432
Vermont Public Service Board	Washington Electric Cooperative Coventry Clean Energy Corporation	Joint petition for: (1) a certificate of public good authorizing Coventry Clean Energy Corporation to operate as a corporation that generates and transmits electricity; (2) authorization for Washington Electric Cooperative to have a 100% ownership interest in Coventry Clean Energy Corporation; (3) approval for Coventry Clean Energy Corporation to sell all its generation to Washington Electric Cooperative; (4) approval of Washington Electric Cooperative's promissory note to the Rural Utilities Service; and (5) approval of Coventry Clean Energy Corporation's promissory note to Washington Electric Cooperative (Certificate of Public Good) Docket No. 6925
Vermont Public Service Board	Washington Electric Cooperative, Inc. Vermont Electric Power Company, Inc. Citizens Communications Corporation Vermont Electric Cooperative, Inc.	Joint petition for a Certificate of Public Good pursuant to 30 V.S.A. § 248 authorizing: (1) Washington Electric Cooperative to construct an electric generation station in Coventry, Vermont; (2) Washington Electric Cooperative and Vermont Electric Power Company to make improvements to the Irasburg substation; (3) Washington Electric Cooperative, Vermont Electric Cooperative, and Citizens Communications Corporation to construct 46 kV transmission lines in Coventry and Irasburg, Vermont, including provisions for distribution system construction by Citizens Communications Corporation and Vermont Electric Cooperative (Certificate of Public Good) Docket No. 6924
Vermont Public Service Board	Vermont Electric Cooperative, Inc. and Citizens Communications Company	Joint petition for transfer of assets and transfer and assignment of Hydro-Québec contracts (merger, load forecast, power supply contract disallowance) Docket Nos. 6850 & 6853

FORUM	ON BEHALF OF	MATTER
Vermont Public Service Board	Washington Electric Cooperative	Investigation into the tariff filing of Washington Electric Cooperative re: proposed rate design changes Docket No. 6328
Vermont Public Service Board	Washington Electric Cooperative	Investigation into the tariff filing of Washington Electric Cooperative for a 3.8% rate increase Docket No. 6315
Maryland Public Service Commission	National Railroad Passenger Corporation (Amtrak)	Phase II in the matter of the current and future financial condition of Baltimore Gas and Electric Company (merger) Case No. 9173. August 2009.
Pennsylvania Public Utility Commission	National Railroad Passenger Corporation (Amtrak)	Petition of the PPL Electric Utilities Corporation for approval of a default service program and procurement plan for the period January 1, 2011 through May 31, 2014 Docket No. P-2008-2060309
Pennsylvania Public Utility Commission	National Railroad Passenger Corporation (Amtrak)	Application of Safe Harbor Water Power Corporation pursuant to Section 1102(a)(2) of the Pennsylvania Public Utility Code authorizing Safe Harbor Water Power Corporation to abandon public service authorized by a Certificate of Public Convenience Docket A-2008-2078319
Pennsylvania Public Utility Commission	Pennsylvania Office of Consumer Advocate	York Water Company vs. Pennsylvania PUC (rate case, rate design) Dockets R-00016236 & R-00016236C0001-C0006
Maine Public Utilities Commission	Camden & Rockland Water Company et al	Petition for a proposed increase in rates and rate design Docket No. 93-145
Nova Scotia Utility and Review Board	Small power project developer	Investigation into non-utility generation resources and U.S. PURPA Qualifying Facility policies
Vermont Public Service Board	Vermont Department of Public Service	Investigation into the tariff filing for VPX Inc. (rate case) Docket No. 5411
Vermont Public Service Board	Vermont Department of Public Service	Review of Bonneville Pacific Corporation's proposed cogeneration facility Docket Nos. 5395 & 5401
Vermont Public Service Board	Vermont Department of Public Service	Investigation into fee schedules for VPX Inc. (rate case) Docket No. 5298
Vermont Public Service Board	Vermont Department of Public Service	Investigation into least cost investments, energy efficiency, conservation and management of the demand for energy (IRP) Docket No. 5270
Vermont Public Service Board	Vermont Department of Public Service	Petition of Great Falls Hydroelectric for 30-year levelized rates pursuant to Rule 4.100 (PURPA QF) Docket No. 5233
Vermont Public Service Board	Vermont Department of Public Service	Petition of Vermont Department of Public Service requesting deletion of the decremental pricing provision contained in the contract between VPX Inc.

FORUM	ON BEHALF OF	MATTER
		and Missisquoi Associates approved in Docket 5106 (PURPA QF) Docket No. 5193
Vermont Public Service Board	Vermont Department of Public Service	Petition of First Energy Associates vs. VPX Inc. re: Decker Energy Letter of Intent with VPX (PURPA QF) Docket No. 5181
Vermont Public Service Board	Vermont Department of Public Service	Petition of East Georgia Cogeneration re: approval of levelized rates pursuant to Rule 4.100 and issuance of a Certificate of Public Good pursuant to 30 V.S.A. §§ 248 (PURPA QF) Docket No. 5179
Vermont Public Service Board	Vermont Department of Public Service	Rule 4.100, Small Power Production Rates filed by the Vermont Department of Public Service (PURPA QF; avoided costs) Docket No. 5177
Vermont Public Service Board	Vermont Department of Public Service	Petition of Comtu Falls Hydro for Long-term Levelized Rates pursuant to Rule 4.100 (PURPA QF) Docket No. 5168
Vermont Public Service Board	Vermont Department of Public Service	Agreement for sale of electricity between VPX Inc. and Vermont Marble Power Company pursuant to Rule 4.100 (PURPA QF) Docket No. 5109
Vermont Public Service Board	Vermont Department of Public Service	Petition of Bio-Energy Corporation for 30-year power sales contract pursuant to Rule 4.100 (PURPA QF) Docket No. 4964
Vermont Public Service Board	Vermont Department of Public Service	Petition of Emerson Falls Hydroelectric for 30-year power sales contract pursuant to Rule 4.100 (PURPA QF) Docket No. 4949
Bennington Vermont Family Court	Judith Livingston	Livingston vs. Livingston, Valuation of Environmental Power Corporation for Plaintiff (Valuation) Docket No. F182-6-93BnDmd
Joint Hearing of the Vermont House Commerce and Senate Finance Committee	Vermont Department of Public Service	1987, Valuation of the Vermont Electric Power Company (VELCO) (Valuation)

Recent Invited Speaker, Papers & Conference Presentations

- *Electric Vehicles: The Revolution Power by the Electricity Industry*, Renewable Energy Vermont, Burlington, VT, October 2019.
- *Quarterly Presentation to Amtrak Commuter Rail Agency Partners on the State of the Wholesale Energy Markets (Natural Gas, Electricity) in the mid-Atlantic region, 2012-2020.*
- *Modern Rate Design and Iowa Net Energy Metering Legislation*, Iowa Industrial Energy Group, Johnston, IA, April 2020.
- *Modernizing with transactive energy and block chain*, panel moderator, Renewable Energy Vermont, Burlington, VT, October 2018.
- *A review of energy storage at a Hawaiian utility*, PowerGen International, Las Vegas, NV, December 2017.
- *A review of distributed energy resource policymaking in three states*, presented at PowerGen International, Las Vegas, NV, December 2017.
- *Utilities of the Future: rate design and regulation for total energy transformation*, presented at Renewable Energy Vermont, Burlington, VT, October 2017.
- *Electric Vehicle Rate Design*, Kauai Energy Conference, Lihue, HI, May 2017.

County Exhibit No. SCF-2

Respondent: John Pileggi
Date: 7/24/2020

APPLICATION OF AQUA PENNSYLVANIA WASTEWATER, INC.

DOCKET NO. A-2019-3015173

OFFICE OF CONSUMER ADVOCATE

SET I INTERROGATORIES DIRECTED TO DELCORA

OCA-I-43 What is the number of DELCORA wastewater utility customers by year, by type of customer, for ten years through December 31, 2019?

RESPONSE:

Delcora # Of Customers												
			2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Retail												
Chester			10,605	10,566	10,541	10,650	10,027	10,111	9,719	9,778	9,897	9,929
Parkside			754	753	753	753	753	745	741	745	750	752
Upland			1,265	1,266	1,266	1,266	1,240	1,237	1,218	1,218	1,235	1,241
Chester Township			649	640	585	582	659	642	635	631	640	643
Trainer			685	685	686	690	660	680	669	677	683	687
Ridley Mills			25	25	25	25	25	25	25	25	25	25
Rose Valley			489	489	489	489	489	489	489	489	489	489
Marcus Hook				871	891	898	867	862	848	849	860	869
Pocopson Riverside			155	155	155	155	155	155	155	155	155	155
Edgmont								606	713	711	717	726
Pocopson Preserve								67	67	67	67	67
Springhill Farms												285
Total Retail			14,627	15,450	15,391	15,508	14,875	15,619	15,279	15,345	15,518	15,868
Retail Industrial			8	7	7	8	8	7	7	7	7	7
EDU Wholesale			2	2	2	2	2	2	2	2	2	2
Western Wholesale			6	5	5	5	6	6	6	6	6	6
Industrial Wholesale			7	6	6	7	7	7	6	6	6	6
Eastern Wholesale			3	3	3	3	3	3	3	3	3	3
Chester Ridley Creek							2	2	2	2	2	2
			26	23	23	25	28	27	26	26	26	26
Total			14,653	15,473	15,414	15,533	14,903	15,646	15,305	15,371	15,544	15,894

Scale Factor	\$1,000,000.00
Scale Factor 2	\$1,000.00

Scale Factor	\$1,000,000.00
Scale Factor 2	\$1,000.00

FULL SYSTEM - PROJECTED ANNUAL REV

Year Ending	Retail	EASTERN SERVICE AREA			Edgemont Breakout (CDCA)	Retail Indus.	Southern Delaware Cty	
		CDCA Total	Darby Creek Total	Muckinipates Total			Wholesale EDU	Auth.
2019	6,052,048	8,693,981	16,476,575	3,806,114	99,981	385,336	1,673,793	2,012,499
2020	6,734,298	10,057,344	19,060,380	4,402,977	115,659	421,792	1,928,926	2,271,431
2021	7,115,639	10,905,026	20,666,881	4,774,081	125,408	443,827	2,085,236	2,456,371
2022	7,637,338	12,170,666	23,065,485	5,328,162	139,963	473,268	2,317,013	2,730,831
2023	8,271,633	13,769,450	26,095,453	6,028,089	158,349	508,664	2,608,967	3,076,672
2024	8,941,834	15,467,584	29,313,706	6,771,511	177,877	546,004	2,918,945	3,443,881
2025	10,124,554	18,715,945	35,469,903	8,193,601	215,233	610,228	3,508,559	4,142,845
2026	10,916,491	20,763,879	39,351,087	9,090,161	238,785	654,076	3,881,840	4,585,125
2027	11,238,084	21,368,828	40,497,569	9,355,000	245,742	673,390	3,995,055	4,718,835
2028	12,177,348	23,843,213	45,186,949	10,438,254	274,197	725,093	4,445,475	5,252,599
2029	12,396,540	24,272,391	46,000,314	10,626,142	279,132	738,145	4,525,493	5,347,146
2030	12,619,678	24,709,294	46,828,320	10,817,413	284,157	751,432	4,606,952	5,443,395
2031	12,846,832	25,154,061	47,671,230	11,012,126	289,272	764,957	4,689,877	5,541,376
2032	13,078,075	25,606,834	48,529,312	11,210,345	294,479	778,727	4,774,295	5,641,121
2033	13,313,481	26,067,757	49,402,839	11,412,131	299,779	792,744	4,860,232	5,742,661
2034	13,553,123	26,536,977	50,292,091	11,617,549	305,175	807,013	4,947,716	5,846,029
2035	13,797,080	27,014,642	50,292,091	11,617,549	310,668	807,013	4,947,716	5,846,029
2036	14,045,427	27,500,906	50,292,091	11,617,549	316,260	807,013	4,947,716	5,846,029
2037	14,298,245	27,500,906	50,292,091	11,617,549	316,260	828,874	4,947,716	5,846,029
2038	14,555,613	27,500,906	50,292,091	11,617,549	316,260	857,152	4,947,716	5,846,029
2039	14,817,614	27,500,906	50,292,091	11,617,549	316,260	878,911	4,947,716	5,846,029
2040	14,963,340	27,500,906	50,584,744	11,685,153	316,260	908,317	5,021,315	5,926,563
2041	15,452,285	27,614,067	52,333,360	12,089,086	317,562	937,662	5,193,939	6,130,444
2042	15,835,286	28,197,177	53,438,453	12,344,364	324,268	961,576	5,305,525	6,261,878
Totals	\$284,781,887	\$528,433,645	\$991,725,105	\$229,090,003	\$6,076,987	\$17,061,212	\$98,027,735	\$115,801,843

REVENUE BY CUSTOMER CLASS (LEAVE PWD)

Other Western Wholesale	Wholesale Industrial	WHOLE INDUSTRIAL BREAKOUT			Southwest Authority	Middletown Township Authority	Non-Flow Based Revenue	Total Revenue
		Kimberly Clark	Monroe Energy	Sunoco				
685,854	8,206,260	4,321,568	136,322	2,872,381	2,819,622	1,911,517	1,819,448	54,643,028
774,098	8,876,159	4,674,349	147,450	3,106,862	3,153,161	2,137,635	1,819,448	61,753,309
837,125	10,572,807	5,327,652	168,058	3,541,087	3,382,468	2,293,090	1,819,448	67,477,405
930,660	11,176,503	5,885,752	185,663	3,912,035	3,715,507	2,518,868	1,819,448	74,023,714
1,048,522	12,505,944	6,585,860	207,748	4,377,370	4,131,369	2,800,795	1,819,448	82,823,354
1,173,666	13,916,677	7,328,778	231,183	4,871,160	4,572,386	3,099,776	1,819,448	92,163,295
1,411,871	16,577,926	8,730,241	275,392	5,802,659	5,396,570	3,658,518	1,819,448	109,845,200
1,562,599	18,273,121	9,622,962	303,552	6,396,016	5,925,238	4,016,920	1,819,448	121,078,769
1,608,167	18,806,836	9,904,026	312,418	6,582,829	6,098,562	4,134,422	1,819,448	124,559,939
1,790,072	20,848,417	10,979,160	346,333	7,297,430	6,733,876	4,565,123	1,819,448	138,100,066
1,822,294	21,223,689	11,176,785	352,567	7,428,783	6,855,086	4,647,296	1,819,448	140,553,117
1,855,095	21,605,715	11,377,967	358,913	7,562,502	6,978,478	4,730,947	1,819,448	143,050,323
1,888,487	21,994,618	11,582,771	365,373	7,698,627	7,104,090	4,816,104	1,819,448	145,592,479
1,922,479	22,390,521	11,791,261	371,950	7,837,202	7,231,964	4,902,794	1,819,448	148,180,393
1,957,084	22,793,551	12,003,503	378,645	7,978,272	7,362,139	4,991,044	1,819,448	150,814,890
1,992,312	23,203,835	12,219,566	385,461	8,121,880	7,494,658	5,080,883	1,819,448	153,496,808
1,992,312	23,203,835	12,219,566	385,461	8,121,880	7,494,658	5,080,883	1,819,448	154,223,923
1,992,312	23,203,835	12,219,566	385,461	8,121,880	7,494,658	5,080,883	1,819,448	154,964,126
1,992,312	23,203,835	12,219,566	385,461	8,121,880	7,494,658	5,080,883	1,819,448	155,238,805
1,992,312	23,203,835	12,219,566	385,461	8,121,880	7,494,658	5,080,883	1,819,448	155,524,451
1,992,312	23,203,835	12,115,802	382,188	8,052,912	7,529,350	5,104,402	1,819,448	155,866,422
2,019,757	23,839,492	12,554,315	396,020	8,344,375	7,798,860	5,287,112	1,819,448	157,671,268
2,089,240	24,652,932	12,982,688	409,533	8,629,098	8,062,911	5,466,121	1,819,448	162,159,056
2,134,032	25,194,836	13,268,064	418,535	8,818,777	8,244,269	5,589,070	1,819,448	165,650,180
\$39,464,971	\$462,679,014	\$243,311,338	\$7,675,147	\$161,719,779	\$150,569,197	\$102,075,971	\$43,666,752	\$3,069,454,322

FULL SYSTEM - PROJECTED ANNUAL REVENUE

Year Ending	Retail	EASTERN SERVICE AREA			Edgemont Breakout (CDCA)	Retail Indus.	Wholesale EDU	Southern Delaware Cty Auth.
		CDCA Total	Darby Creek Total	Muckinipates Total				
2019	6,052,048	8,693,981	16,476,575	3,806,114	99,981	385,336	1,673,793	2,012,499
2020	6,623,699	9,720,593	18,422,180	4,255,552	111,787	416,005	1,868,206	2,199,391
2021	6,894,143	10,230,622	19,388,772	4,478,836	117,652	432,238	1,963,634	2,312,097
2022	7,415,858	11,496,309	21,787,464	5,032,937	132,208	461,680	2,195,420	2,586,567
2023	7,734,197	12,133,080	22,994,253	5,311,707	139,530	480,546	2,313,912	2,726,606
2024	8,022,979	12,669,884	24,011,589	5,546,713	145,704	497,932	2,414,489	2,845,374
2025	8,728,465	14,465,178	27,413,977	6,332,670	166,350	537,187	2,742,099	3,233,486
2026	9,170,992	15,449,241	29,278,942	6,763,480	177,666	562,755	2,923,552	3,448,174
2027	9,439,638	15,892,976	30,119,896	6,957,742	182,769	579,298	3,007,699	3,547,395
2028	10,366,931	18,330,911	34,740,198	8,025,038	210,805	630,376	3,451,546	4,073,362
2029	10,771,338	19,165,217	36,321,350	8,390,287	220,400	654,173	3,606,369	4,256,399
2030	11,062,336	19,642,309	37,225,520	8,599,152	225,887	672,117	3,696,914	4,363,155
2031	12,016,992	22,127,819	41,935,985	9,687,276	254,470	724,864	4,149,735	4,899,710
2032	12,391,144	22,833,189	43,272,782	9,996,078	262,582	747,323	4,281,716	5,055,586
2033	12,692,769	23,304,718	44,166,410	10,202,508	268,004	766,075	4,371,677	5,161,588
2034	13,557,378	25,476,999	48,283,252	11,153,504	292,985	814,370	4,768,450	5,631,581
2035	14,231,167	27,054,468	51,272,824	11,844,100	311,126	852,774	5,058,125	5,974,487
2036	14,534,324	27,489,224	52,096,762	12,034,431	316,126	871,881	5,141,914	6,073,096
2037	15,729,509	30,625,354	58,040,262	13,407,388	352,192	937,755	5,712,952	6,749,774
2038	16,186,743	31,499,505	59,696,927	13,790,081	362,244	965,121	5,876,297	6,942,724
2039	16,516,770	31,970,799	60,590,109	13,996,407	367,664	985,935	5,967,174	7,049,670
2040	17,746,283	35,164,814	66,643,313	15,394,706	404,395	1,053,915	6,549,164	7,739,267
2041	18,381,440	36,532,663	69,235,619	15,993,533	420,126	1,090,909	6,802,059	8,038,384
2042	18,917,445	37,581,638	71,223,605	16,452,761	432,189	1,122,829	6,997,646	8,269,480
Totals	\$285,184,587	\$519,551,491	\$984,638,565	\$227,453,001	\$5,974,842	\$17,243,395	\$97,534,543	\$115,189,851

VALUE BY CUSTOMER CLASS (STAY WITH PWD)

Other Western Wholesale	Wholesale Industrial	WHOLESALE INDUSTRIAL BREAKOUT			Southwest Authority	Middletown Township Authority	Non-Flow Based Revenue	Total Revenue
		Kimberly Clark	Monroe Energy	Sunoco				
685,854	8,206,260	4,321,568	136,322	2,872,381	2,819,622	1,911,517	1,819,448	54,643,028
749,547	8,876,159	4,674,349	147,450	3,106,862	3,070,071	2,081,305	1,819,448	60,213,942
787,957	9,757,970	5,138,727	162,099	3,415,516	3,216,064	2,180,279	1,819,448	63,579,713
881,495	10,633,074	5,599,573	176,636	3,721,823	3,549,115	2,406,065	1,819,448	70,397,639
929,220	11,187,279	5,891,427	185,842	3,915,807	3,727,608	2,527,072	1,819,448	74,024,457
969,696	11,662,157	6,141,507	193,731	4,082,026	3,882,076	2,631,791	1,819,448	77,119,831
1,101,964	13,152,456	6,926,325	218,488	4,603,665	4,347,727	2,947,472	1,819,448	86,988,477
1,175,129	13,990,332	7,367,566	232,407	4,896,941	4,613,893	3,127,915	1,819,448	92,501,519
1,208,943	14,394,133	7,580,215	239,114	5,038,280	4,747,439	3,218,450	1,819,448	95,115,826
1,388,191	16,406,341	8,639,881	272,541	5,742,600	5,373,759	3,643,054	1,819,448	108,459,961
1,450,570	17,127,697	9,019,761	284,524	5,995,091	5,605,140	3,799,915	1,819,448	113,188,303
1,486,952	17,562,664	9,248,822	291,750	6,147,340	5,749,147	3,897,542	1,819,448	116,003,143
1,669,808	19,617,626	10,331,003	325,887	6,866,624	6,389,504	4,331,662	1,819,448	129,624,898
1,722,931	20,239,626	10,658,560	336,219	7,084,339	6,591,438	4,468,559	1,819,448	133,682,402
1,759,056	20,674,793	10,887,727	343,448	7,236,657	6,736,510	4,566,909	1,819,448	136,490,464
1,919,228	22,482,163	11,839,521	373,472	7,869,279	7,302,091	4,950,335	1,819,448	148,451,785
2,036,090	23,811,910	12,539,790	395,562	8,334,721	7,721,794	5,234,866	1,819,448	157,223,180
2,069,696	24,222,562	12,756,047	402,384	8,478,458	7,860,456	5,328,870	1,819,448	159,858,790
2,300,306	26,811,917	14,119,649	445,398	9,384,793	8,666,603	5,875,384	1,819,448	177,028,843
2,366,063	27,580,327	14,524,308	458,163	9,653,754	8,915,594	6,044,184	1,819,448	182,045,258
2,402,509	28,026,013	14,759,014	465,567	9,809,755	9,066,182	6,146,272	1,819,448	184,904,953
2,637,522	30,667,776	16,150,215	509,451	10,734,433	9,889,609	6,704,502	1,819,448	202,414,716
2,739,461	31,839,962	16,767,510	528,924	11,144,725	10,263,504	6,957,978	1,819,448	210,115,086
2,818,217	32,757,282	17,250,588	544,162	11,465,809	10,559,811	7,158,854	1,819,448	216,111,205
\$39,256,405	\$461,688,481	\$243,133,653	\$7,669,542	\$161,601,678	\$150,664,755	\$102,140,752	\$43,666,752	\$3,050,187,420

Scale Factor	\$1,000,000.00
Scale Factor 2	\$1,000.00

Beginning Trust Value	\$217,000,000
Trust Return	2.00%
Desired Rate Increase	3.00%
Year End Conventioned Assumed	

Revenue Requirement Growth Rate

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
	2020	2021	2022	2023	2024	2025	2026	2027
Revenue Requirement		59,818,098	87,939,887	87,939,887	87,939,887	102,415,369	102,415,369	102,415,369
Amount Over Original Revenue Requirement		0	\$28,121,789	\$28,121,789	\$28,121,789	\$42,597,271	\$42,597,271	\$42,597,271
Revenue Requirement - Customer Growth Assumption		59,818,098	61,612,641	63,461,020	65,364,851	67,325,796	69,345,570	71,425,937
Revenue Requirement - Trust Portion		\$0	\$26,327,246	\$24,478,867	\$22,575,036	\$35,089,573	\$33,069,799	\$30,989,432
Revenue Requirement - Additional Needed		0	0	0	0	0	0	0
Total Revenue Requirement		59,818,098	87,939,887	87,939,887	87,939,887	102,415,369	102,415,369	102,415,369
Check		ok	ok	ok	ok	ok	ok	ok
Percentage of Year		100%	100%	100%	100%	100%	100%	100%
Number of Months		12.0	12.0	12.0	12.0	12.0	12.0	12.0

Trust Value - Beginning of Year (BOY)		217,000,000	221,340,000	199,439,554	178,949,478	159,953,431	128,062,927	97,554,387
Interest		4,340,000	4,426,800	3,988,791	3,578,990	3,199,069	2,561,259	1,951,088
Payout from Trust - End of Year (EOY)		0	(26,327,246)	(24,478,867)	(22,575,036)	(35,089,573)	(33,069,799)	(30,989,432)
Trust Value - EOY	217,000,000	\$221,340,000	\$199,439,554	\$178,949,478	\$159,953,431	\$128,062,927	\$97,554,387	\$68,516,042
Trust Life Check		Yes	Yes	Yes	Yes	Yes	Yes	Yes

	2022	2023	2024	2025	2026	2027
Customer Bill Paid	\$2.59	\$2.67	\$2.75	\$2.83	\$2.91	\$3.00
Blended Bill		\$2.67	\$2.75	\$2.83	\$2.91	\$3.00
		3.0%	3.0%	3.0%	3.0%	3.0%
Customer Bill Calculations	\$26,327,246	\$50,806,113	\$73,381,149	\$108,470,722	\$141,540,521	\$172,529,953

	Actual Year (Year End)	Year for chart Year Beginning	Leave PWD	Stay With PWD	Aqua Rates (Actual, No SF)	Aqua Rates (Annual Increase Factor)	Aqua Rates (Annual Increase Factor)
Rate Case Rate Increases		12/31/2020	1/1/2020	\$2.51	\$2.43	\$2.51	\$2.51
		12/31/2021	1/1/2021	\$2.73	\$2.56	\$2.51	\$2.51
Rate Case	47.01218%	12/31/2022	1/1/2022	\$3.04	\$2.87	\$2.59	\$2.59
		12/31/2023	1/1/2023	\$3.44	\$3.03	\$2.67	\$2.67
		12/31/2024	1/1/2024	\$3.87	\$3.17	\$2.75	\$2.75
Rate Case	16.46066%	12/31/2025	1/1/2025	\$4.68	\$3.62	\$2.83	\$2.83
		12/31/2026	1/1/2026	\$5.19	\$3.86	\$2.91	\$2.91
		12/31/2027	1/1/2027	\$5.34	\$3.97	\$3.00	\$3.00
Rate Case	24.16052%	12/31/2028	1/1/2028	\$5.96	\$4.58	\$3.09	\$3.09
		12/31/2029	1/1/2029	\$6.07	\$4.79	\$3.19	\$4.66
		12/31/2030	1/1/2030	\$6.18	\$4.91	\$3.28	\$5.34
Rate Case	2.00000%	12/31/2031	1/1/2031	\$6.29	\$5.53	\$3.38	\$5.45
		12/31/2032	1/1/2032	\$6.40	\$5.71	\$3.48	\$5.45
		12/31/2033	1/1/2033	\$6.52	\$5.83	\$3.58	\$5.45
Rate Case	2.00000%	12/31/2034	1/1/2034	\$6.63	\$6.37	\$3.69	\$5.56
		12/31/2035	1/1/2035	\$6.75	\$6.76	\$3.80	\$5.56
		12/31/2036	1/1/2036	\$6.88	\$6.87	\$3.92	\$5.56
Rate Case	2.00000%	12/31/2037	1/1/2037	\$6.88	\$7.66	\$4.03	\$5.67
		12/31/2038	1/1/2038	\$6.88	\$7.87	\$4.16	\$5.67
		12/31/2039	1/1/2039	\$6.88	\$7.99	\$4.28	\$5.67

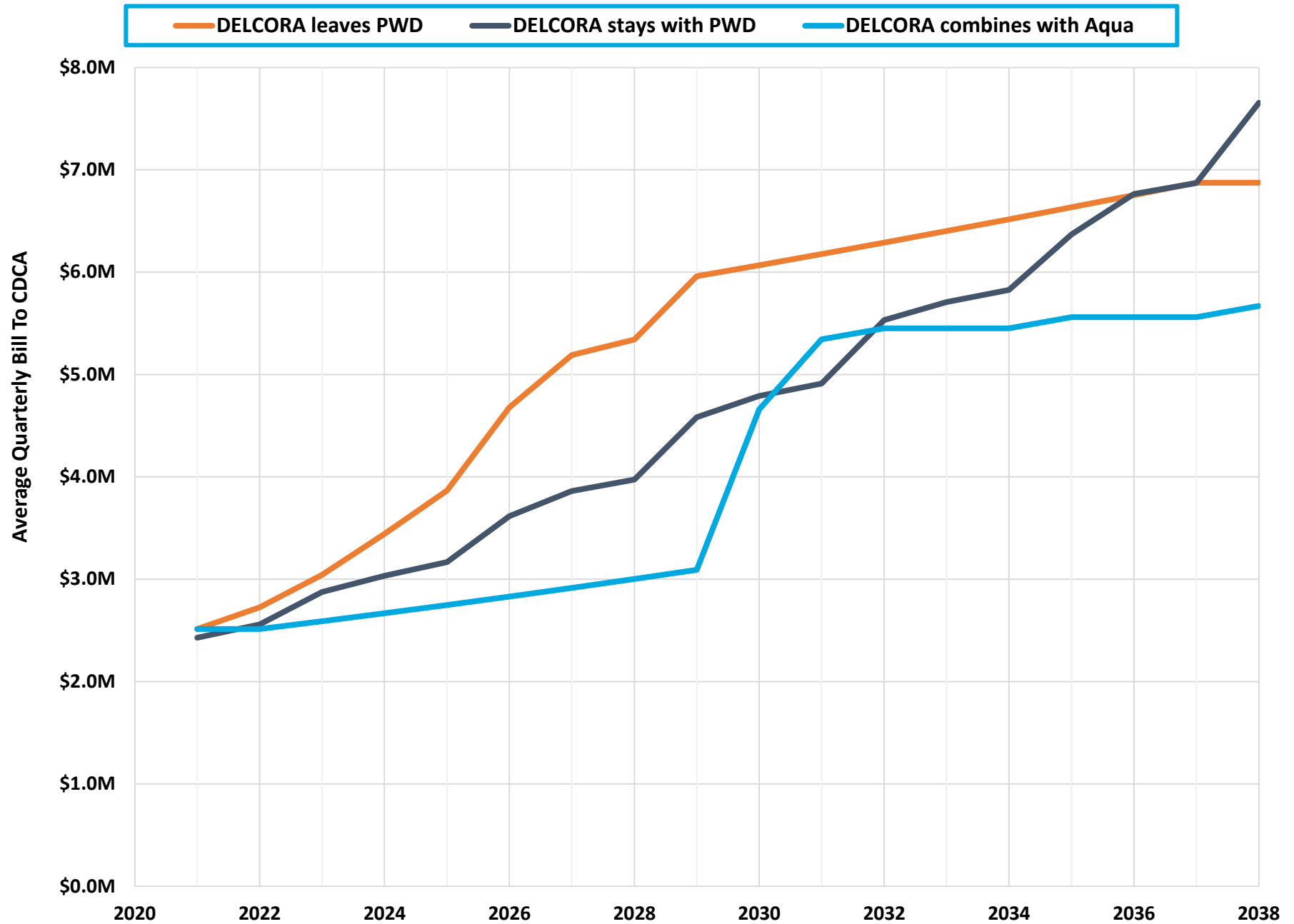
24.161%	0.000%	0.000%	2.000%	0.000%	0.000%	2.000%	0.000%	0.000%	2.000%	0.000%	0.000%
Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
127,159,455	127,159,455	127,159,455	129,702,644	129,702,644	129,702,644	132,296,697	132,296,697	132,296,697	134,942,631	134,942,631	134,942,631
\$67,341,357	\$67,341,357	\$67,341,357	69,884,546	69,884,546	69,884,546	72,478,599	72,478,599	72,478,599	75,124,533	75,124,533	75,124,533
73,568,715	75,775,777	78,049,050	80,390,522	82,802,237	85,286,304	87,844,894	90,480,240	93,194,648	95,990,487	98,870,202	101,836,308
\$53,590,740	\$16,295,624	\$0	0	0	0	0	0	0	0	0	0
0	35,088,055	49,110,405	49,312,122	46,900,407	44,416,340	44,451,803	41,816,457	39,102,049	38,952,144	36,072,429	33,106,323
127,159,455	127,159,455	127,159,455	129,702,644	129,702,644	129,702,644	132,296,697	132,296,697	132,296,697	134,942,631	134,942,631	134,942,631
ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok
100%	32%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
12.0	3.8	-	-	-	-	-	-	-	-	-	-
		\$49,110,405									
68,516,042	16,295,624	0	0	0	0	0	0	0	0	0	0
1,370,321	0	0	0	0	0	0	0	0	0	0	0
(53,590,740)	(16,295,624)	0	0	0	0	0	0	0	0	0	0
\$16,295,624	\$0	\$0	0	0	0	0	0	0	0	0	0
Yes	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted

2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
\$3.09	\$4.66	\$5.34	\$5.45	\$5.45	\$5.45	\$5.56	\$5.56	\$5.56	\$5.67	\$5.67	\$5.67
\$3.09	\$4.66	\$5.34	\$5.45	\$5.45	\$5.45	\$5.56	\$5.56	\$5.56	\$5.67	\$5.67	\$5.67

3.0% 50.7% 14.7% 2.0%

\$226,120,693 \$242,416,316 \$242,416,316 \$242,416,316

Savings	Leave PWD - 10/2/2019 PFM Projection ANNUAL	Stay With PWD - 10/2/2019 PFM Projection ANNUAL	Leave PWD - 10/2/2019 PFM Projection ANNUAL	Stay With PWD - 10/2/2019 PFM Projection ANNUAL
	\$8,693,981.13	\$8,693,981.13		
\$0.85	\$10,057,344.10	\$9,720,593.36	15.68%	11.81%
\$1.81	\$10,905,025.72	\$10,230,622.36	8.43%	5.25%
\$3.10	\$12,170,666.17	\$11,496,309.05	11.61%	12.37%
\$4.48	\$13,769,449.99	\$12,133,080.05	13.14%	5.54%
\$7.40	\$15,467,584.02	\$12,669,884.22	12.33%	4.42%
\$9.10	\$18,715,944.70	\$14,465,178.36	21.00%	14.17%
\$9.36	\$20,763,878.90	\$15,449,240.70	10.94%	6.80%
\$11.47	\$21,368,828.28	\$15,892,975.78	2.91%	2.87%
\$5.63	\$23,843,212.83	\$18,330,910.78	11.58%	15.34%
\$3.33	\$24,272,390.66	\$19,165,216.73	1.80%	4.55%
\$3.35	\$24,709,293.69	\$19,642,308.68	1.80%	2.49%
\$3.80	\$25,154,060.98	\$22,127,818.71	1.80%	12.65%
\$4.26	\$25,606,834.07	\$22,833,188.83	1.80%	3.19%
\$4.29	\$26,067,757.09	\$23,304,718.21	1.80%	2.07%
\$4.77	\$26,536,976.72	\$25,476,998.73	1.80%	9.32%
\$5.26	\$27,014,642.30	\$27,054,467.85	1.80%	6.19%
\$4.81	\$27,500,905.86	\$27,489,224.35	1.80%	1.61%
\$87.08	\$27,500,905.86	\$30,625,353.82	0.00%	11.41%
	\$27,500,905.86	\$31,499,505.28	0.00%	2.85%
	\$27,500,905.86	\$31,970,798.81	0.00%	1.50%



Beginning Trust Value	\$217,000,000
Trust Return	2.00%
Desired Rate Increase	3.00%
Year End Conventioned Assumed	

Revenue Requirement Growth Rate

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
	2020	2021	2022	2023	2024	2025	2026
Revenue Requirement		59,818,098	87,939,887	87,939,887	87,939,887	102,415,369	102,415,369
Amount Over Original Revenue Requirement		0	\$28,121,789	\$28,121,789	\$28,121,789	\$42,597,271	\$42,597,271
Revenue Requirement - Customer Growth Assumption		59,818,098	61,612,641	63,461,020	65,364,851	67,325,796	69,345,570
Revenue Requirement - Trust Portion		\$0	\$26,327,246	\$24,478,867	\$22,575,036	\$35,089,573	\$33,069,799
Revenue Requirement - Additional Needed		0	0	0	0	0	0
Total Revenue Requirement		59,818,098	87,939,887	87,939,887	87,939,887	102,415,369	102,415,369
Check		ok	ok	ok	ok	ok	ok
Percentage of Year		100%	100%	100%	100%	100%	100%
Number of Months		12.0	12.0	12.0	12.0	12.0	12.0

Trust Value - Beginning of Year (BOY)		217,000,000	221,340,000	199,439,554	178,949,478	159,953,431	128,062,927
Interest		4,340,000	4,426,800	3,988,791	3,578,990	3,199,069	2,561,259
Payout from Trust - End of Year (EOY)		0	(26,327,246)	(24,478,867)	(22,575,036)	(35,089,573)	(33,069,799)
Trust Value - EOY	217,000,000	\$221,340,000	\$199,439,554	\$178,949,478	\$159,953,431	\$128,062,927	\$97,554,387
Trust Life Check		Yes	Yes	Yes	Yes	Yes	Yes

			2022	2023	2024	2025	2026
Customer Bill Paid			\$4.91	\$5.06	\$5.21	\$5.36	\$5.52
Blended Bill				\$5.06	\$5.21	\$5.36	\$5.52
				3.0%	3.0%	3.0%	3.0%
Customer Bill Calculations			\$26,327,246	\$50,806,113	\$73,381,149	\$108,470,722	\$141,540,521

	Actual Year (Year End)	Year for chart Year Beginning	Leave PWD	Stay With PWD	Aqua Rates (Actual, No SF)	Aqua Rates (Annual Increase Factor)	Aqua Rates (Annual Increase Factor)
Rate Case Rate Increases		12/31/2020	1/1/2020	\$4.77	\$4.61	\$4.77	\$4.77
		12/31/2021	1/1/2021	\$5.17	\$4.85	\$4.77	\$4.77
Rate Case	47.01218%	12/31/2022	1/1/2022	\$5.77	\$5.45	\$7.01	\$4.91
		12/31/2023	1/1/2023	\$6.52	\$5.75	\$7.01	\$5.06
		12/31/2024	1/1/2024	\$7.33	\$6.00	\$7.01	\$5.21
Rate Case	16.46066%	12/31/2025	1/1/2025	\$8.87	\$6.85	\$8.16	\$5.36
		12/31/2026	1/1/2026	\$9.84	\$7.32	\$8.16	\$5.52
		12/31/2027	1/1/2027	\$10.12	\$7.53	\$8.16	\$5.69
Rate Case	24.16052%	12/31/2028	1/1/2028	\$11.30	\$8.69	\$10.13	\$5.86
		12/31/2029	1/1/2029	\$11.50	\$9.08	\$10.13	\$6.04
		12/31/2030	1/1/2030	\$11.71	\$9.31	\$10.13	\$6.22
Rate Case	2.00000%	12/31/2031	1/1/2031	\$11.92	\$10.48	\$10.33	\$6.40
		12/31/2032	1/1/2032	\$12.13	\$10.82	\$10.33	\$6.60
		12/31/2033	1/1/2033	\$12.35	\$11.04	\$10.33	\$6.79
Rate Case	2.00000%	12/31/2034	1/1/2034	\$12.57	\$12.07	\$10.54	\$7.00
		12/31/2035	1/1/2035	\$12.57	\$12.82	\$10.54	\$7.21
		12/31/2036	1/1/2036	\$12.57	\$13.02	\$10.54	\$7.42
Rate Case	2.00000%	12/31/2037	1/1/2037	\$12.57	\$14.51	\$10.75	\$7.65
		12/31/2038	1/1/2038	\$12.57	\$14.92	\$10.75	\$7.88
		12/31/2039	1/1/2039	\$12.57	\$15.15	\$10.75	\$8.11

0.000%	24.161%	0.000%	0.000%	2.000%	0.000%	0.000%	2.000%	0.000%	0.000%	2.000%	0.000%	0.000%
Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
102,415,369	127,159,455	127,159,455	127,159,455	129,702,644	129,702,644	129,702,644	132,296,697	132,296,697	132,296,697	134,942,631	134,942,631	134,942,631
\$42,597,271	\$67,341,357	\$67,341,357	\$67,341,357	69,884,546	69,884,546	69,884,546	72,478,599	72,478,599	72,478,599	75,124,533	75,124,533	75,124,533
71,425,937	73,568,715	75,775,777	78,049,050	80,390,522	82,802,237	85,286,304	87,844,894	90,480,240	93,194,648	95,990,487	98,870,202	101,836,308
\$30,989,432	\$53,590,740	\$16,295,624	\$0	0	0	0	0	0	0	0	0	0
0	0	35,088,055	49,110,405	49,312,122	46,900,407	44,416,340	44,451,803	41,816,457	39,102,049	38,952,144	36,072,429	33,106,323
102,415,369	127,159,455	127,159,455	127,159,455	129,702,644	129,702,644	129,702,644	132,296,697	132,296,697	132,296,697	134,942,631	134,942,631	134,942,631
ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok
100%	100%	32%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
12.0	12.0	3.8	-	-	-	-	-	-	-	-	-	-
			\$49,110,405									
97,554,387	68,516,042	16,295,624	0	0	0	0	0	0	0	0	0	0
1,951,088	1,370,321	0	0	0	0	0	0	0	0	0	0	0
(30,989,432)	(53,590,740)	(16,295,624)	0	0	0	0	0	0	0	0	0	0
\$68,516,042	\$16,295,624	\$0	\$0	0	0	0	0	0	0	0	0	0
Yes	Yes	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted

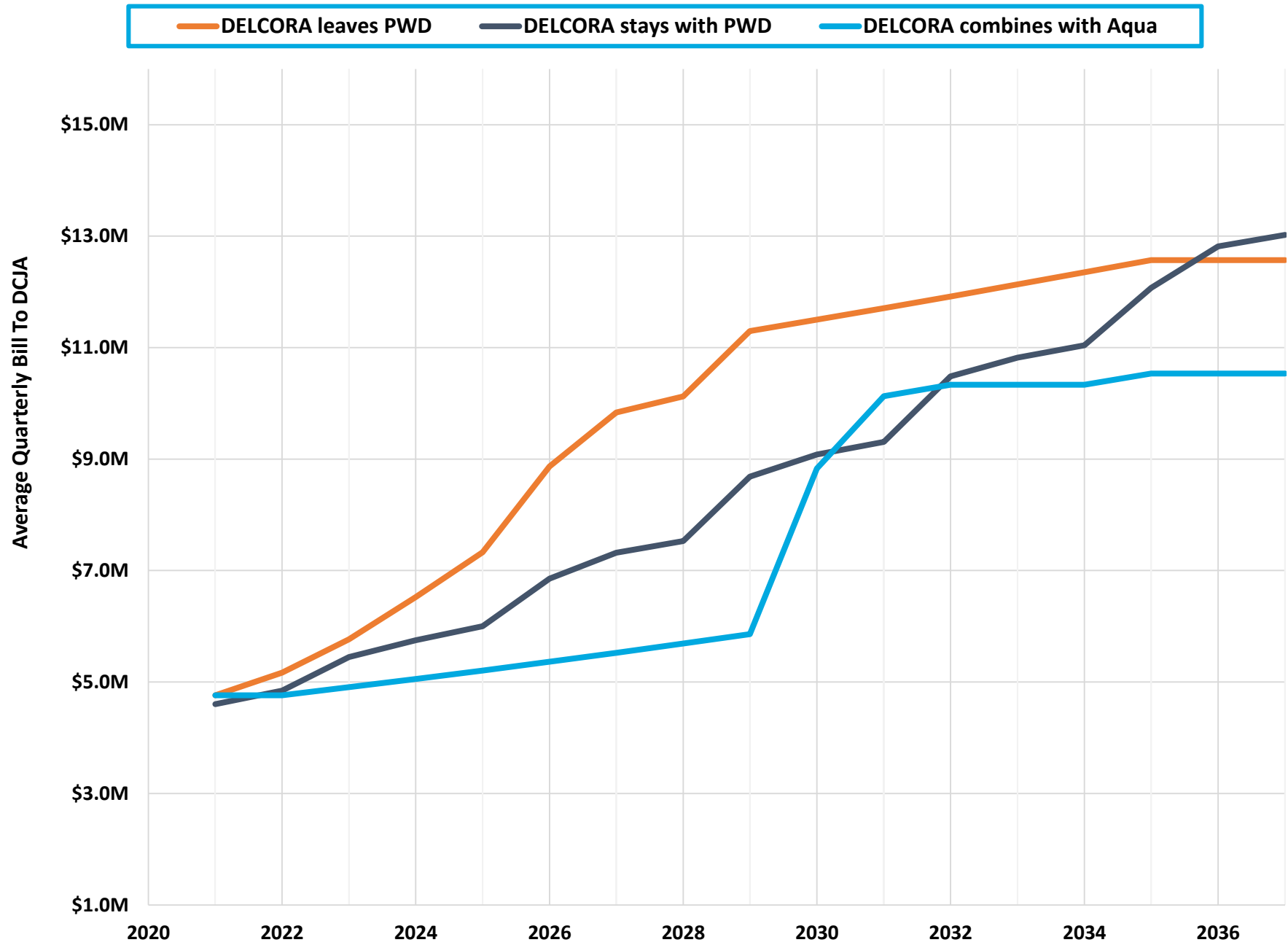
2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
\$5.69	\$5.86	\$8.83	\$10.13	\$10.33	\$10.33	\$10.33	\$10.54	\$10.54	\$10.54	\$10.75	\$10.75	\$10.75
3.0%	3.0%	50.7%	14.7%	2.0%								
\$172,529,953	\$226,120,693	\$242,416,316	\$242,416,316	\$242,416,316								

Leave PWD - 10/2/2019 PFM Projection ANNUAL	Stay With PWD - 10/2/2019 PFM Projection ANNUAL	Leave PWD - 10/2/2019 PFM Projection ANNUAL	Stay With PWD - 10/2/2019 PFM Projection ANNUAL
\$16,476,574.98	\$16,476,574.98		
\$19,060,380.03	\$18,422,180.02	15.68%	11.81%
\$20,666,881.07	\$19,388,771.83	8.43%	5.25%
\$23,065,485.27	\$21,787,463.68	11.61%	12.37%
\$26,095,452.93	\$22,994,253.18	13.14%	5.54%
\$29,313,706.14	\$24,011,588.51	12.33%	4.42%
\$35,469,902.88	\$27,413,976.67	21.00%	14.17%
\$39,351,086.98	\$29,278,942.41	10.94%	6.80%
\$40,497,569.09	\$30,119,895.97	2.91%	2.87%
\$45,186,949.24	\$34,740,198.01	11.58%	15.34%
\$46,000,314.33	\$36,321,349.88	1.80%	4.55%
\$46,828,319.99	\$37,225,520.40	1.80%	2.49%
\$47,671,229.75	\$41,935,985.23	1.80%	12.65%
\$48,529,311.88	\$43,272,781.74	1.80%	3.19%
\$49,402,839.50	\$44,166,410.22	1.80%	2.07%
\$50,292,090.61	\$48,283,251.78	1.80%	9.32%
\$50,292,090.61	\$51,272,824.43	0.00%	6.19%
\$50,292,090.61	\$52,096,762.05	0.00%	1.61%
\$50,292,090.61	\$58,040,261.54	0.00%	11.41%
\$50,292,090.61	\$59,696,927.44	0.00%	2.85%
\$50,292,090.61	\$60,590,108.95	0.00%	1.50%

Savings

\$1.61
\$3.43
\$5.87
\$8.49
\$14.02
\$17.25
\$17.74
\$21.75
\$10.67
\$6.31
\$6.34
\$7.20
\$8.07
\$8.14
\$8.14
\$8.14

\$153.17



Beginning Trust Value	\$217,000,000
Trust Return	2.00%
Desired Rate Increase	3.00%
Year End Conventioned Assumed	

Revenue Requirement Growth Rate

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
	2020	2021	2022	2023	2024	2025	2026	2027
Revenue Requirement		59,818,098	87,939,887	87,939,887	87,939,887	102,415,369	102,415,369	102,415,369
Amount Over Original Revenue Requirement		0	\$28,121,789	\$28,121,789	\$28,121,789	\$42,597,271	\$42,597,271	\$42,597,271
Revenue Requirement - Customer Growth Assumption		59,818,098	61,612,641	63,461,020	65,364,851	67,325,796	69,345,570	71,425,937
Revenue Requirement - Trust Portion		\$0	\$26,327,246	\$24,478,867	\$22,575,036	\$35,089,573	\$33,069,799	\$30,989,432
Revenue Requirement - Additional Needed		0	0	0	0	0	0	0
Total Revenue Requirement		59,818,098	87,939,887	87,939,887	87,939,887	102,415,369	102,415,369	102,415,369
Check		ok	ok	ok	ok	ok	ok	ok
Percentage of Year		100%	100%	100%	100%	100%	100%	100%
Number of Months		12.0	12.0	12.0	12.0	12.0	12.0	12.0

Trust Value - Beginning of Year (BOY)		217,000,000	221,340,000	199,439,554	178,949,478	159,953,431	128,062,927	97,554,387
Interest		4,340,000	4,426,800	3,988,791	3,578,990	3,199,069	2,561,259	1,951,088
Payout from Trust - End of Year (EOY)		0	(26,327,246)	(24,478,867)	(22,575,036)	(35,089,573)	(33,069,799)	(30,989,432)
Trust Value - EOY		217,000,000	\$221,340,000	\$199,439,554	\$178,949,478	\$159,953,431	\$128,062,927	\$97,554,387
Trust Life Check			Yes	Yes	Yes	Yes	Yes	Yes

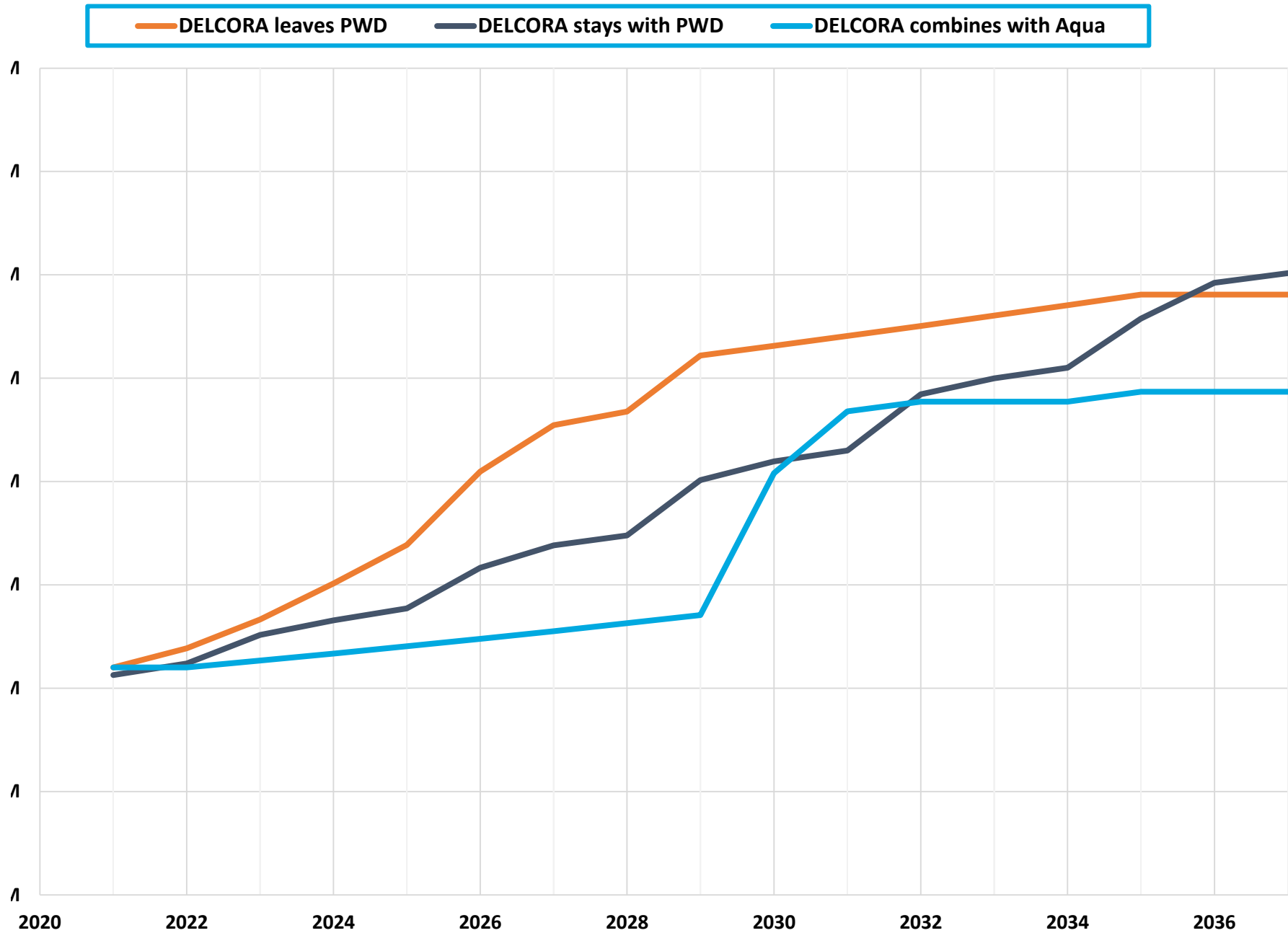
	2022	2023	2024	2025	2026	2027
Customer Bill Paid	\$1.13	\$1.17	\$1.20	\$1.24	\$1.28	\$1.31
Blended Bill		\$1.17	\$1.20	\$1.24	\$1.28	\$1.31
Customer Bill Calculations	\$26,327,246	\$50,806,113	\$73,381,149	\$108,470,722	\$141,540,521	\$172,529,953

	Actual Year (Year End)	Year for chart Year Beginning	Leave PWD	Stay With PWD	Aqua Rates (Actual, No SF)	Aqua Rates (Annual Increase Factor)	Aqua Rates (Annual Increase Factor)
Rate Case Rate Increases	12/31/2020	1/1/2020	\$1.10	\$1.06	\$1.10	\$1.10	\$1.10
Rate Case	47.01218%	12/31/2021	\$1.19	\$1.12	\$1.10	\$1.10	\$1.10
		12/31/2022	\$1.33	\$1.26	\$1.62	\$1.13	\$1.13
		12/31/2023	\$1.51	\$1.33	\$1.62	\$1.17	\$1.17
Rate Case	16.46066%	12/31/2024	\$1.69	\$1.39	\$1.62	\$1.20	\$1.20
		12/31/2025	\$2.05	\$1.58	\$1.88	\$1.24	\$1.24
		12/31/2026	\$2.27	\$1.69	\$1.88	\$1.28	\$1.28
Rate Case	24.16052%	12/31/2027	\$2.34	\$1.74	\$1.88	\$1.31	\$1.31
		12/31/2028	\$2.61	\$2.01	\$2.34	\$1.35	\$1.35
		12/31/2029	\$2.66	\$2.10	\$2.34	\$1.39	\$2.04
Rate Case	2.00000%	12/31/2030	\$2.70	\$2.15	\$2.34	\$1.44	\$2.34
		12/31/2031	\$2.75	\$2.42	\$2.39	\$1.48	\$2.39
		12/31/2032	\$2.80	\$2.50	\$2.39	\$1.52	\$2.39
Rate Case	2.00000%	12/31/2033	\$2.85	\$2.55	\$2.39	\$1.57	\$2.39
		12/31/2034	\$2.90	\$2.79	\$2.43	\$1.62	\$2.43
		12/31/2035	\$2.90	\$2.96	\$2.43	\$1.66	\$2.43
		12/31/2036	\$2.90	\$3.01	\$2.43	\$1.71	\$2.43
Rate Case	2.00000%	12/31/2037	\$2.90	\$3.35	\$2.48	\$1.77	\$2.48
		12/31/2038	\$2.90	\$3.45	\$2.48	\$1.82	\$2.48
		12/31/2039	\$2.90	\$3.50	\$2.48	\$1.87	\$2.48

24.161%	0.000%	0.000%	2.000%	0.000%	0.000%	2.000%	0.000%	0.000%	2.000%	0.000%	0.000%
Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
127,159,455	127,159,455	127,159,455	129,702,644	129,702,644	129,702,644	132,296,697	132,296,697	132,296,697	134,942,631	134,942,631	134,942,631
\$67,341,357	\$67,341,357	\$67,341,357	69,884,546	69,884,546	69,884,546	72,478,599	72,478,599	72,478,599	75,124,533	75,124,533	75,124,533
73,568,715	75,775,777	78,049,050	80,390,522	82,802,237	85,286,304	87,844,894	90,480,240	93,194,648	95,990,487	98,870,202	101,836,308
\$53,590,740	\$16,295,624	\$0	0	0	0	0	0	0	0	0	0
0	35,088,055	49,110,405	49,312,122	46,900,407	44,416,340	44,451,803	41,816,457	39,102,049	38,952,144	36,072,429	33,106,323
127,159,455	127,159,455	127,159,455	129,702,644	129,702,644	129,702,644	132,296,697	132,296,697	132,296,697	134,942,631	134,942,631	134,942,631
ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok
100%	32%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
12.0	3.8	-	-	-	-	-	-	-	-	-	-
		\$49,110,405									
68,516,042	16,295,624	0	0	0	0	0	0	0	0	0	0
1,370,321	0	0	0	0	0	0	0	0	0	0	0
(53,590,740)	(16,295,624)	0	0	0	0	0	0	0	0	0	0
\$16,295,624	\$0	\$0	0	0	0	0	0	0	0	0	0
Yes	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted

2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
\$1.35	\$2.04	\$2.34	\$2.39	\$2.39	\$2.39	\$2.43	\$2.43	\$2.43	\$2.48	\$2.48	\$2.48
\$1.35	\$2.04	\$2.34	\$2.39	\$2.39	\$2.39	\$2.43	\$2.43	\$2.43	\$2.48	\$2.48	\$2.48
3.0%	50.7%	14.7%	2.0%								
\$226,120,693	\$242,416,316	\$242,416,316	\$242,416,316								

Savings	Leave PWD - 10/2/2019 PFM Projection ANNUAL	Stay With PWD - 10/2/2019 PFM Projection ANNUAL	Leave PWD - 10/2/2019 PFM Projection ANNUAL	Stay With PWD - 10/2/2019 PFM Projection ANNUAL
	\$3,806,113.80	\$3,806,113.80		
	\$4,402,976.68	\$4,255,551.51	15.68%	11.81%
\$0.37	\$4,774,080.86	\$4,478,835.69	8.43%	5.25%
\$0.79	\$5,328,162.07	\$5,032,937.14	11.61%	12.37%
\$1.36	\$6,028,089.19	\$5,311,707.35	13.14%	5.54%
\$1.96	\$6,771,510.56	\$5,546,713.35	12.33%	4.42%
\$3.24	\$8,193,601.34	\$6,332,670.17	21.00%	14.17%
\$3.99	\$9,090,160.75	\$6,763,480.09	10.94%	6.80%
\$4.10	\$9,354,999.86	\$6,957,741.64	2.91%	2.87%
\$5.02	\$10,438,253.78	\$8,025,038.41	11.58%	15.34%
\$2.47	\$10,626,142.35	\$8,390,286.89	1.80%	4.55%
\$1.46	\$10,817,412.92	\$8,599,151.65	1.80%	2.49%
\$1.47	\$11,012,126.35	\$9,687,276.17	1.80%	12.65%
\$1.66	\$11,210,344.62	\$9,996,078.19	1.80%	3.19%
\$1.87	\$11,412,130.83	\$10,202,507.72	1.80%	2.07%
\$1.88	\$11,617,549.18	\$11,153,504.37	1.80%	9.32%
\$1.88	\$11,617,549.18	\$11,844,100.18	0.00%	6.19%
\$1.88	\$11,617,549.18	\$12,034,431.02	0.00%	1.61%
\$35.38	\$11,617,549.18	\$13,407,388.41	0.00%	11.41%
	\$11,617,549.18	\$13,790,080.75	0.00%	2.85%
	\$11,617,549.18	\$13,996,407.03	0.00%	1.50%
	\$11,685,152.61	\$15,394,706.26	0.58%	9.99%
	\$12,089,085.61	\$15,993,532.95	3.46%	3.89%
	\$12,344,363.62	\$16,452,760.66	2.11%	2.87%



Beginning Trust Value	\$217,000,000
Trust Return	2.00%
Desired Rate Increase	3.00%
Year End Conventioned Assumed	

Revenue Requirement Growth Rate

	Year 1 2020	Year 2 2021	47.012% Year 3 2022	0.000% Year 4 2023	0.000% Year 5 2024	16.461% Year 6 2025	0.000% Year 7 2026
Revenue Requirement		59,818,098	87,939,887	87,939,887	87,939,887	102,415,369	102,415,369
Amount Over Original Revenue Requirement		0	\$28,121,789	\$28,121,789	\$28,121,789	\$42,597,271	\$42,597,271
Revenue Requirement - Customer Growth Assumption		59,818,098	61,612,641	63,461,020	65,364,851	67,325,796	69,345,570
Revenue Requirement - Trust Portion		\$0	\$26,327,246	\$24,478,867	\$22,575,036	\$35,089,573	\$33,069,799
Revenue Requirement - Additional Needed		0	0	0	0	0	0
Total Revenue Requirement		59,818,098	87,939,887	87,939,887	87,939,887	102,415,369	102,415,369
Check		ok	ok	ok	ok	ok	ok
Percentage of Year		100%	100%	100%	100%	100%	100%
Number of Months		12.0	12.0	12.0	12.0	12.0	12.0

Trust Value - Beginning of Year (BOY)		217,000,000	221,340,000	199,439,554	178,949,478	159,953,431	128,062,927
Interest		4,340,000	4,426,800	3,988,791	3,578,990	3,199,069	2,561,259
Payout from Trust - End of Year (EOY)		0	(26,327,246)	(24,478,867)	(22,575,036)	(35,089,573)	(33,069,799)
Trust Value - EOY	217,000,000	\$221,340,000	\$199,439,554	\$178,949,478	\$159,953,431	\$128,062,927	\$97,554,387
Trust Life Check		Yes	Yes	Yes	Yes	Yes	Yes

	2022	2023	2024	2025	2026
Customer Bill Paid	\$0.81	\$0.84	\$0.86	\$0.89	\$0.91
Blended Bill		\$0.84	\$0.86	\$0.89	\$0.91
		3.0%	3.0%	3.0%	3.0%
Customer Bill Calculations	\$26,327,246	\$50,806,113	\$73,381,149	\$108,470,722	\$141,540,521

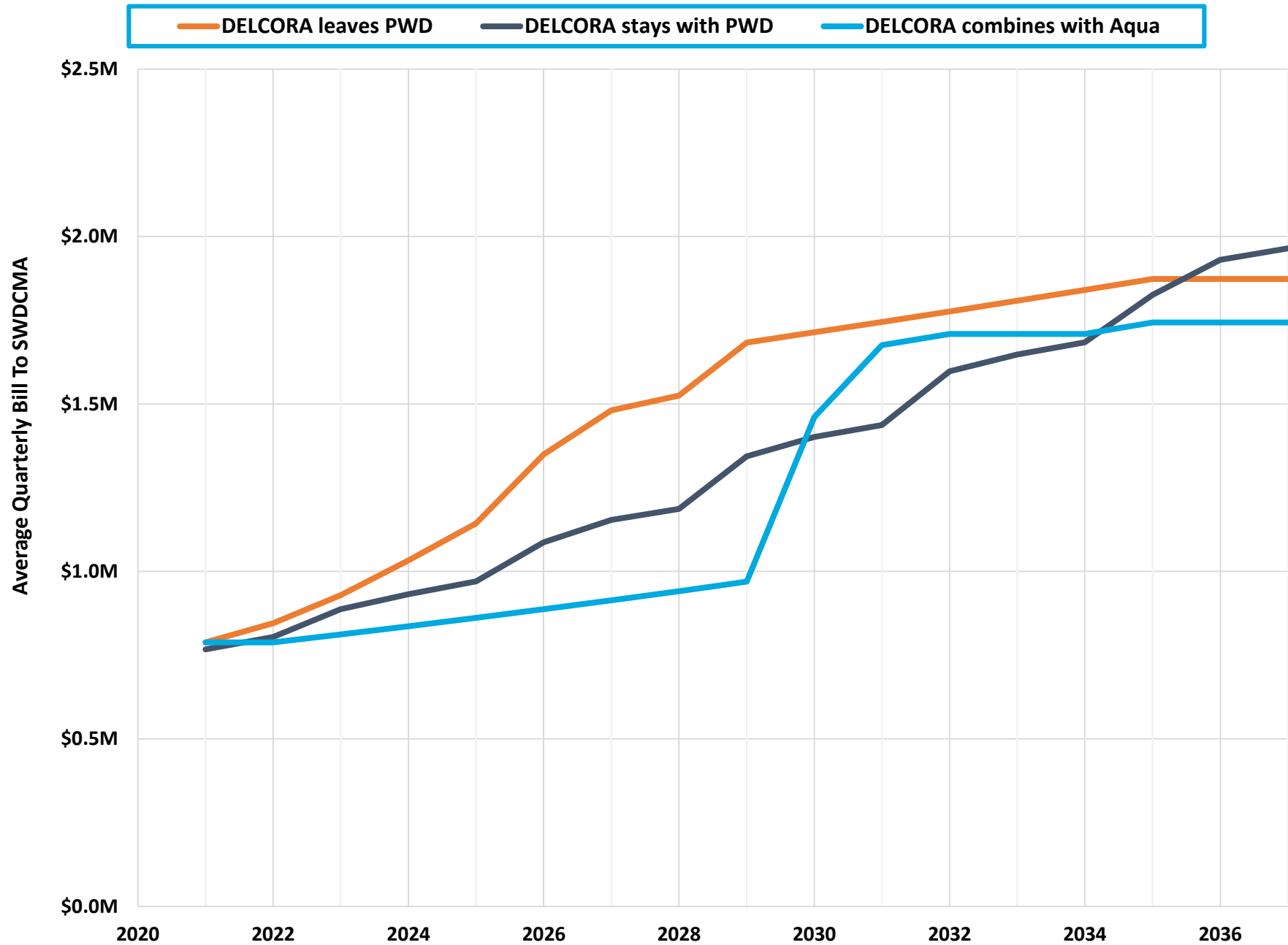
	Actual Year (Year End)	Year for chart Year Beginning	Leave PWD	Stay With PWD	Aqua Rates (Actual, No SF)	Aqua Rates (Annual Increase Factor)	Aqua Rates (Annual Increase Factor)
Rate Case Rate Increases	12/31/2020	1/1/2020	\$0.79	\$0.77	\$0.79	\$0.79	\$0.79
	12/31/2021	1/1/2021	\$0.85	\$0.80	\$0.79	\$0.79	\$0.79
Rate Case	47.01218%	12/31/2022	\$0.93	\$0.89	\$1.16	\$0.81	\$0.81
	12/31/2023	1/1/2023	\$1.03	\$0.93	\$1.16	\$0.84	\$0.84
	12/31/2024	1/1/2024	\$1.14	\$0.97	\$1.16	\$0.86	\$0.86
Rate Case	16.46066%	12/31/2025	\$1.35	\$1.09	\$1.35	\$0.89	\$0.89
	12/31/2026	1/1/2026	\$1.48	\$1.15	\$1.35	\$0.91	\$0.91
	12/31/2027	1/1/2027	\$1.52	\$1.19	\$1.35	\$0.94	\$0.94
Rate Case	24.16052%	12/31/2028	\$1.68	\$1.34	\$1.68	\$0.97	\$0.97
	12/31/2029	1/1/2029	\$1.71	\$1.40	\$1.68	\$1.00	\$1.46
	12/31/2030	1/1/2030	\$1.74	\$1.44	\$1.68	\$1.03	\$1.68
Rate Case	2.00000%	12/31/2031	\$1.78	\$1.60	\$1.71	\$1.06	\$1.71
	12/31/2032	1/1/2032	\$1.81	\$1.65	\$1.71	\$1.09	\$1.71
	12/31/2033	1/1/2033	\$1.84	\$1.68	\$1.71	\$1.12	\$1.71
Rate Case	2.00000%	12/31/2034	\$1.87	\$1.83	\$1.74	\$1.16	\$1.74
	12/31/2035	1/1/2035	\$1.87	\$1.93	\$1.74	\$1.19	\$1.74
	12/31/2036	1/1/2036	\$1.87	\$1.97	\$1.74	\$1.23	\$1.74
Rate Case	2.00000%	12/31/2037	\$1.87	\$2.17	\$1.78	\$1.26	\$1.78
	12/31/2038	1/1/2038	\$1.87	\$2.23	\$1.78	\$1.30	\$1.78
	12/31/2039	1/1/2039	\$1.88	\$2.27	\$1.78	\$1.34	\$1.78

0.000%	24.161%	0.000%	0.000%	2.000%	0.000%	0.000%	2.000%	0.000%	0.000%	2.000%	0.000%	0.000%
Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
102,415,369	127,159,455	127,159,455	127,159,455	129,702,644	129,702,644	129,702,644	132,296,697	132,296,697	132,296,697	134,942,631	134,942,631	134,942,631
\$42,597,271	\$67,341,357	\$67,341,357	\$67,341,357	69,884,546	69,884,546	69,884,546	72,478,599	72,478,599	72,478,599	75,124,533	75,124,533	75,124,533
71,425,937	73,568,715	75,775,777	78,049,050	80,390,522	82,802,237	85,286,304	87,844,894	90,480,240	93,194,648	95,990,487	98,870,202	101,836,308
\$30,989,432	\$53,590,740	\$16,295,624	\$0	0	0	0	0	0	0	0	0	0
0	0	35,088,055	49,110,405	49,312,122	46,900,407	44,416,340	44,451,803	41,816,457	39,102,049	38,952,144	36,072,429	33,106,323
102,415,369	127,159,455	127,159,455	127,159,455	129,702,644	129,702,644	129,702,644	132,296,697	132,296,697	132,296,697	134,942,631	134,942,631	134,942,631
ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok
100%	100%	32%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
12.0	12.0	3.8	-	-	-	-	-	-	-	-	-	-
			\$49,110,405									
97,554,387	68,516,042	16,295,624	0	0	0	0	0	0	0	0	0	0
1,951,088	1,370,321	0	0	0	0	0	0	0	0	0	0	0
(30,989,432)	(53,590,740)	(16,295,624)	0	0	0	0	0	0	0	0	0	0
\$68,516,042	\$16,295,624	\$0	\$0	0	0	0	0	0	0	0	0	0
Yes	Yes	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted

2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
\$0.94	\$0.97	\$1.46	\$1.68	\$1.71	\$1.71	\$1.71	\$1.74	\$1.74	\$1.74	\$1.78	\$1.78	\$1.78
\$0.94	\$0.97	\$1.46	\$1.68	\$1.71	\$1.71	\$1.71	\$1.74	\$1.74	\$1.74	\$1.78	\$1.78	\$1.78
3.0%	3.0%	50.7%	14.7%	2.0%								
\$172,529,953	\$226,120,693	\$242,416,316	\$242,416,316	\$242,416,316								

Savings

Leave PWD - 10/2/2019 PFM Projection ANNUAL	Stay With PWD - 10/2/2019 PFM Projection ANNUAL	Leave PWD - 10/2/2019 PFM Projection ANNUAL	Stay With PWD - 10/2/2019 PFM Projection ANNUAL
\$2,819,621.65	\$2,819,621.65		
\$3,153,161.41	\$3,070,070.81	11.83%	8.88%
\$3,382,467.91	\$3,216,064.18	7.27%	4.76%
\$3,715,506.89	\$3,549,114.57	9.85%	10.36%
\$4,131,368.95	\$3,727,607.53	11.19%	5.03%
\$4,572,386.14	\$3,882,075.70	10.67%	4.14%
\$5,396,570.04	\$4,347,726.86	18.03%	11.99%
\$5,925,238.44	\$4,613,893.24	9.80%	6.12%
\$6,098,562.38	\$4,747,438.82	2.93%	2.89%
\$6,733,876.48	\$5,373,759.28	10.42%	13.19%
\$6,855,086.25	\$5,605,140.25	1.80%	4.31%
\$6,978,477.81	\$5,749,147.15	1.80%	2.57%
\$7,104,090.41	\$6,389,504.06	1.80%	11.14%
\$7,231,964.03	\$6,591,437.76	1.80%	3.16%
\$7,362,139.39	\$6,736,509.76	1.80%	2.20%
\$7,494,657.90	\$7,302,090.52	1.80%	8.40%
\$7,494,657.90	\$7,721,793.86	0.00%	5.75%
\$7,494,657.90	\$7,860,456.11	0.00%	1.80%
\$7,494,657.90	\$8,666,602.59	0.00%	10.26%
\$7,494,657.90	\$8,915,593.71	0.00%	2.87%
\$7,529,349.71	\$9,066,181.83	0.46%	1.69%



Beginning Trust Value	\$217,000,000
Trust Return	2.00%
Desired Rate Increase	3.00%
Year End Conventioned Assumed	

Revenue Requirement Growth Rate

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
	2020	2021	2022	2023	2024	2025	2026
Revenue Requirement		59,818,098	87,939,887	87,939,887	87,939,887	102,415,369	102,415,369
Amount Over Original Revenue Requirement		0	\$28,121,789	\$28,121,789	\$28,121,789	\$42,597,271	\$42,597,271
Revenue Requirement - Customer Growth Assumption		59,818,098	61,612,641	63,461,020	65,364,851	67,325,796	69,345,570
Revenue Requirement - Trust Portion		\$0	\$26,327,246	\$24,478,867	\$22,575,036	\$35,089,573	\$33,069,799
Revenue Requirement - Additional Needed		0	0	0	0	0	0
Total Revenue Requirement		59,818,098	87,939,887	87,939,887	87,939,887	102,415,369	102,415,369
Check		ok	ok	ok	ok	ok	ok
Percentage of Year		100%	100%	100%	100%	100%	100%
Number of Months		12.0	12.0	12.0	12.0	12.0	12.0

Trust Value - Beginning of Year (BOY)		217,000,000	221,340,000	199,439,554	178,949,478	159,953,431	128,062,927
Interest		4,340,000	4,426,800	3,988,791	3,578,990	3,199,069	2,561,259
Payout from Trust - End of Year (EOY)		0	(26,327,246)	(24,478,867)	(22,575,036)	(35,089,573)	(33,069,799)
Trust Value - EOY	217,000,000	\$221,340,000	\$199,439,554	\$178,949,478	\$159,953,431	\$128,062,927	\$97,554,387
Trust Life Check		Yes	Yes	Yes	Yes	Yes	Yes

	2022	2023	2024	2025	2026
Customer Bill Paid	\$0.55	\$0.57	\$0.58	\$0.60	\$0.62

Blended Bill			\$0.57	\$0.58	\$0.60	\$0.62
			3.0%	3.0%	3.0%	3.0%
Customer Bill Calculations		\$26,327,246	\$50,806,113	\$73,381,149	\$108,470,722	\$141,540,521

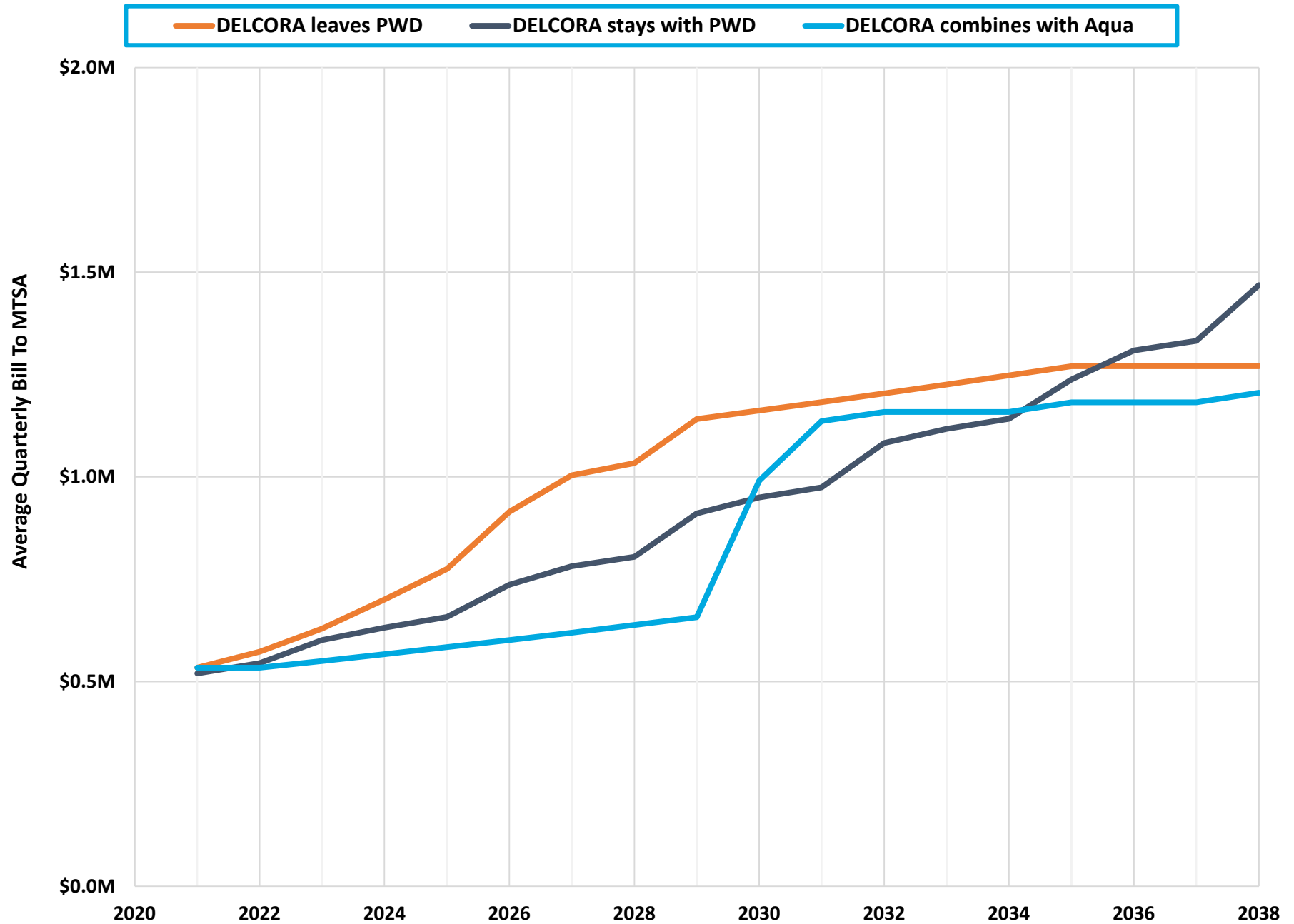
	Actual Year (Year End)	Year for chart Year Beginning	Leave PWD	Stay With PWD	Aqua Rates (Actual, No SF)	Aqua Rates (Annual Increase Factor)	Aqua Rates (Annual Increase Factor)
Rate Case Rate Increases		12/31/2020	1/1/2020	\$0.53	\$0.52	\$0.53	\$0.53
Rate Case	47.01218%	12/31/2021	1/1/2021	\$0.57	\$0.55	\$0.53	\$0.53
		12/31/2022	1/1/2022	\$0.63	\$0.60	\$0.55	\$0.55
		12/31/2023	1/1/2023	\$0.70	\$0.63	\$0.57	\$0.57
Rate Case	16.46066%	12/31/2024	1/1/2024	\$0.77	\$0.66	\$0.58	\$0.58
		12/31/2025	1/1/2025	\$0.91	\$0.74	\$0.60	\$0.60
		12/31/2026	1/1/2026	\$1.00	\$0.78	\$0.62	\$0.62
Rate Case	24.16052%	12/31/2027	1/1/2027	\$1.03	\$0.80	\$0.64	\$0.64
		12/31/2028	1/1/2028	\$1.14	\$0.91	\$0.66	\$0.66
		12/31/2029	1/1/2029	\$1.16	\$0.95	\$0.68	\$0.99
Rate Case	2.00000%	12/31/2030	1/1/2030	\$1.18	\$0.97	\$0.70	\$1.14
		12/31/2031	1/1/2031	\$1.20	\$1.08	\$0.72	\$1.16
		12/31/2032	1/1/2032	\$1.23	\$1.12	\$0.74	\$1.16
Rate Case	2.00000%	12/31/2033	1/1/2033	\$1.25	\$1.14	\$0.76	\$1.16
		12/31/2034	1/1/2034	\$1.27	\$1.24	\$0.78	\$1.18
		12/31/2035	1/1/2035	\$1.27	\$1.31	\$0.81	\$1.18
Rate Case	2.00000%	12/31/2036	1/1/2036	\$1.27	\$1.33	\$0.83	\$1.18
		12/31/2037	1/1/2037	\$1.27	\$1.47	\$0.86	\$1.21
		12/31/2038	1/1/2038	\$1.27	\$1.51	\$0.88	\$1.21
		12/31/2039	1/1/2039	\$1.28	\$1.54	\$0.91	\$1.21

0.000%	24.161%	0.000%	0.000%	2.000%	0.000%	0.000%	2.000%	0.000%	0.000%	2.000%	0.000%	0.000%
Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
102,415,369	127,159,455	127,159,455	127,159,455	129,702,644	129,702,644	129,702,644	132,296,697	132,296,697	132,296,697	134,942,631	134,942,631	134,942,631
\$42,597,271	\$67,341,357	\$67,341,357	\$67,341,357	69,884,546	69,884,546	69,884,546	72,478,599	72,478,599	72,478,599	75,124,533	75,124,533	75,124,533
71,425,937	73,568,715	75,775,777	78,049,050	80,390,522	82,802,237	85,286,304	87,844,894	90,480,240	93,194,648	95,990,487	98,870,202	101,836,308
\$30,989,432	\$53,590,740	\$16,295,624	\$0	0	0	0	0	0	0	0	0	0
0	0	35,088,055	49,110,405	49,312,122	46,900,407	44,416,340	44,451,803	41,816,457	39,102,049	38,952,144	36,072,429	33,106,323
102,415,369	127,159,455	127,159,455	127,159,455	129,702,644	129,702,644	129,702,644	132,296,697	132,296,697	132,296,697	134,942,631	134,942,631	134,942,631
ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok
100%	100%	32%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
12.0	12.0	3.8	-	-	-	-	-	-	-	-	-	-
			\$49,110,405									
97,554,387	68,516,042	16,295,624	0	0	0	0	0	0	0	0	0	0
1,951,088	1,370,321	0	0	0	0	0	0	0	0	0	0	0
(30,989,432)	(53,590,740)	(16,295,624)	0	0	0	0	0	0	0	0	0	0
\$68,516,042	\$16,295,624	\$0	\$0	0	0	0	0	0	0	0	0	0
Yes	Yes	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted

2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
\$0.64	\$0.66	\$0.99	\$1.14	\$1.16	\$1.16	\$1.16	\$1.18	\$1.18	\$1.18	\$1.21	\$1.21	\$1.21
\$0.64	\$0.66	\$0.99	\$1.14	\$1.16	\$1.16	\$1.16	\$1.18	\$1.18	\$1.18	\$1.21	\$1.21	\$1.21
3.0%	3.0%	50.7%	14.7%	2.0%								
\$172,529,953	\$226,120,693	\$242,416,316	\$242,416,316	\$242,416,316								

Savings
\$0.16
\$0.32
\$0.53
\$0.76
\$1.25
\$1.54
\$1.58
\$1.94
\$0.69
\$0.19
\$0.18
\$0.27
\$0.36
\$0.35
\$0.35
\$0.35
\$10.82

Leave PWD - 10/2/2019 PFM Projection ANNUAL	Stay With PWD - 10/2/2019 PFM Projection ANNUAL	Leave PWD - 10/2/2019 PFM Projection ANNUAL	Stay With PWD - 10/2/2019 PFM Projection ANNUAL
\$1,911,517.24	\$1,911,517.24		
\$2,137,635.17	\$2,081,305.23	11.83%	
\$2,293,089.83	\$2,180,279.09	7.27%	4.76%
\$2,518,868.26	\$2,406,065.26	9.85%	10.36%
\$2,800,795.27	\$2,527,071.70	11.19%	5.03%
\$3,099,775.79	\$2,631,790.91	10.67%	4.14%
\$3,658,518.04	\$2,947,471.64	18.03%	11.99%
\$4,016,920.30	\$3,127,914.87	9.80%	6.12%
\$4,134,422.48	\$3,218,449.95	2.93%	2.89%
\$4,565,123.48	\$3,643,053.85	10.42%	13.19%
\$4,647,295.70	\$3,799,914.87	1.80%	4.31%
\$4,730,947.02	\$3,897,542.03	1.80%	2.57%
\$4,816,104.07	\$4,331,661.73	1.80%	11.14%
\$4,902,793.94	\$4,468,559.43	1.80%	3.16%
\$4,991,044.23	\$4,566,908.67	1.80%	2.20%
\$5,080,883.03	\$4,950,335.06	1.80%	8.40%
\$5,080,883.03	\$5,234,866.21	0.00%	5.75%
\$5,080,883.03	\$5,328,870.06	0.00%	1.80%
\$5,080,883.03	\$5,875,384.12	0.00%	10.26%
\$5,080,883.03	\$6,044,183.65	0.00%	2.87%
\$5,104,401.78	\$6,146,272.46	0.46%	1.69%



Beginning Trust Value	\$217,000,000
Trust Return	2.00%
Desired Rate Increase	3.00%
Year End Conventioned Assumed	

Revenue Requirement Growth Rate

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
	2020	2021	2022	2023	2024	2025	2026	2027
Revenue Requirement		59,818,098	87,939,887	87,939,887	87,939,887	102,415,369	102,415,369	102,415,369
Amount Over Original Revenue Requirement		0	\$28,121,789	\$28,121,789	\$28,121,789	\$42,597,271	\$42,597,271	\$42,597,271
Revenue Requirement - Customer Growth Assumption		59,818,098	61,612,641	63,461,020	65,364,851	67,325,796	69,345,570	71,425,937
Revenue Requirement - Trust Portion		\$0	\$26,327,246	\$24,478,867	\$22,575,036	\$35,089,573	\$33,069,799	\$30,989,432
Revenue Requirement - Additional Needed		0	0	0	0	0	0	0
Total Revenue Requirement		59,818,098	87,939,887	87,939,887	87,939,887	102,415,369	102,415,369	102,415,369
Check		ok	ok	ok	ok	ok	ok	ok
Percentage of Year		100%	100%	100%	100%	100%	100%	100%
Number of Months		12.0	12.0	12.0	12.0	12.0	12.0	12.0

Trust Value - Beginning of Year (BOY)		217,000,000	221,340,000	199,439,554	178,949,478	159,953,431	128,062,927	97,554,387
Interest		4,340,000	4,426,800	3,988,791	3,578,990	3,199,069	2,561,259	1,951,088
Payout from Trust - End of Year (EOY)		0	(26,327,246)	(24,478,867)	(22,575,036)	(35,089,573)	(33,069,799)	(30,989,432)
Trust Value - EOY		217,000,000	\$221,340,000	\$199,439,554	\$178,949,478	\$159,953,431	\$128,062,927	\$97,554,387
Trust Life Check			Yes	Yes	Yes	Yes	Yes	Yes

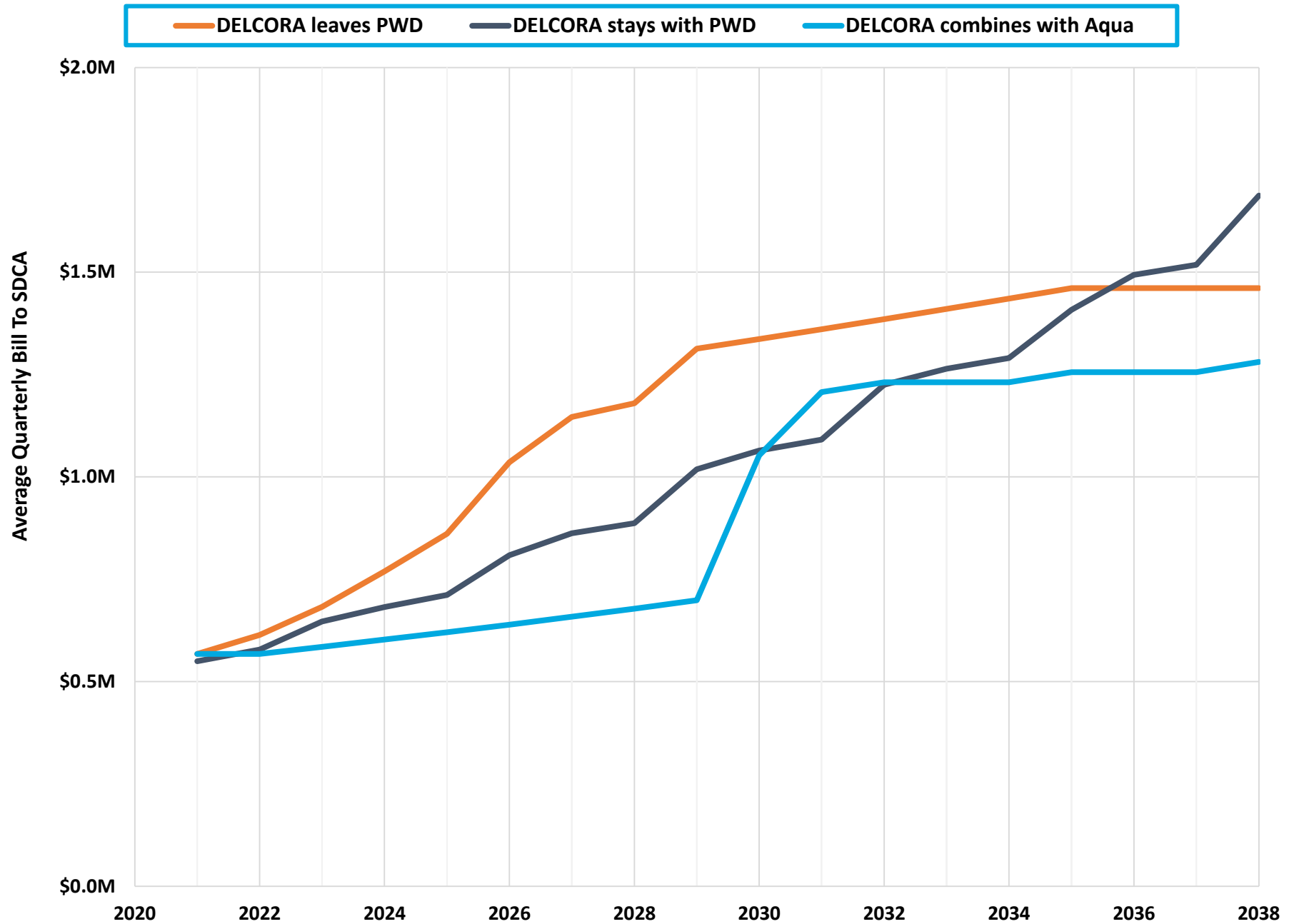
	2022	2023	2024	2025	2026	2027
Customer Bill Paid	\$0.58	\$0.60	\$0.62	\$0.64	\$0.66	\$0.68
Blended Bill		\$0.60	\$0.62	\$0.64	\$0.66	\$0.68
Customer Bill Calculations	\$26,327,246	\$50,806,113	\$73,381,149	\$108,470,722	\$141,540,521	\$172,529,953

	Actual Year (Year End)	Year for chart Year Beginning	Leave PWD	Stay With PWD	Aqua Rates (Actual, No SF)	Aqua Rates (Annual Increase Factor)	Aqua Rates (Annual Increase Factor)
Rate Case Rate Increases		12/31/2020	1/1/2020	\$0.57	\$0.55	\$0.57	\$0.57
Rate Case	47.01218%	12/31/2021	1/1/2021	\$0.61	\$0.58	\$0.57	\$0.57
		12/31/2022	1/1/2022	\$0.68	\$0.65	\$0.58	\$0.58
		12/31/2023	1/1/2023	\$0.77	\$0.68	\$0.60	\$0.60
Rate Case	16.46066%	12/31/2024	1/1/2024	\$0.86	\$0.71	\$0.83	\$0.62
		12/31/2025	1/1/2025	\$1.04	\$0.81	\$0.97	\$0.64
		12/31/2026	1/1/2026	\$1.15	\$0.86	\$0.97	\$0.66
Rate Case	24.16052%	12/31/2027	1/1/2027	\$1.18	\$0.89	\$0.97	\$0.68
		12/31/2028	1/1/2028	\$1.31	\$1.02	\$1.21	\$0.70
		12/31/2029	1/1/2029	\$1.34	\$1.06	\$1.21	\$1.05
Rate Case	2.00000%	12/31/2030	1/1/2030	\$1.36	\$1.09	\$1.21	\$0.74
		12/31/2031	1/1/2031	\$1.39	\$1.22	\$1.23	\$0.76
		12/31/2032	1/1/2032	\$1.41	\$1.26	\$1.23	\$0.79
Rate Case	2.00000%	12/31/2033	1/1/2033	\$1.44	\$1.29	\$1.23	\$0.81
		12/31/2034	1/1/2034	\$1.46	\$1.41	\$1.26	\$0.83
		12/31/2035	1/1/2035	\$1.46	\$1.49	\$1.26	\$0.86
		12/31/2036	1/1/2036	\$1.46	\$1.52	\$1.26	\$0.88
Rate Case	2.00000%	12/31/2037	1/1/2037	\$1.46	\$1.69	\$1.28	\$0.91
		12/31/2038	1/1/2038	\$1.46	\$1.74	\$1.28	\$0.94
		12/31/2039	1/1/2039	\$1.46	\$1.76	\$1.28	\$0.97

24.161%	0.000%	0.000%	2.000%	0.000%	0.000%	2.000%	0.000%	0.000%	2.000%	0.000%	0.000%
Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
127,159,455	127,159,455	127,159,455	129,702,644	129,702,644	129,702,644	132,296,697	132,296,697	132,296,697	134,942,631	134,942,631	134,942,631
\$67,341,357	\$67,341,357	\$67,341,357	69,884,546	69,884,546	69,884,546	72,478,599	72,478,599	72,478,599	75,124,533	75,124,533	75,124,533
73,568,715	75,775,777	78,049,050	80,390,522	82,802,237	85,286,304	87,844,894	90,480,240	93,194,648	95,990,487	98,870,202	101,836,308
\$53,590,740	\$16,295,624	\$0	0	0	0	0	0	0	0	0	0
0	35,088,055	49,110,405	49,312,122	46,900,407	44,416,340	44,451,803	41,816,457	39,102,049	38,952,144	36,072,429	33,106,323
127,159,455	127,159,455	127,159,455	129,702,644	129,702,644	129,702,644	132,296,697	132,296,697	132,296,697	134,942,631	134,942,631	134,942,631
ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok
100%	32%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
12.0	3.8	-	-	-	-	-	-	-	-	-	-
		\$49,110,405									
68,516,042	16,295,624	0	0	0	0	0	0	0	0	0	0
1,370,321	0	0	0	0	0	0	0	0	0	0	0
(53,590,740)	(16,295,624)	0	0	0	0	0	0	0	0	0	0
\$16,295,624	\$0	\$0	0	0	0	0	0	0	0	0	0
Yes	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted	Trust Exhausted

2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
\$0.70	\$1.05	\$1.21	\$1.23	\$1.23	\$1.23	\$1.26	\$1.26	\$1.26	\$1.28	\$1.28	\$1.28
\$0.70	\$1.05	\$1.21	\$1.23	\$1.23	\$1.23	\$1.26	\$1.26	\$1.26	\$1.28	\$1.28	\$1.28
3.0%	50.7%	14.7%	2.0%								
\$226,120,693	\$242,416,316	\$242,416,316	\$242,416,316								

Savings	Year for chart	Year Beginning	Leave PWD - 10/2/2019 PFM Projection ANNUAL	Stay With PWD - 10/2/2019 PFM Projection ANNUAL	Leave PWD - 10/2/2019 PFM Projection ANNUAL	Stay With PWD - 10/2/2019 PFM Projection ANNUAL
		1/1/2020	\$2,012,498.55	\$2,012,498.55		
\$0.18		1/1/2021	\$2,271,431.17	\$2,199,390.65	12.87%	9.29%
\$0.39		1/1/2022	\$2,456,370.68	\$2,312,096.71	8.14%	5.12%
\$0.67		1/1/2023	\$2,730,831.31	\$2,586,567.23	11.17%	11.87%
\$0.96		1/1/2024	\$3,076,671.86	\$2,726,606.01	12.66%	5.41%
\$1.59		1/1/2025	\$3,443,880.70	\$2,845,373.52	11.94%	4.36%
\$1.95		1/1/2026	\$4,142,844.80	\$3,233,485.55	20.30%	13.64%
\$2.01		1/1/2027	\$4,585,125.13	\$3,448,173.58	10.68%	6.64%
\$2.46		1/1/2028	\$4,718,835.24	\$3,547,395.38	2.92%	2.88%
\$1.14		1/1/2029	\$5,252,599.28	\$4,073,361.83	11.31%	14.83%
\$0.61		1/1/2030	\$5,347,146.06	\$4,256,399.32	1.80%	4.49%
\$0.62		1/1/2031	\$5,443,394.69	\$4,363,155.31	1.80%	2.51%
\$0.72		1/1/2032	\$5,541,375.80	\$4,899,709.54	1.80%	12.30%
\$0.82		1/1/2033	\$5,641,120.56	\$5,055,586.46	1.80%	3.18%
\$0.82		1/1/2034	\$5,742,660.73	\$5,161,587.57	1.80%	2.10%
\$0.82		1/1/2035	\$5,846,028.62	\$5,631,581.33	1.80%	9.11%
\$0.82		1/1/2036	\$5,846,028.62	\$5,974,486.53	0.00%	6.09%
\$16.58		1/1/2037	\$5,846,028.62	\$6,073,096.35	0.00%	1.65%
		1/1/2038	\$5,846,028.62	\$6,749,774.41	0.00%	11.14%
		1/1/2039	\$5,846,028.62	\$6,942,724.49	0.00%	2.86%
		1/0/1900	\$5,846,028.62	\$7,049,670.17	0.00%	1.54%
		1/0/1900	\$5,926,563.12	\$7,739,266.88	1.38%	9.78%
		1/0/1900	\$6,130,443.82	\$8,038,383.97	3.44%	3.86%
		1/0/1900	\$6,261,877.90	\$8,269,479.74	2.14%	2.87%



Aqua Pennsylvania Wastewater, Inc.
DELCORA Wastewater Regional Authority

1.) **DELCORA Wastewater Regional Authority**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Notes
Revenue	\$ 70,978,127	\$ 79,887,127	\$ 90,480,127	\$ 92,996,127	\$ 95,952,127	\$ 102,137,127	\$ 104,518,127	\$ 108,548,127	\$ 131,297,515	\$ 132,546,163	
O&M	41,808,283	50,090,641	50,712,454	51,346,703	54,547,598	55,210,502	55,886,664	55,173,928	35,877,406	36,594,954	
Depreciation	8,247,122	8,618,480	9,040,257	9,552,154	10,201,393	10,580,523	11,321,981	24,344,166	24,502,982	24,634,927	***2.72% Composite Depreciation Rate
Taxes Other	1,585,974	2,231,103	2,411,930	2,470,865	2,536,879	2,652,211	2,710,377	2,793,955	3,161,431	3,203,804	
Income Taxes	\$ 3,807,817	\$ 3,614,978	\$ 6,231,433	\$ 6,498,773	\$ 6,062,125	\$ 7,453,257	\$ 7,554,788	\$ 8,106,477	\$ 14,291,342	\$ 14,365,966	*****21% Federal & 9.99% State
Operating Income	\$ 15,528,932	\$ 15,331,925	\$ 22,084,053	\$ 23,126,632	\$ 22,584,131	\$ 26,240,634	\$ 27,044,317	\$ 38,129,602	\$ 53,464,353	\$ 53,746,511	
Rate Base at Fair Market Value	\$ 276,500,000	\$ 294,955,878	\$ 308,237,399	\$ 323,322,141	*****	\$ 364,849,825	\$ 378,409,301	\$ 404,927,320	\$ 870,661,924	\$ 876,341,942	
Capital Investments (Year 1)	\$ 26,703,000	\$ 21,900,000	\$ 24,125,000	\$ 27,860,000	\$ 33,421,231	\$ 24,140,000	\$ 37,840,000	\$ 490,078,769	\$ 30,183,000	\$ 29,353,893	
Rate Base (Including Capital Investments less depreciation year 1)	\$ 294,955,878	\$ 308,237,399	\$ 323,322,141	\$ 341,629,987	*****	\$ 378,409,301	\$ 404,927,320	\$ 870,661,924	\$ 876,341,942	\$ 881,060,908	
Interest Expense ^	6,160,876	6,438,293	6,753,375	7,135,779	7,620,782	7,904,005	8,457,899	18,185,907	18,304,548	18,403,116	
Required Operating Income (Rate Base x Rate of Return)	\$ 21,749,294	\$ 22,728,640	\$ 23,840,950	\$ 25,190,924	\$ 26,903,096	\$ 27,902,937	\$ 29,858,308	\$ 64,200,390	\$ 64,619,220	\$ 64,967,185	
Operating Income Deficiency	\$ 6,220,362	\$ 7,396,715	\$ 1,756,897	\$ 2,064,292	\$ 4,318,964	\$ 1,662,303	\$ 2,813,991	\$ 26,070,788	\$ 11,154,867	\$ 11,220,673	
Gross Revenue Conversion Factor	1.432171	1.432171	1.432171	1.432171	1.432171	1.432171	1.432171	1.432171	1.432171	1.432171	
Revenue Deficiency (Excess) \$	\$ 8,909,000	\$ 10,593,000	\$ 2,516,000	\$ 2,956,000	\$ 6,185,000	\$ 2,381,000	\$ 4,030,000	\$ 22,749,387	\$ 1,248,649	\$ 1,208,384	* 10% Act 11 starting 2028
Revenue Deficiency (Excess) %	12.55%	13.26%	2.78%	3.18%	6.45%	2.33%	3.86%	20.96%	0.95%	0.91%	
Increase applied to Acquired (Authority) customers 100%	\$ 8,909,000	\$ 10,593,000	\$ 2,516,000	\$ 2,956,000	\$ 6,185,000	\$ 2,381,000	\$ 4,030,000	\$ 22,749,387	\$ 1,248,649	\$ 1,208,384	
Increase %	12.55%	13.26%	2.78%	3.18%	6.45%	2.33%	3.86%	20.96%	0.95%	0.91%	
Increase applied to Acquired (Authority) customers 50%	\$ 4,454,500	\$ 5,296,500	\$ 1,258,000	\$ 1,478,000	\$ 3,092,500	\$ 1,190,500	\$ 2,015,000	\$ 11,374,694	\$ 624,324	\$ 604,192	
Increase %	6.28%	6.63%	1.39%	1.59%	3.22%	1.17%	1.93%	10.48%	0.48%	0.46%	
Increase applied to Existing (Company Wastewater) customers 50%	\$ 4,454,500										
Increase %	14.32%										
Increase applied to Existing (Company Water) customers (Act 11)	\$ 19,971,782										* 10% Act 11 starting 2028
Increase %	4.58%										

	Avg. Usage / Kgal	Estimated Monthly Increase	Estimated Percentage Increase
Impact Existing Customers (DELCORA) - Western Retail - Residential/Commercial 100%	6.81	\$ 4.92	12.55%
Impact Existing Customers (DELCORA) - Western Retail - Residential/Commercial (Marcus Hook) 100%	3.91	\$ 4.30	12.55%
Impact Existing Customers (DELCORA) - Western Retail - Residential/Commercial (Minimum Accounts) 100%	1.56	\$ 1.13	12.55%
Impact Existing Customers (DELCORA) - Western Retail - Residential/Commercial (Minimum Accounts Marcus Hook) 100%	1.40	\$ 1.54	12.55%
Impact Existing Customers (DELCORA) - Western Retail Industrial 100%	735.87	\$ 640.09	12.55%
Impact Existing Customers (DELCORA) - Western Wholesale 100%	16,724.31	\$ 6,024.69	12.55%
Impact Existing Customers (DELCORA) - EDU Wholesale 100%	26,779.25	\$ 9,714.06	12.55%
Impact Existing Customers (DELCORA) - Western Wholesale Industrial 100%	40,014.58	\$ 15,971.65	12.55%
Impact Existing Customers (DELCORA) - Western Chester Ridley Creek 100%	65,385.83	\$ 28,729.13	12.55%
Impact Existing Customers (DELCORA) - Eastern Authority 100%	362,465.28	\$ 123,293.48	12.55%
Impact Existing Customers (DELCORA) - Eastern Other (Rose Valley Pump Station) 100%	N/A	\$ 10.17	12.55%
Impact Existing Customers (DELCORA) - Eastern Other (Pocopson - Riverside) 100%	N/A	\$ 9.94	12.55%
Impact Existing Customers (DELCORA) - Eastern Other (Pocopson - Preserve) 100%	N/A	\$ 14.64	12.55%
Impact Existing Customers (DELCORA) - Eastern Other (Edgemont - Residential) 100%	4.08	\$ 13.34	12.55%
Impact Existing Customers (DELCORA) - Eastern Other (Edgemont - Commercial) 100%	29.49	\$ 48.67	12.55%
Impact Existing Customers (DELCORA) - Other (Spring Hill Farms) 100%	N/A	\$ 8.72	12.55%
Impact Existing Customers (DELCORA) - Western Retail - Residential/Commercial 50%	6.81	\$ 2.46	6.28%
Impact Existing Customers (DELCORA) - Western Retail - Residential/Commercial (Marcus Hook) 50%	3.91	\$ 2.15	6.28%
Impact Existing Customers (DELCORA) - Western Retail - Residential/Commercial (Minimum Accounts) 50%	1.56	\$ 0.56	6.28%
Impact Existing Customers (DELCORA) - Western Retail - Residential/Commercial (Minimum Accounts Marcus Hook) 50%	1.40	\$ 0.77	6.28%
Impact Existing Customers (DELCORA) - Western Retail Industrial 50%	735.87	\$ 320.04	6.28%
Impact Existing Customers (DELCORA) - Western Wholesale 50%	16,724.31	\$ 3,012.34	6.28%
Impact Existing Customers (DELCORA) - EDU Wholesale 50%	26,779.25	\$ 4,857.03	6.28%
Impact Existing Customers (DELCORA) - Western Wholesale Industrial 50%	40,014.58	\$ 7,985.83	6.28%
Impact Existing Customers (DELCORA) - Western Chester Ridley Creek 50%	65,385.83	\$ 14,364.57	6.28%
Impact Existing Customers (DELCORA) - Eastern Authority 50%	362,465.28	\$ 61,646.74	6.28%
Impact Existing Customers (DELCORA) - Eastern Other (Rose Valley Pump Station) 50%	N/A	\$ 5.08	6.28%
Impact Existing Customers (DELCORA) - Eastern Other (Pocopson - Riverside) 50%	N/A	\$ 4.97	6.28%
Impact Existing Customers (DELCORA) - Eastern Other (Pocopson - Preserve) 50%	N/A	\$ 7.32	6.28%
Impact Existing Customers (DELCORA) - Eastern Other (Edgemont - Residential) 50%	4.08	\$ 6.67	6.28%
Impact Existing Customers (DELCORA) - Eastern Other (Edgemont - Commercial) 50%	29.49	\$ 24.33	6.28%
Impact Existing Customers (DELCORA) - Other (Spring Hill Farms) 50%	N/A	\$ 4.36	6.28%
Impact Existing Customers (Company Wastewater) - Residential - 50%	3.02	\$ 9.78	14.32%
Impact Existing Customers (Company Wastewater) - Commercial - 50%	21.94	\$ 30.76	14.32%
Impact Existing Customers (Company Wastewater) - Industrial - 50%	3.20	\$ 7.92	14.32%
Impact Existing Customers (Company Water) - Residential	4.08	\$ 2.99	4.58%
Impact Existing Customers (Company Water) - Commercial	37.05	\$ 18.77	4.58%
Impact Existing Customers (Company Water) - Industrial	211.51	\$ 88.39	4.58%

2.) **Rate of Return**

	Ratio	Cost Rate	WACC
Debt	47.15%	4.43%	2.09%
Equity	52.85%	10.00%	5.29%
	100.00%		7.37%

3.) **Gross Revenue Conversion Factor**

Dollar of Revenue		1.0000
Less: Gross Receipts (Revenue) Tax	0.00%	0.0000
Less: Reg Assessments	0.62%	0.0062
Less: Bad Debts	1.17%	0.0117
State Taxable Income		0.982053
State Income Tax	9.9999%	0.0982

Federal Taxable Income	0.883848772
Federal Tax Rate	21.00%
Federal Income Tax	0.185608
Net Revenue Dollar	0.69824052992
Gross Revenue Conversion Factor	1.43217123
EFT	28.8999%

*** Below DOES NOT PRINT ***

Revenue Based on Expected Rate Case Filing Cycle:

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
\$	70,978,127	\$90,480,127	\$90,480,127	\$90,480,127	\$102,137,127	\$102,137,127	\$102,137,127	\$131,297,515	\$131,297,515	\$131,297,515	*** Total Revenue Requirement based on rate case timing used for charts***

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
Revenue	\$79,887,127	\$90,480,127	\$92,996,127	\$95,952,127	\$102,137,127	\$104,518,127	\$108,548,127	\$131,297,515	\$132,546,163	\$133,754,547	*** Total Revenue Requirement for Proof of Revenue Check***
O&M	41,912,283	50,214,641	50,741,454	51,381,703	54,619,598	55,238,502	55,933,664	35,439,928	35,892,406	36,608,954	
Depreciation	8,247,122	8,618,480	9,040,257	9,552,154	10,201,393	10,580,523	11,321,981	24,344,166	24,502,982	24,634,927	
Taxes Other	1,642,000	2,297,000	2,428,000	2,489,000	2,575,000	2,667,000	2,736,000	2,938,000	3,169,000	3,211,000	
Income Taxes ^a	6,336,263	6,621,467	6,945,530	7,338,699	7,837,761	8,128,998	8,698,467	14,563,108	14,645,678	14,709,063	
Operating Income	\$21,749,000	\$22,729,000	\$23,841,000	\$25,191,000	\$26,903,000	\$27,903,000	\$29,858,000	\$54,014,000	\$54,336,000	\$54,591,000	
Required Operating Income	\$21,749,000	\$22,729,000	\$23,841,000	\$25,191,000	\$26,903,000	\$27,903,000	\$29,858,000	\$64,200,000	\$64,619,000	\$64,967,000	
Operating Income Deficiency	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-\$10,186,000	-\$10,283,000	-\$10,376,000	
Gross Revenue Conversion Factor	1.432171	1.432171	1.432171	1.432171	1.432171	1.432171	1.432171	1.432171	1.432171	1.432171	
Revenue Increase	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,186,000	\$10,283,000	\$10,376,000	
Equity Rate Base	\$155,884,182	\$162,903,465	\$170,875,752	\$180,551,448	\$192,823,132	\$199,989,316	\$214,004,089	\$460,144,827	\$463,146,716	\$465,640,690	
ROE	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	7.79%	7.78%	7.77%	

Aqua Pennsylvania Wastewater, Inc.**Calculation of DELCORA Wastewater Regional Authority - Present Revenues**

	Rate 2020	Customers 2020	Method	Gallons (Kgals) 2020	EDU's 2020	Revenue 2020
Service Charges:						
<u>Western</u>						
<u>Western Retail:</u>						
Residential/Commercial	\$5.75	13,600	per 1,000 Gallons Water Used	1,111,649		\$6,391,982
Residential/Commercial (Marcus Hook)	\$8.78	891	per 1,000 Gallons Water Used	41,761		\$366,662
Minimum Accounts	\$107.73		Annual Minimum Charge	3,869		\$416,807
Minimum Accounts (Marcus Hook)	\$147.23		Annual Minimum Charge			\$0
Subtotal Retail Residential:		14,491		1,157,279		\$7,175,451
<u>Western Retail Industrial (*) (^):</u>						
Industrial	\$6.93	7	per 1,000 Gallons	61,813		\$428,364
Subtotal Western Retail:		14,498		1,219,092		\$7,603,815
<u>Western Wholesale:</u>						
Western Wholesale (^)	\$2.87	6	per 1,000 Gallons	1,204,150		\$3,455,911
<u>EDU Wholesale:</u>						
Brook Haven	\$2.89	1	per 1,000 Gallons	270,981		\$783,135
Nether Providence	\$2.89	1	per 1,000 Gallons	371,721		\$1,074,274
Subtotal Western Wholesale:		2		642,702		\$1,857,409
<u>Western Wholesale Industrial (*) (^):</u>						
Western Wholesale Industrial	\$3.18	6	per 1,000 Gallons	2,881,050		\$9,161,739
<u>Chester Ridley Creek (^):</u>						
Southwest Authority	\$3.50	1	per 1,000 Gallons	967,250		\$3,385,375
Middletown	\$3.50	1	per 1,000 Gallons	602,250		\$2,107,875
Subtotal Chester Ridley Creek:		2		1,569,500		\$5,493,250
Total Western:		14,514		7,516,494		\$27,572,123
<u>Eastern</u>						
Central Delaware County Authority (^)	\$2.71	1	per 1,000 Gallons	3,832,500		\$10,386,075
Darby Creek Joint Authority (^)	\$2.71	1	per 1,000 Gallons	7,482,500		\$20,277,575
Muckinipates Authority (^)	\$2.71	1	per 1,000 Gallons	1,733,750		\$4,698,463
Total Eastern Authority Area:		3		13,048,750		\$35,362,113
<u>Other</u>						
<u>Rose Valley Pump Station:</u>						
Rose Valley Residents	\$972.00	373	Annual Per EDU		373	\$362,556
Nether Providence Residents	\$972.00	127	Annual Per EDU		127	\$123,444
		500		36,500		\$486,000
<u>Pocopson:</u>						
Riverside	\$950.00	160	Annual Per EDU		160	\$152,000
Preserve	\$1,400.00	66	Annual Per EDU		66	\$92,400
		226		21,654		\$244,400
<u>Edgmont (^):</u>						
Residential	\$1,275.00	679	Annual Per EDU	33,238	679	\$865,725
Commercial (Service Charge)	\$1,025.00		Annual Per EDU		152	\$155,800
Commercial (Volumetric Charge)	\$10.25	35	per 1,000 Gallons Water Used	12,387		\$126,967
		714		45,625		\$1,148,492
<u>Other Remote Locations</u>						
Spring Hill Farms		371		35,547		\$309,422
Other						\$140,578
Total Other Systems:		1,811		139,326		\$2,328,892
<u>Other Charges:</u>						
Residual Waste Disposal						\$5,000,000
Effluent Usage						\$90,000
Load Surcharge (*)						\$325,000
Other Fees (Late, Bad Debt)						\$300,000
Total Other Charges:						\$5,715,000
Total Revenue at Present Rates		16,328		20,704,570		\$70,978,127

(*) The surcharge rate is set at \$.32/lb. of Biochemical Oxygen Demand (BOD) and \$.285/lb. for Suspended Solids (SS), where BOD or SS strength exceeds 300 mg/L on a daily basis. Wastestreams with SS strengths exceeding 300 mg/L and generated from biological, chemical, or physical processes shall be evaluated and billed independently of other wastestreams. Wastestreams generated from processes to remove river water sediment or sediment from other natural bodies of water and with SS strengths exceeding 300 mg/L shall be evaluated and billed independently of other wastestreams.

(^*) Billed on an estimated basis with true up to actual volume (quarterly/annually)

Aqua Pennsylvania Wastewater, Inc.***Calculation of DELCORA Wastewater Regional Authority - Operating and Maintenance Expenses*****OPERATING AND MAINTENANCE EXPENSES:**

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>
O&M Labor Exp Reg	\$ 11,638,300	\$ 11,871,066	\$ 12,108,487	\$ 12,350,657
O&M Labor Exp OT	1,129,932	\$ 1,152,531	\$ 1,175,581	\$ 1,199,093
O&M Employee Benefits	6,837,151	\$ 6,973,894	\$ 7,113,372	\$ 7,255,640
O&M Purchased WW Treatment	11,327,262	19,000,000	19,000,000	19,000,000
O&M Purchased Power	2,690,100	\$ 2,743,902	\$ 2,798,780	\$ 2,854,756
O&M Chemicals	990,000	\$ 1,009,800	\$ 1,029,996	\$ 1,050,596
O&M Mgmt Fees	720,000	\$ 734,400	\$ 749,088	\$ 764,070
O&M Cust Ops ACO (@ \$10.00 per customer)	180,000	\$ 183,600	\$ 187,272	\$ 191,017
O&M OS Engineering	197,500	\$ 201,450	\$ 205,479	\$ 209,589
O&M OS Legal	230,000	\$ 234,600	\$ 239,292	\$ 244,078
O&M OS Operations	1,252,500	\$ 1,277,550	\$ 1,303,101	\$ 1,329,163
O&M OS Maintenance	2,848,450	\$ 2,905,419	\$ 2,963,527	\$ 3,022,798
O&M OS Other	869,950	\$ 887,349	\$ 905,096	\$ 923,198
O&M Supplies	464,938	\$ 474,237	\$ 483,721	\$ 493,396
O&M Other	432,200	\$ 440,844	\$ 449,661	\$ 458,654
Total O&M Expenses =>	<u>\$41,808,283</u>	<u>\$50,090,641</u>	<u>\$50,712,454</u>	<u>\$51,346,703</u>

Aqua Pennsylvania Wastewater, Inc.***Calculation of DELCORA Wastewater Regional Authority - Taxes Other Than Income***

<u>TAXES OTHER THAN INCOME (PRE-RATE CA</u>	<u>Rate</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>
Payroll Taxes (FICA, FUTA, SUTA)	8.000%	\$ 931,064	\$ 1,021,459	\$ 1,041,888	\$ 1,062,725
Property Taxes / (Purta)	0.890%	\$ 631,705	\$ 710,995	\$ 805,273	\$ 827,666
Regulatory Assessments	0.624%	\$ 23,205	\$ 498,649	\$ 564,769	\$ 580,474
Total		<u>\$ 1,585,974</u>	<u>\$ 2,231,103</u>	<u>\$ 2,411,930</u>	<u>\$ 2,470,865</u>

Docket No. R-2018-3003558

Schedule A-2
Witness: William C. PackerAQUA PENNSYLVANIA, INC.
NUMBER OF CUSTOMERS SERVED
AND WHOSE BILLS WILL BE CHANGED

LINE NO.	CUSTOMER CLASS	SERVED AT 3/31/2017 (2)	SERVED AT 3/31/2018 (3)	TO BE SERVED AT 3/31/2019 (4)	TO BE SERVED AT 3/31/2020 (5)	INCREASED BILLS (6)	DECREASED BILLS (7)	UNCHANGED BILLS (8)
1	Metered:							
2	Residential	391,514	394,192	395,423	396,654	396,654	-	-
3	Commercial	22,264	22,460	22,598	22,737	22,733	4	-
4	Industrial	781	779	776	773	773	-	-
5	Public	1,254	1,256	1,256	1,256	1,256	-	-
6	Bulk Water						-	-
7	Private Fire Protection	5,197	5,301	5,403	5,504	5,504	-	-
8	Sales to Water Utilities	17	16	16	16	16	-	-
9	Total Metered Customers	421,027	424,004	425,472	426,940	426,936	4	-
10	Other:							
11	Unmetered	903	943	943	943	943	-	-
12	Availability Charge	2,801	2,769	-	-	-	2,769	-
13	Public Fire Protection	263	263	263	263	263	-	-
14	Private Fire Protection	766	779	779	779	779	-	-
15	Total Customers	425,760	428,758	427,457	428,925	428,921	2,773	-

Docket No. R-2018-3003561

Schedule A-2
Witness: William C. PackerAQUA PENNSYLVANIA WASTEWATER, INC.
NUMBER OF CUSTOMERS SERVED
AND WHOSE BILLS WILL BE CHANGED

LINE NO.	CUSTOMER CLASS	SERVED AT 3/31/2017 (2)	SERVED AT 3/31/2018 (3)	TO BE SERVED AT 3/31/2019 (4)	TO BE SERVED AT 3/31/2020 (5)	INCREASED BILLS (6)	DECREASED BILLS (7)	UNCHANGED BILLS (8)
1	Residential	16,062	17,051	17,051	17,051	16,981	-	70
2	Commercial	1,324	1,469	1,469	1,469	1,427	42	-
3	Industrial	1	1	1	1	1	-	-
4	Public	38	40	40	40	40	-	-
5	Miscellaneous	-	-	-	-	-	-	-
6	Availability Charge	469	446	-	-	-	446	-
7	Total Customers	17,894	19,007	18,561	18,561	18,449	488	70
ADD Limerick Res Com Ind					4,882			315
ADD East Bradford Res Com Ind					1,213			33
ADD Cheltenham Res Com Ind Pub					9648			534
Total Existing WW Customers					35,225			

Wastewater Settlement Revenues => Exhibit 1(b) from 2018/2019 APWW Rate Case => \$ 17,620,976
 Add East Bradford WW \$ 1,082,462
 Add Limerick WW \$ 4,771,000
 Add Cheltenham WW \$ 2,521,829
 Total Existing Revenues \$ 31,696,259

Docket No. R-2018-3003558

Water Settlement Revenues => Exhibit 1(b) from 2018/2019 APWW Rate Case => \$ 473,763,919
 Residential \$ 307,623,471
 Commercial \$ 111,880,500
 Industrial Revenues \$ 16,482,317
 Total Existing Revenues (Res, Com, & Ind classes) \$ 435,986,388

AQUA PENNSYLVANIA, INC.

1-A(a) WATER AND 1-B(b) WASTEWATER REVENUE REQUIREMENT - SUMMARY

	Total Company	Water Operations	Wastewater Operations
Present Rate Revenue	\$ 444,858,981	\$ 431,415,676	\$ 13,443,305
Additional Revenue Requirement	47,002,319	35,263,332	11,738,987
Act 11 Allocation (1)	-	7,261,316	(7,261,316)
Proposed Revenues	<u>\$ 491,861,300</u>	<u>\$ 473,940,324</u>	<u>\$ 17,920,976</u>
Rate Increase/(Decrease) - \$	\$ 47,002,319	\$ 42,524,648	\$ 4,477,671
Rate Increase/(Decrease) - %	10.57%	9.88%	33.31%

Notes:
 (1) The allocation between wastewater operations and water operations is achieved by the proposed consolidation of water and wastewater revenue requirements to derive the water and wastewater rates proposed by the Company in this case.

Aqua Pennsylvania, Inc
Residential Average Monthly Bill Comparison - Wastewater
Docket Nos. A-2018-3004108, A-2018-3004109, R-2018-3003558 and R-2018-3003561

	<u>Current Division</u>	<u>New Rate Zone</u>	<u>Avg Consumption</u>	<u>Present Rates</u>	<u>Settlement Rates</u>	<u>\$ Change</u>	<u>% Change</u>	<u>Metered Number of Bill</u>	<u>Metered & Unmetered Number of Bills</u>
1	Bridlewood Division	1	4,100	43.04	67.48	24.44	56.79%	3,908	3,908
2	CS Sewer Division (Masthope)	6	1,300	28.99	40.94	11.95	41.22%	15,517	15,578
3	Deerfield Knoll Division	3	3,000	57.87	71.50	13.63	23.55%	1,426	1,426
4	Eagle Rock Division	1	1,900	39.67	45.44	5.77	14.54%	11,704	11,716
5	East Bradford Division	5	5,400	106.43	125.84	19.41	18.24%	972	972
6	Laurel Lakes Division	3	4,200	51.49	81.70	30.21	58.67%	2,348	2,372
7	Links at Gettysburg Division	3	2,700	63.58	68.95	5.37	8.45%	2,046	2,046
8	Little Washington Division	5	3,400	98.05	106.64	8.59	8.76%	4,152	4,164
9	Media Division	1	4,200	42.19	62.92	20.73	49.13%	20,733	20,773
10	Newlin Green Division	5*	6,500	158.75	158.75	0.00	0.00%	588	588
11	Peddlers View Division	4	4,100	78.44	100.95	22.51	28.70%	2,564	2,564
12	Penn Township Division	1B	3,400	40.70	55.00	14.30	35.14%	3,148	3,148
13	Plumsock Division	5	5,300	107.12	124.88	17.76	16.58%	456	456
14	Rivercrest Division	2	3,200	45.22	61.92	16.70	36.93%	5,785	5,869
15	Stony Creek Division	3	2,500	54.86	67.25	12.39	22.58%	2,558	2,558
16	The Greens at Penn Oaks Division	5	3,500	106.38	107.60	1.22	1.15%	838	850
17	Thornhurst Division	3	2,600	52.36	68.10	15.74	30.06%	3,538	3,538
18	Treasure Lake Division	1A	3,000	40.52	49.90	9.38	23.15%	25,259	25,590
19	Twin Hills Division	4	4,200	70.15	101.90	31.75	45.26%	3,947	3,947
20	White Haven Division	2	2,900	47.07	59.49	12.42	26.39%	5,568	5,736
21	Willistown Woods Division	3	3,100	54.92	72.35	17.43	31.74%	8,888	8,888
22	Woodloch Springs Division	3	2,000	51.87	63.00	11.13	21.46%	4,907	4,987
23	Beech Mountain Lakes Division	3	Unmetered	56.04	80.00	23.96	42.76%		11,234
24	Bunker Hill Subdivision	1A	Unmetered	31.92	56.20	24.28	76.07%		790
25	Emlenton Borough Division	2	Unmetered	45.00	68.40	23.40	52.00%		4,416
26	Honeycroft Village Division	4	Unmetered	66.67	100.00	33.33	49.99%		1,250
27	Lake Harmony Division	4	Unmetered	65.63	100.00	34.37	52.37%		12,033
28	New Daleville Division	4	Unmetered	74.17	100.00	25.83	34.83%		1,272
29	Pinecrest Division	2	Unmetered	\$44.28	\$68.40	\$24.12	54.48%		4,002
30	Tobyhanna Township Division	4	Unmetered	66.67	100.00	33.33	49.99%		6,453
31	Sage Hill	5*	Unmetered	180.00	180.00	0.00	0.00%		251
			WEIGHTED AVERAGE Metered	3,018	62.09				
			WEIGHTED AVERAGE ALL		68.27				

5* - Special Charges have been assigned to these divisions within Rate Zone 5.

All Residential Customers are charged a customer charge on an EDU basis with the exception of the Media and Treasure Lake Divisions, which are charged a customer charge based on the appropriate meter size of the applicable Rate Zone. Media and Treasure Lake rates above represent a 5/8" meter.

Pinecrest Division's Present Rate is based on the weighted average of the present rates of all customers both inside Pinecrest and outside Pinecrest.

Bridlewood Division's Average Consumption and Present Rate are based on the weighted average of both townhome and single family home customers.

As per the Asset Purchase Agreement, the Tobyhanna Division rate increase will not become effective until January 1, 2020.

Aqua PennsylvRania, Inc**Commercial Average Monthly Bill Comparison - Wastewater****Docket Nos. A-2018-3004108, A-2018-3004109, R-2018-3003558 and R-2018-3003561**

	<u>Current Division</u>	<u>New Rate Zone</u>	<u>Avg Consumption</u>	<u>Present Rates</u>	<u>Settlement Rates</u>	<u>\$ Change</u>	<u>% Change</u>	<u>Number of Bills</u>
1	CS Sewer Division (Masthope)	6	24,800	41.33	64.44	23.11	56%	96
2	Eagle Rock Division	1	11,700	52.02	124.92	72.90	140%	323
3	Links at Gettysburg Division	3	20,000	216.93	216.00	-0.93	0%	24
4	Media Division	1	15,700	111.87	150.32	38.45	34%	3,388
5	Penn Township Division	1B	88,800	873.10	955.50	82.40	9%	507
6	Rivercrest Division	2	12,200	92.66	134.82	42.16	45%	108
7	The Greens at Penn Oaks Division	5	78,400	798.26	1,122.64	324.38	41%	12
8	Tobyhanna Township Division	4	9,600	86.00	153.20	67.20	78%	1449
9	Treasure Lake Division	1A	31,700	153.53	230.71	77.18	50%	382
10	Village at Valley Forge Division	1A	144,500	1,054.42	1,220.35	165.93	16%	243
11	White Haven Division	2	5,700	50.60	82.17	31.57	62%	463
12	Willistown Woods Division	3	3,200	55.23	73.20	17.97	33%	1,428
13	Woodloch Springs Division	3	117,000	62.62	71.50	8.88	14%	98
14	Avon Grove School District	5*	Unmetered	6,625.00	8,281.25	1656.25	25%	
15	Beech Mountain Lakes Division	3	Unmetered	69.74	80.00	10.26	15%	
16	Bridlewood Division	1	Unmetered	38.42	61.40	22.98	60%	
17	Emlenton Borough Division	2	Unmetered	45.00	68.40	23.40	52%	
18	Honeycroft Rillage Division	4	Unmetered	466.69	700.00	233.31	50%	
19	Lake Harmony Division	4	Unmetered	65.63	100.00	34.37	52%	
20	Pinecrest Division	2	Unmetered	\$52.32	\$68.40	16.08	31%	
WEIGHTED AVERAGE - METERED ONLY			21,936		214.73			

5* - Special Charges have been assigned to these Divisions within Rate Zone 5.

All Residential Customers are charged a customer charge on an EDU basis with the exception of the Media and Treasure Lake Divisions, which are charged a customer charge based on the appropriate meter size of the applicable Rate Zone. Media and Treasure Lake rates above represent a 5/8" meter.

Bridlewood Division's Present Rate and Settlement Rate are based on the weighted average of the EDU rate charged to the 2 commercial customers.

Woodloch Springs Division's Present Rate and Settlement Rate are based on the customer charge per EDU.

As per the Asset Purchase Agreement, the Tobyhanna Division rate increase will not become effective until January 1, 2020.

Aqua Pennsylvania, Inc
Industrial Average Monthly Bill Comparison - Wastewater
Docket Nos. A-2018-3004108, A-2018-3004109, R-2018-3003558 and R-2018-3003561

	<u>Current Division</u>	<u>New Rate Zone</u>	<u>Meter Size</u>	<u>Avg Consumption</u>	<u>Present Rates</u>	<u>Settlement Rates</u>	<u>\$ Change</u>	<u>% Change</u>
7	Media Division	1	5/8"	3,200	36.13	55.32	19.19	53%

Aqua Pennsylvania, Inc
Residential Average Monthly Bill Comparison - Water
Docket Nos. A-2018-3004108, A-2018-3004109, R-2018-3003558 and R-2018-3003561

	<u>Current Division</u>	<u>New Rate Zone</u>	<u>Present Rates*</u>	<u>Settlement Rates*</u>	<u>\$ Change</u>	<u>% Change</u>	<u>Number of Bill</u>	<u>Consumption</u>	<u>Average Gallons</u>
1	Main Division Eagle Rock, Fawn Lake, Tanglewood, Thornhurst, Woodledge Village, Western &	1	\$59.85	\$65.52	\$5.67	9.47%	4,173,338	172,154,838	4,125
2	Pinecrest Divisions	3	59.85	65.52	5.67	9.47%	36,516	737,618	2,020
3	Bensalem Division	1	55.80	65.52	9.72	17.42%	179,147	7,534,487	4,206
4	Chalfont Division	2	47.27	65.52	18.25	38.61%	25,821	1,021,170	3,955
5	Oakland Beach/Lakeside Acres Division	3	57.04	65.52	8.48	14.87%	11,344	261,978	2,309
6	CS Water Division (Masthope)	3	49.36	65.52	16.16	32.74%	15,615	204,095	1,307
7	Country Club Gardens Division	1	40.29	52.98	12.69	31.50%	4,979	223,135	4,482
8	Clarendon Water Division	1	51.05	65.52	14.47	28.34%	3,407	109,345	3,210
9	Kratzerville Division	1	52.29	65.52	13.23	25.30%	1,727	58,671	3,398
10	Honesdale Division	1	52.20	65.52	13.32	25.52%	17,272	632,741	3,663
11	Sand Springs Division	1	40.73	52.98	12.25	30.08%	5,023	168,199	3,349
12	Mifflin Township Division	1	37.11	50.64	13.53	36.46%	5,606	176,827	3,154
13	Beech Mountain Lakes Division	1	21.45	31.73	10.28	47.93%	11,187	369,388	3,302
14	Treasure Lake Division	2	27.20	40.15	12.95	47.61%	25,311	765,777	3,026
15	Concord Park Division	2	30.88	43.91	13.03	42.20%	1,980	77,030	3,890
16	Bristol Township Water System Division	1	24.24	38.40	14.16	58.42%	5,089	226,795	4,457
17	Mt Jewett Borough Division	1	45.95	65.52	19.57	42.59%	4,832	155,007	3,208
18	Bunker Hill Subdivision	Bunker Hill	12.88	26.36	13.48	104.66%	779	31,897	4,097
19	Robin Hood Lakes Division	1	40.16	53.09	12.93	32.20%	2,397	67,756	2,826
20	East Cameron Division	1	57.02	65.52	8.50	14.91%	609	12,076	1,982
21	Sun Valley Division**	Sun Valley	15.00	19.50	4.50	30.00%			
22	Superior Water Company	2	57.02	65.52	8.50	14.91%	47,018	2,045,060	4,350
WEIGHTED AVERAGE				65.20					4,080

*Residential water rates are based on 5/8" meter and an average consumption of 4,080 gallons per month for all divisions.

**Sun Valley customers are flat rate, unmetered customers.

Aqua Pennsylvania, Inc
Commercial Average Monthly Bill Comparison - Water
Docket Nos. A-2018-3004108, A-2018-3004109, R-2018-3003558 and R-2018-3003561

	<u>Current Division</u>	<u>New Rate Zone</u>	<u>Meter Size</u>	<u>Avg Consumption</u>	<u>Present Rates</u>	<u>Settlement Rates</u>	<u>\$ Change</u>	<u>% Change</u>	<u>Number of Bills</u>
1	Main Division Eagle Rock, Fawn Lake, Tanglewood, Thornhurst, Woodledge Village, Western &	1	5/8"	37,800	\$380.00	\$419.63	\$39.63	10.43%	236,233
2	Pinecrest Divisions	3	5/8"	13,800	171.34	186.73	15.39	8.98%	665
3	Bensalem Division	1	5/8"	50,700	468.54	531.51	62.97	13.44%	15,289
4	Chalfont Division	2	5/8"	7,100	70.32	102.49	32.17	45.75%	1,678
5	Oakland Beach/Lakeside Acres Division	3	5/8"	5,500	84.39	93.45	9.06	10.74%	381
6	CS Water Division (Masthope)	3	5/8"	42,300	426.00	468.66	42.66	10.01%	57
7	Country Club Gardens Division	1	5/8"	33,900	271.22	333.27	62.05	22.88%	11
8	Clarendon Water Division	1	5/8"	9,900	93.91	135.81	41.90	44.62%	252
9	Kratzerville Division	1	5/8"	7,600	82.56	108.44	25.88	31.35%	23
10	Honesdale Division	1	5/8"	12,600	133.84	164.18	30.34	22.67%	3,789
11	Sand Springs Division	1	2"	40,800	309.80	523.34	213.54	68.93%	12
12	Mifflin Township Division	1	5/8"	19,600	112.70	174.80	62.10	55.10%	369
13	Beech Mountain Lakes Division	1	5/8"	23,000	51.34	95.40	44.06	85.82%	60
14	Treasure Lake Division	2	5/8"	30,800	121.26	185.24	63.98	52.76%	393
15	Concord Park Division	2	4"	487,300	2,226.92	3,381.86	1,154.94	51.86%	12
16	Bristol Township Water System Division	1	5/8"	14,800	116.15	146.76	30.61	26.35%	1,785
17	Mt Jewett Borough Division	1	5/8"	2,200	33.07	44.18	11.11	33.60%	444
20	East Cameron Division	1	3/4"	300	50.00	34.04	(15.96)	-31.92%	28
22	Superior Water Company	2	5/8"	8,400	99.18	117.96	18.78	18.94%	1,077
	WEIGHTED AVERAGE			37,047		409.72			

Aqua Pennsylvania, Inc
 Industrial Average Monthly Bill Comparison - Water
 Docket Nos. A-2018-3004108, A-2018-3004109, R-2018-3003558 and R-2018-3003561

	<u>Current Division</u>	<u>New Rate Zone</u>	<u>Meter Size</u>	<u>Avg Consumption</u>	<u>Present Rates</u>	<u>Settlement Rates</u>	<u>\$ Change</u>	<u>% Change</u>	<u>Number of Bills</u>
1	Main Division	1	5/8"	231,500	\$1,897.56	\$2,099.59	\$202.03	10.65%	8,254
3	Bensalem Division	1	1"	53,500	523.48	590.30	66.82	12.76%	853
4	Chalfont Division	2	2"	37,000	358.73	484.19	125.46	34.97%	57
5	Oakland Beach/Lakeside Acres Division	3	5/8"	76,500	691.26	765.28	74.02	10.71%	12
10	Honesdale Division	1	5/8"	23,200	222.27	275.01	52.74	23.73%	72
17	Mt Jewett Borough Division	1	1"	600	22.11	59.64	37.53	169.74%	24
	WEIGHTED AVERAGE			211,513		1,930			

**DELCORA RATE STABILIZATION FUND
TRUST AGREEMENT**

between

**THE DELAWARE COUNTY REGIONAL
WATER QUALITY CONTROL AUTHORITY**

as SETTLOR

and

UNIVEST BANK AND TRUST CO.

as TRUSTEE

Effective Date: December 27, 2019

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Exhibit A - Trustee Compensation and Reimbursement

**DELCORA RATE STABILIZATION FUND
TRUST AGREEMENT**

THIS DELCORA RATE STABILIZATION FUND TRUST AGREEMENT, dated as of the Effective Date, is by and between **THE DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY**, a body corporate and politic existing under the Pennsylvania Municipal Authorities Act, 42 P.S. 5601 *et seq.* (the "Settlor"), and **UNIVEST BANK AND TRUST CO.**, a Pennsylvania state-chartered bank and trust company, as trustee (the "Trustee").

WITNESSETH:

WHEREAS, the Settlor currently owns and operates a sewer system (the "Sewer System") serving various residential, commercial, industrial, and municipal customers in Delaware County, Pennsylvania (the "DELCORA Customers");

WHEREAS, pursuant to that certain agreement dated September 17, 2019 (the "Sewer System Sale Agreement") between the Settlor and Aqua Pennsylvania Wastewater, Inc. ("Aqua Wastewater"), the Settlor has agreed to sell the Sewer System to Aqua Wastewater;

WHEREAS, the Settlor has agreed to devote a majority of the proceeds which it receives from the sale of the Sewer System (the "Sale Proceeds") to stabilizing the amounts which the DELCORA Customers will pay for access to the Sewer System during a period of years following the closing under the Sewer System Sale Agreement (the "Closing Date");

WHEREAS, the Settlor and the Trustee desire to establish a trust for the benefit of the DELCORA Customers (the "Trust"), and the Trustee agrees to serve as trustee of such trust;

WHEREAS, the Settlor has entered into a Funding Agreement with the Trustee bearing even date herewith (the "Funding Agreement") pursuant to which the Settlor has agreed to contribute to the Trust a majority of the Sale Proceeds on the Closing Date, as well as any amounts which Settlor may receive under Section 9 of the Escrow Agreement;

WHEREAS, the Settlor and Aqua Resources, Inc., will enter into a rate stabilization agreement, of which Aqua Wastewater will be the designated third party Distribution Agent, pursuant to which (a) Aqua Wastewater will bill DELCORA Customers at reduced levels and (b) the Trust will reimburse Aqua Wastewater for such reductions, as and when so directed by the Settlor pursuant to Article 5 below; and

WHEREAS, the Settlor and the Trustee desire that the Sale Proceeds transferred to the Trust pursuant to this Agreement, together with all other funds transferred to the Trustee hereunder, be held and administered as an irrevocable trust for the benefit of the DELCORA Customers pursuant to the provisions of this Trust Agreement;

NOW, THEREFORE, in consideration of the foregoing premises and the mutual covenants expressed herein, and intending to be legally bound, the Settlor and the Trustee hereby agree as follows:

ARTICLE 1 DEFINITIONS

Section 1.1 Definitions. Except as otherwise specified herein, or as the context otherwise requires, the following terms have the respective meanings set forth below for all purposes of this Agreement, including, without limitation, the recitals hereto.

"Affiliate" means, with respect to any specified person, any other person controlling or controlled by or under common control with such specified person. For the purposes of this definition, "control" when used with respect to any specified person means the power to direct the management and policies of such person, directly or indirectly, whether through the ownership of voting securities, by contract or otherwise; and the terms "controlling" and "controlled" have meanings correlative to the foregoing.

"Agreement" or "Trust Agreement" means this trust agreement between the Settlor and the Trustee, as such document is modified or reformed from time to time.

"Aqua Resources" means Aqua Resources, Inc., a Pennsylvania business corporation which is an Affiliate of Aqua Wastewater, and its successors and assigns.

"Aqua Wastewater" means Aqua Wastewater Pennsylvania, Inc., a Pennsylvania business corporation operating as a wastewater utility company, and its successors and assigns.

"Beneficiaries" shall refer to the DELCORA Customers.

"Calculation Agent" means the company engaged by the Settlor to provide calculation services in connection with the implementation of the Rate Stabilization Agreement.

"Closing Date" means the date of closing under the Sewer System Sale Agreement.

"Code" means the U.S. Internal Revenue Code of 1986, as amended, and all regulations promulgated thereunder. References to such Code shall be taken as references to any corresponding provisions of future law.

"County" means Delaware County, Pennsylvania.

"DELCORA Customers" means the customers connected to the Sewer System.

"Distribution Agent" shall refer to Aqua Wastewater or any successor thereto serving as the entity responsible for allocating rate reductions as provided under the Rate Stabilization Agreement to and among the Beneficiaries.

“Distributions” means distributions made by the Trustee to the Distribution Agent from time to time, as directed by the Settlor, pursuant to Article 4 below.

“Distribution Order” means a written direction delivered by an authorized representative of the Settlor to the Trustee instructing the Trustee to make a Distribution.

“Effective Date” means December 27, 2019.

“Escrow Agreement” means that certain Escrow Agreement among the Settlor, the Trustee (as escrow agent), and Aqua Wastewater dated as of December 27, 2019.

“Fund” or “Trust” means the Delaware County Regional Water Quality Control Authority Rate Stabilization Trust, which is the trust created pursuant to this Trust Agreement.

“Funding Agreement” means that certain agreement between the Settlor and the Trustee bearing even date herewith, pursuant to which the Settlor will be required to transfer a majority of the Sale Proceeds to the Trust on the Closing Date, as well as any amounts which Settlor may receive under Section 9 of the Escrow Agreement.

“Investment Guidelines” means such guidelines for the investment of the Trust assets as shall be provided from time to time by the Settlor to the Trustee.

“Permitted Investments” means investments which an authority constituted under the Pennsylvania Municipal Authorities Act, 42 P.S. 5601 *et seq.* is permitted to make under applicable law.

“Rate Stabilization Agreement” means the agreement to be entered into by and between the Settlor and Aqua Resources, with Aqua Wastewater as a designated third party Distribution Agent, pursuant to which (a) the Distribution Agent will agree to bill the Beneficiaries at reduced levels and (b) the Settlor will agree to direct the Trust to reimburse the Distribution Agent for such reductions, pursuant to Article 4 of this Trust Agreement.

“Settlor” means the Delaware County Regional Water Quality Control Authority and its successors (including the County upon termination of the Settlor).

“Sewer System” means the sewer system which is currently owned and operated by the Settlor and which will be sold by the Settlor to Aqua Wastewater, as improved by Aqua Wastewater subsequent to the Closing Date.

“Trust Assets” means the assets held from time to time by the Trustee in the Trust Fund.

“Trust Expenses” means the trustee compensation and any other expenses of the Trust, including, without limitation, amounts payable out of the Trust Fund pursuant to Section 5.6 below.

"Trustee" means Univest Bank and Trust Co., and its successors and permitted assigns.

"Trust Fund" means the trust estate managed, protected, and conserved pursuant to the terms and conditions of this Trust Agreement, which shall consist of the Sale Proceeds deposited by the Settlor hereunder, and any Additional Contributions made to the Trust under Section 3.3 hereof, together with any and all investment income earned from Permitted Investments made and held by the Trustee pursuant to this Trust Agreement.

Section 1.2 Other Definitional Provisions. (a) All references to Articles, Sections, and subsections are to Articles, Sections, and subsections of this Agreement unless otherwise specified. All terms defined in this Agreement shall have the defined meanings herein when used in any certificate, notice, or other document made or delivered pursuant hereto, unless otherwise defined therein.

(b) In the event of any change in the identity of the Settlor, Distribution Agent or Calculation Agent as defined above, whether by merger, incorporation or cessation of existence, written notice of the identity and contact information for the successor entity shall be provided in writing to the Trustee within ten (10) days of any change in accordance with the notice requirements of Section 9.3 below.

ARTICLE 2 ORGANIZATION

Section 2.1 Declaration of Trust. The name of the Trust shall be "The Delaware County Regional Water Quality Control Authority Rate Stabilization Trust." Effective as of the Effective Date, the Trustee shall have all of the rights, powers and duties set forth herein with respect to accomplishing the purposes of the Trust.

Section 2.2 Purposes of the Trust. The purposes of the Trust are to benefit the Beneficiaries by receiving Sale Proceeds deposited into the Trust Fund by the Settlor and any additional contributions made to the Trust under Section 3.3 hereof, investing and reinvesting such Sale Proceeds and any Additional Contributions, and making Distributions from time to time to the Distribution Agent for the benefit of the Beneficiaries, as directed by the Settlor pursuant to Article 4 below. The Distributions to the Distribution Agent are intended to reimburse the Distribution Agent for rate reductions which the Distribution Agent provides to the Beneficiaries pursuant to the Rate Stabilization Agreement. Neither the Distribution Agent nor any of its Affiliates is an intended beneficiary of the Trust.

Section 2.3 Appointment of Trustee. The Settlor hereby appoints the Trustee of the Trust, effective as of the Effective Date, to have all the rights, powers, and duties and all of the protections, indemnities, and immunities set forth herein. The Trustee hereby accepts such appointment.

Section 2.4 Title to Trust Property. Legal title to all the Trust Assets shall be vested at all times in the Trust as a separate legal entity, except where applicable law in any jurisdiction requires title to any part of the Trust Assets to be vested in the Trustee, in which case title shall

be deemed to be vested in the Trustee or a Trustee, as the case may be, *provided* that the Trustee shall have the power to cause legal title to any Trust Assets to be held by or in the name of the Trust, a custodian, sub-custodian, securities depository, or their respective nominee.

Section 2.5 Situs of Trust. The Trust shall be located in the Commonwealth of Pennsylvania, and questions pertaining to the validity and construction of this Agreement and with respect to the administration of the Trust shall be determined in accordance with the laws of the Commonwealth of Pennsylvania. The Trustee may, however, at any time and from time to time transfer the situs of the Trust to any other jurisdiction that the Trustee may deem appropriate.

Section 2.6 Use of Trust Assets. Trust Assets shall be used solely to carry out the purposes set forth in Section 2.2 above, and shall not be subject (in whole or in part) to voluntary or involuntary assignment, anticipation, legal process, or claims of creditors of the Settlor, the Distribution Agent, the Aqua Parent, any Beneficiary, or any other person or entity.

ARTICLE 3 CONTRIBUTIONS TO THE TRUST

Section 3.1 Initial Contribution. The Settlor shall transfer one thousand dollars (\$1000.00) in cash to the Trust on the Effective Date.

Section 3.2 Contribution of Sale Proceeds. On or as soon as practicable after the Closing Date, the Settlor shall transfer to the Trust (or direct Aqua Wastewater to transfer to the Trust on the Settlor's behalf) that portion of the Sale Proceeds (comprising a majority of the Sale Proceeds) which the Settlor is required to contribute to the Trust pursuant to the Funding Agreement.

Section 3.3 Additional Contributions. In addition to the contributions described in Sections 3.1 and 3.2 above, the Trustee may receive such additional contributions as may be made to it from time to time by the Settlor or any other person in the form of cash, securities, or other property acceptable to the Trustee (the "Additional Contributions"). Such Additional Contributions may include (without limitation) funds released from time to time from one or more escrow accounts created under the Sewer System Sale Agreement. *Provided, however*, that the Trustee shall have no responsibility for collecting any such Additional Contributions.

Section 3.4 Acceptance by the Trustee. The Trustee hereby agrees to accept the contributions described in sections 3.1, 3.2, and 3.3 above for the benefit of the Beneficiaries, and agrees to use such funds pursuant to the terms of this Agreement.

ARTICLE 4 DISTRIBUTIONS FROM THE TRUST

Section 4.1 Distributions. (a) The Settlor shall direct the Trustee to make Distributions to Aqua Wastewater from time to time in accordance with the Rate Stabilization

Agreement. The Trustee shall have no duty to determine whether or not the amounts or timing of such Distributions are proper under the Rate Stabilization Agreement.

(b) The Trustee shall make Distributions to the Distribution Agent from time to time in accordance with written directions received by the Trustee from a duly authorized representative of the Settlor (each a "Distribution Order"). *Provided, however,* that the Trustee shall make such Distribution no later than ten (10) business days after the date on which the Trustee receives the Distribution Order. Such Distributions will be made to the Distribution Agent solely for the purpose of reimbursing the Distribution Agent for rate reductions made pursuant to the Rate Stabilization Agreement. For purposes of this Section 4.1, written notification of the identity and contact information of the duly authorized representative of the Settlor shall be provided to the Trustee in writing at least annually on January 1, or upon any subsequent change in such authorized representative, within five (5) days thereof, in accordance with the requirements of Section 9.3 below.

Section 4.2 No Right of Reversion. Under no circumstances shall the Settlor or any successor thereto have any rights of reversion under this Trust Agreement. All Trust Assets shall be disbursed in furtherance of the purposes set forth in Section 2.2.

ARTICLE 5 TRUSTEE

Section 5.1 Trustee Resignation, Removal, and Succession. (a) Any Trustee serving hereunder shall have the right, upon ninety (90) days' prior written notice delivered to the Settlor, to resign as Trustee of this Trust. At any time after the sixth (6th) anniversary of the Closing Date, the Settlor shall have the right, upon ninety (90) days' prior written notice to the Trustee, and upon payment of all amounts due and owing hereunder, to remove such Trustee as a trustee. Upon notice of such resignation or removal, the Settlor shall appoint a successor Trustee in writing within thirty (30) days of the expiration of the ninety (90) day notice period, such appointment to be accepted in writing by the successor trustee so designated. If the Settlor fails to appoint a successor trustee, the Trustee may secure the appointment of a successor trustee in any manner permitted by law, including by petition or application to the appropriate court of jurisdiction. The resignation or removal of Trustee shall only become effective upon the appointment and qualification of the successor trustee. *Provided, however,* that the entity serving as Trustee hereunder shall at all times be a corporate trustee having assets of no less than one billion dollars (\$1,000,000,000).

(b) Upon the appointment, and timely written acceptance of the appointment of a successor trustee as provided herein, the Trustee shall transfer and convey to the successor Trustee all Trust Assets held by the Trustee. When such transfer and conveyance are completed, the Trustee shall be released and discharged from all liability relating to further administration and investment of the Trust.

(c) No Trustee taking office shall be liable in any way for the acts or omissions of any Trustee prior to such Trustee's assumption of office, or shall have any duty to review the performance of a Trustee prior to that date.

(d) Except as specifically authorized hereunder, all powers of the Trustee shall be exercised by the Trustee alone.

Section 5.2 Duties of Trustee. The Trustee undertakes to perform such duties, and only such duties, as are specifically set forth in this Agreement, subject to and in accordance with the provisions of this Agreement. No implied duties, covenants, or obligations shall be read into this Agreement against the Trustee, the Settlor, or any Affiliate of either the Trustee or the Settlor. The Trustee shall oversee the conduct of the activities of the Trust, make and execute contracts and other instruments on behalf of the Trust, and may sue and be sued on behalf of the Trust in the name of the Trust, subject to the terms of this Agreement.

Section 5.3 Acceptance of Trust and Duties. (a) Except as otherwise provided in this Article 5, in accepting the trust hereby created, the Trustee acts solely as trustee hereunder and not in its individual capacity, and all persons having any claim against the Trustee by reason of the transactions contemplated by this Agreement shall look only to the Trust Assets for payment or satisfaction thereof. The Trustee accepts the trust hereby created and agrees to perform its duties hereunder, but only in accordance with the express terms of this Agreement.

(b) In carrying out its duties hereunder, the Trustee shall exercise the rights and powers vested in it hereunder in good faith, but only on the terms expressly set forth herein. Neither the Trustee nor any of its officers, directors, employees, agents or affiliates shall have any implied duties (including fiduciary duties) or liabilities otherwise existing at law or in equity with respect to the Trust, which implied duties and liabilities are hereby eliminated. No provision of this Agreement shall be construed to relieve the Trustee from liability for its own grossly negligent action, its own grossly negligent failure to act, its own bad faith, its own breach of its representations, warranties or covenants given in its individual capacity or its own willful misconduct. In addition:

(i) The Trustee shall be liable for its willful misconduct or gross negligence in acting or failing to act, except that the Trustee shall not be liable with respect to any action taken, suffered or omitted to be taken by it in accordance with a direction received by it from the Settlor or Calculation Agent pursuant to this Agreement;

(ii) The Trustee shall not be liable for any error of judgment, or for any action taken, suffered or omitted to be taken by it, in good faith, nor for any act or omission of any predecessor and/or successor Trustee;

(iii) The Trustee shall not be deemed to have notice or knowledge of any matter unless written notice thereof is received by the Trustee in accordance with this Agreement;

(iv) The Trustee shall have no duty to monitor or supervise, or be liable for anything done or omitted by any other person, including the Settlor, the Distribution Agent or the Calculation Agent;

(v) The Trustee shall not be liable for the default or misconduct of the Settlor, the Distribution Agent, the Calculation Agent or any other person, and the Trustee shall not be deemed to have knowledge of any default on the part of any such person unless the Trustee receives written notice of such default in accordance with this Agreement; nor shall the Trustee be responsible for performing, monitoring or supervising the performance of any such person's obligations under this Agreement or any related agreement;

(vi) Under no circumstance shall the Trustee be liable for any representation, warranty, covenant, obligation or indebtedness of the Trust, or any other payment or distribution obligations evidenced by or arising under this Agreement;

(vii) The Trustee shall not be liable for or in respect of, and makes no representation with respect to, the validity or sufficiency of any provision of this Agreement, or the due execution hereof or thereof by any person, other than itself, or the value of the Trust Assets, or the efficacy of the Trust or its ability to generate the amounts intended to be distributed for the benefit of the Beneficiaries;

(viii) The Trustee shall not be bound to make any investigation into the facts or matters stated in any resolution, certificate, statement, instrument, opinion, report, notice, request, consent, entitlement order, approval or other paper or document;

(ix) The Trustee shall not be liable for (x) any special, consequential or punitive damages, however styled, including, without limitation, lost profits, (y) the acts or omissions of any nominee, correspondent, clearing agency or securities depository through which it holds the Trust's securities or assets, or (z) any losses due to forces beyond the reasonable control of the Trustee, as applicable, including, without limitation, strikes, lockouts, riots, work stoppages, acts of war or terrorism, insurrection, revolution, nuclear or natural catastrophes or acts of God and interruptions, loss or malfunctions of utilities, communications or computer (software and hardware) services; it being understood that the Trustee shall use commercially reasonable efforts which are consistent with accepted practices in the banking industry to resume performance as soon as reasonably practicable under the circumstances;

(x) Other than with respect to any report or information that the Trustee has an express duty to review under this Agreement, receipt by the Trustee of any report or other information delivered or otherwise made available to the Trustee pursuant to the terms of this Agreement or any other document related to the Trust shall not be deemed to constitute knowledge by the Trustee of such information, unless the Trustee receives written notice with respect thereto;

(xi) Except as otherwise expressly set forth in this Agreement, knowledge or information acquired by (x) Univest Bank and Trust Co. in any of its

respective capacities hereunder or under any other document related to this transaction shall not be imputed to Univest Bank and Trust Co. in any of its other capacities hereunder or under such other documents, and (y) any Affiliate of Univest Bank and Trust Co. shall not be imputed to Univest Bank and Trust Co. in any of its respective capacities hereunder and vice versa;

(xii) The right of the Trustee to perform any discretionary act enumerated in this Agreement or in any other document to which the Trust is a party shall not be construed as a duty, and the Trustee shall not be answerable for other than its gross negligence or willful misconduct in the performance of any such act; the Trustee shall be under no obligation to exercise any of the discretionary rights or powers vested in it by this Agreement;

(xiii) The Trustee shall have no duty to recompile, recalculate or otherwise verify the accuracy of any information provided to it by the Settlor except as otherwise expressly set forth in this Agreement, and may conclusively rely thereon in good faith;

(xiv) The Trustee may consult with counsel, accountants and other experts, and the Trustee shall not be liable for anything done, suffered or omitted in good faith by it in accordance with the advice or opinion of any such counsel, accountants, or other experts selected by it in good faith, and any opinion of counsel shall be full and complete protection in respect of any action taken or suffered or omitted by it under this Agreement in good faith and in accordance with such opinion of counsel;

(xv) The Trustee shall be under no obligation to institute, conduct or defend any litigation under this Agreement or otherwise in relation to the Trust at the request, order or direction of the Settlor or any other person, unless such requesting person(s) shall have offered to the Trustee reasonable security or indemnity against the costs, expenses and liabilities that may be incurred therein or thereby;

(xvi) The Trustee may execute any of the trusts or powers under this Agreement, or perform any duties under this Agreement, either directly or by or through agents or attorneys or one or more custodians (any of which may be Affiliates of the Trustee) and the Trustee shall not be liable for the acts or omissions of any agent, attorney or custodian selected by such Trustee in good faith;

(xvii) The Trustee shall have no duty or obligation to manage, make any payment in respect of, register, record, sell, dispose of or otherwise deal with the Trust Assets, or to otherwise take or refrain from taking any action under, or in connection with, any document contemplated hereby to which the Trustee is a party, except as expressly provided by the terms of this Agreement; and

(xviii) The Trustee shall have no responsibility to record this Agreement, to prepare or file any financing or continuation statement in any public office at any time or otherwise to perfect or maintain the perfection of any ownership or security interest or

lien or to prepare or file any tax, qualification to do business or securities law filing or report except as expressly provided by the terms of this Agreement.

(c) Notwithstanding anything to the contrary in this Agreement, the Trustee shall not be required to expend or risk its own funds or otherwise incur financial liability in the performance of any of its duties under this Agreement, or in the exercise of any of its rights or powers, if there shall be reasonable grounds for believing that the repayment of such funds or adequate indemnity against such risk or liability is not reasonably assured to it, and none of the provisions contained in this Agreement or any other document to which the Trust is a party, shall in any event require the Trustee, to perform, or be responsible for the manner or omission of performance of, any of the duties or obligations of the Settlor under any other agreement or document.

(d) Each of the parties hereto hereby agrees, and each Beneficiary, as evidenced by its acceptance of any benefits hereunder, understands and agrees, that the Trustee, in any capacity, has not provided and will not in the future provide, any advice, counsel or opinion regarding the tax, financial, investment, securities law or insurance implications and consequences of the formation, funding and ongoing administration of the Trust.

(e) Each of the parties hereto hereby agrees, and each Beneficiary, as evidenced by its acceptance of any benefits hereunder, understands and agrees, that that the Trustee, in any capacity, has not (i) made any investigation as to the accuracy of any representations, warranties or other obligations of the Trust under this Agreement or any other document contemplated hereby, and shall have no liability in connection therewith and (ii) prepared or verified, and shall have no liability for, any information, disclosure or other statement made in any document issued or delivered in connection with the transactions contemplated by this Agreement or any related document or agreement.

Section 5.4 Refrain from Certain Actions. The Trustee shall not be required to take any action under this Agreement if the Trustee shall have reasonably determined, or shall have been advised by counsel, that such action is likely to result in liability on the part of the Trustee, is contrary to the terms of this Agreement, or is otherwise contrary to applicable law.

Section 5.5 Reliance. The Trustee shall not incur any liability to anyone in acting upon any signature, instrument, notice, resolution, request, consent, order, certificate, report, opinion, bond, facsimile transmission, or other document or paper reasonably believed by it to be genuine and reasonably believed by it to be signed by an authorized representative of the proper party or parties, and need not investigate any fact or matter in any such document. As to any fact or matter the method of the determination of which is not specifically prescribed herein, the Trustee may for all purposes hereof rely on a certificate signed by an authorized officer of the Settlor, as to such fact or matter, and such certificate shall constitute full protection to the Trustee for any action taken or omitted to be taken by it in good faith in reliance thereon.

Section 5.6 Compensation and Expenses. (a) The Trustee shall be entitled to compensation and reimbursement from Trust Assets for all expenses incurred in the course of discharging its duties thereunder, as provided in the schedule attached hereto as Exhibit A.

(b) Trust Assets may be used to pay compensation and expenses of the Calculation Agent, upon receipt by the Trustee of written directions to this effect from the Settlor.

Section 5.7 Investment of Trust Assets. (a) The Trustee shall invest and reinvest the principal and income of the Trust Fund and keep the Trust Assets invested, without distinction between principal and income, in Permitted Investments that comply with the Investment Guidelines. The Trustee may, however, reserve from investment and keep, either as uninvested contributions or the proceeds of sale of investments, such amounts as it may from time to time it deems advisable in order to provide for anticipated Distributions or other expenditures from the Trust Fund, notwithstanding the provisions of 20 Pa. C.S. §7207. The Trustee does not guaranty any positive return on any such investment and the Trustee shall not be liable for any loss, including without limitation any loss of principal or interest, or for any breakage fees or penalties, in connection with the purchase or liquidation of any investment made hereunder.

(b) The Settlor shall provide a draft set of Investment Guidelines to the Trustee no later than February 28, 2020, and the parties shall mutually agree in writing on final Investment Guidelines no later than the Closing Date. Such final Investment Guidelines may be subsequently revised by mutual written agreement of the Settlor and the Trustee, but only with the written approval of Aqua Wastewater.

Section 5.8 Trustee Powers. Except as otherwise specifically provided in this Trust Agreement, the Trustee shall have authority; in addition to and not in limitation of any authority given it by law, but shall have no obligation to exercise the following powers:

(a) To acquire or dispose of Permitted Investments which may from time to time or at any time constitute the Trust Fund for such prices and on such terms as the Trustee may deem proper, and to make, execute, and deliver to the purchasers thereof good and sufficient deeds of conveyance therefor and all assignments, transfers, and other legal instruments, either necessary or convenient for passing the title and ownership thereto, free and discharged of all trusts and without liability on the part of such purchasers to see to the application of the purchase money.

(b) To cause any Permitted Investment to be registered in or transferred into (i) its name as the Trustee, (ii) the name of the Trust, or (iii) the name or names of their nominee or nominees or to retain same unregistered or in form permitting transfer by delivery, and to maintain all such investments through such agents, custodians, and other means as it deems appropriate, *provided* that the books and records of the Trustee at all times shall show that all such investments are part of the Trust Fund.

(c) To vote upon any stocks, bonds, or other securities, and to give general or special proxies or powers of attorney with or without power of substitution; provided that the Trustee shall vote in favor of management or recommended proposals in all instances unless otherwise directed in writing by the Settlor.

(d) To exercise any option, to accept in exchange or to subscribe for additional securities, to exercise any conversion privileges, and to make any necessary payments therefor.

(e) To keep such portion of the Trust Fund in cash or cash balances as the Trustee may, from time to time, deem to be in the best interests of the Trust, without liability for interest thereon.

(f) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted.

(g) To determine what is principal and what is income hereunder, and, in its sole discretion, to allocate or apportion gains and losses realized from the sale or other disposition of any assets between principal and income.

(h) Generally to exercise all rights of ownership and disposition over the Trust Fund and to do all acts and things which the Trustee may consider in the best interests of the Trust Fund.

Section 5.9 Indemnity of Trustee.

To the fullest extent permitted by applicable law, the Trustee and each of its directors, officers, employees, agents, affiliates, successors, assigns and legal representatives, (each an “Indemnified Person”) shall be indemnified, defended and held harmless by, and entitled to reimbursement from, the Trust out of Trust Assets with respect to any loss, liability, obligation, damages, penalty, tax, claim, action, investigation, proceeding, cost, expense or disbursement, including reasonable attorneys’, experts’ and other professionals’ fees and expenses of any kind or nature whatsoever (collectively “Costs”), arising out of or incurred in connection with this Agreement, the Trust Fund, the Trust Assets, the administration of the Trust Fund and the Trust Assets or any action or inaction of the Trustee hereunder, except to the extent that such Costs arise out of or result from the Trustee’s own willful misconduct, bad faith or gross negligence. The indemnities contained in this Section 5.9 shall survive the resignation or removal of the Trustee or the termination of this Agreement.

Section 5.10 Interpretation and Direction.

To the extent the Trustee determines that any substantial ambiguity exists in the interpretation of any definition, provision or term contained in this Agreement pertaining to the performance of its duties hereunder, or to the extent more than one methodology can be used to make any of the determinations or calculations to be performed by any Trustee hereunder, the Trustee may request written direction from the Settlor as to the interpretation or methodology it should adopt with respect thereto. The Settlor shall promptly provide such written direction, and the Trustee shall be entitled conclusively to rely upon, and shall be protected and held harmless in acting upon, such written direction.

Section 5.11 Books and Records. (a) The Trustee shall direct the preparation and maintenance of full and accurate accounts of all receipts, investments, disbursements, and other transactions of the Trust Fund. All such accounts, books, and records shall be open to inspection and audit at all reasonable times by any authorized representative of the Settlor.

(b) The Trustee shall retain records relating to the Trust Fund for as long as necessary for the proper administration thereof, and at least for any period required by applicable law.

Section 5.12 Accounting and Reports. (a) The Trustee shall provide to the Settlor customary quarterly or monthly written reports of all receipts and expenditures made from the Trust Fund during the month, in such detail and format as may be agreed upon by the Trustee and the Settlor from time to time. Unless otherwise determined by the Trustee, the Trustee shall (a) maintain (or cause to be maintained) the books of the Trust on a calendar-year basis and on the cash method of accounting. The financial records of the Trust shall be kept in conformity with generally accepted accounting principles applied on a consistent basis, and with such other requirements as may reasonably be required by the Trustee or the Settlor.

(b) The Trustee shall as soon as practicable, but in no event later than three (3) months after the end of each fiscal year of the Trust, provide to the Settlor or its designee (i) the Trust's revenue and expense statement for such fiscal year and (ii) the Trust's balance sheet as of the end of such fiscal year, each accompanied by the certificate or opinion of a firm of independent certified public accountants selected by the Trustee and approved by the Settlor.

(c) Within ninety (90) days after termination of the duties of the Trustee, and at such other times (if any) as the Settlor may determine in its discretion, the Trustee shall render to the Settlor or its designee a written account setting forth all transactions effected by the Trustee since the period covered by its last such preceding account and showing at its then fair market value all property held at the end of the accounting period. Upon the expiration of ninety (90) days from the date such account is rendered, the Trustee shall be released and discharged from accountability to the Settlor as respects the same, unless the Settlor shall have filed with the Trustee a written statement claiming gross negligence, willful misconduct, or lack of good faith by the Trustee with respect thereto. If any such objection is filed and is not satisfactorily adjusted by the parties, the Trustee shall have the right to apply to a court of competent jurisdiction for judicial settlement of such account at the sole cost and expense of the Trust. Neither the Settlor nor any other person shall have the right to demand or be entitled to any further or different accounting by the Trustee, except as may otherwise be required by law.

(d) The Trustee shall also furnish to the Settlor or its designee such other reports as may be reasonably requested by the Settlor; provided that any costs or expenses incurred by the Trustee in preparing, directly or through a third party subcontractor, any reports that are outside of the scope of the trustee's usual and customary reporting shall be borne solely by the Trust.

Section 5.13 Third Party Reliance. (a) No person having any dealing with the Trust Fund or the Trustee shall be bound to inquire of the duty, authority, or power of the Trustee to perform any act which it undertakes to perform. No person purchasing or acquiring property or lending money to the Trustee shall be bound to see to the application of the purchase money or other property transferred or loaned to the Trustee, or to inquire into the propriety or validity of the said sale, disposition, or loan by the Trustee.

(b) Every instrument executed by the Trustee shall be conclusive in favor of any person, partnership, corporation relying thereon that (a) at the time of the delivery of the instrument the

Trust was in full force and effect, (b) the instrument was effected in accordance with the terms and conditions of this Agreement, and (c) the Trustee was duly authorized and empowered to execute the instrument.

Section 5.14 Interpretation; Rules. The Trustee shall have the power to construe the provisions of this Agreement and the terms used in this Agreement, and any construction adopted by the Trustee in good faith consistent with the purpose of the Trust shall be binding upon all persons.

ARTICLE 6 POWER OF SUBSTITUTION

Section 6.1 Power of Substitution. (a) The Settlor shall have the right to acquire any asset of the Trust (an "*Acquired Asset*") by transferring to the Trustee in exchange for the Acquired Asset one or more other assets (collectively the "*Substituted Asset*") having a fair market value that is no less than the fair market value of the Acquired Asset.

(b) To the extent (if any) that the fair market value of the Substituted Asset exceeds the fair market value of the Acquired Asset, the Settlor shall be deemed to have made an Additional Contribution to the Trust under Section 3.3 above.

Section 6.2 Confirmations. (a) The Trustee shall take such reasonable steps as may be necessary in order to confirm, prior to the exchange of assets, that the fair market value of the Acquired Asset is no greater than the fair market value of the Substituted Asset. If the Trustee determines that the fair market value of the Acquired Asset is greater than the fair market value of the Substituted Asset, the Trustee shall not transfer the Acquired Asset to the Settlor or accept the Substituted Asset from the Settlor.

(b) The Trustee shall not accept any Acquired Asset in substitution for a Substituted Asset unless it has previously received written confirmation from the Calculation Agent that such substitution will not adversely affect the ability of the Settlor to fund Distributions (*e.g.*, due to a reduction in the liquidity of the Trust).

ARTICLE 7 TERMINATION

Section 7.1 Termination. The Trust shall terminate when all of the assets of the Trust have been exhausted in furtherance of the purposes set forth in Section 2.2 above.

Section 7.2 Trust Irrevocable. Neither the Settlor nor any other person is entitled to revoke or terminate the Trust.

ARTICLE 8 AMENDMENTS

Section 8.1 Amendment of Agreement. Notwithstanding the irrevocability of the Trust, the Trustee is authorized to institute a judicial proceeding in a court of competent jurisdiction to reform this Trust for the sole purpose of meeting any and all federal statutory or regulatory requirements which may affect the taxability of the Trust and which were enacted or instituted subsequent to the inception of the Trust. *Provided, however,* that this provision shall not apply if its existence would result in the overall loss of favorable tax treatment, thereby defeating the purpose of this right of reformation.

ARTICLE 9 MISCELLANEOUS

Section 9.1 No Legal Title to Trust Property. No transfer, by operation of law or otherwise, of any right, title, or interest in the Trust assets shall operate to terminate this Agreement or the Trust, or shall entitle any transferee to an accounting or to the transfer to it of legal title to any part of the Trust Assets.

Section 9.2 Limitations on Rights of Others. The provisions of this Agreement are solely for the benefit of the Settlor, the Trustee, and the Beneficiaries, and nothing in this Agreement, whether express or implied, shall be construed to give to the Distribution Agent, any Affiliate of the Distribution Agent, any other person any legal or equitable right, remedy, or claim in the Trust Assets or under or in respect of this Agreement or any covenants, conditions, or provisions contained herein.

Section 9.3 Notices. All demands, notices and communications upon or to the Settlor or the Trustee under this Agreement (including Distribution Orders) shall be in writing, personally delivered, sent by electronic facsimile (with hard copy to follow via first class mail), sent by email (with hard copy to follow via first class mail), or mailed by certified mail return receipt requested, and shall be deemed to have been duly given upon receipt, to the following address (or to such other address as the notice party may direct):

To the Settlor:

DELCORA
100 East Fifth Street
Chester, PA 19013
Attention: Executive Director

with copies to:

DELCORA
100 East Fifth Street
Chester, PA 19013

Attention: Solicitor

and

AQUA WASTEWATER PENNSYLVANIA, INC.
762 Lancaster Avenue
Bryn Mawr, PA 19010
Attention: General Counsel

To the Trustee:

Univest Bank and Trust Co.
14 North Main Street
PO Box 559
Souderton, PA 18964
Attention: John C. Kazary, Esq., CTFA – Vice President and Wealth Trust Advisor

with a copy to:

Univest Bank and Trust Co.
14 North Main Street
PO Box 64197
Souderton, PA 18964
Attention: Megan Duryea Santana, General Counsel

Section 9.4 Counterparts. This Agreement may be executed by the parties hereto in separate counterparts, each of which when so executed and delivered shall be an original, but all such counterparts shall together constitute one and the same instrument.

Section 9.5 Successors and Assigns. (a) Neither party hereto may assign any of its obligations or rights under this Agreement without the prior written consent of the other party except for obligations and rights delegated under 20 Pa. C.S. Section 7206.

(b) All covenants and agreements contained herein shall be binding upon and inure to the benefit of the Settlor, the Trustee, and their respective successors and permitted assigns.

Section 9.6 Headings, etc. Titles for sections are for general information only, and this Agreement shall not be construed by reference to such titles. Wherever required by context, the singular of any word used in this Agreement shall include the plural and the plural may be read in the singular. Words used in the masculine shall be read and construed in the feminine where they would so apply.

Section 9.7 Governing Law. This agreement shall in all respects be governed by, and construed in accordance with, the laws of the Commonwealth of Pennsylvania, including all matters of construction, validity, and performance.

Section 9.8 Consent to Jurisdiction and Service of Process. Each of the parties to this Agreement hereby irrevocably submits to the jurisdiction of any Pennsylvania state court sitting in Delaware County, Pennsylvania or the U.S. District Court for the Eastern District of Pennsylvania, and any appellate courts thereof, in any action or proceeding arising out of or relating to this Agreement, and each of the parties hereby irrevocably agrees, to the extent permitted by law, that all claims in respect of such action or proceeding may be heard and determined in such Pennsylvania state or U.S. federal court. Each of the parties hereby irrevocably waives, to the fullest extent it may effectively do so, the defense of an inconvenient forum to the maintenance of such action or proceeding and any right of jurisdiction in such action or proceeding on account of the place of residence or domicile of such party. A final judgment in any such action or proceeding shall, to the extent permitted by law, be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law. Each of the parties consents to the service of process by mail. Nothing herein shall affect the right of any party to serve legal process in any manner permitted by law or affect its right to bring any action in any other court.

Section 9.9 Tax Status of the Trust. The Trust is intended to be a “grantor trust” of which the Settlor is treated as the owner for federal income-tax purposes under Code Sections 671 *et seq.* The Trust is intended to qualify as a governmental entity for state and local tax purposes.

Section 9.10 Entire Agreement. This Trust Agreement shall not be deemed to be varied, altered or amended by any other statement, representation or agreement by or between any person or persons whomsoever, whether written, oral or implied in any way, except as provided in this Agreement.

Section 9.11 Reliance on Trust Agreement. Any person dealing with the Trustee may rely upon a copy of this Agreement and any amendments thereto certified to be true and correct.

[Signature page follows]

IN WITNESS WHEREOF, the parties hereto have duly executed and delivered this Agreement as of Effective Date.

SETTLOR:

DELAWARE COUNTY REGIONAL WATER
QUALITY CONTROL AUTHORITY

By: Robert J. Willmet

Name: Robert J. Willmet

Title: Executive Director

TRUSTEE:

UNIVEST BANK AND TRUST CO.

By: Matthew Holliday

Name: J. Matthew Holliday

Title: Sr. V.P. and Sr. Trust Officer

EXHIBIT A

TRUSTEE COMPENSATION AND REIMBURSEMENT

The Trustee shall be entitled to receive a monthly fee in an amount equal to one-twelfth of the product obtained by multiplying (a) 0.0006 by (b) the aggregate value of Trust Assets. The aggregate value of Trust Assets for any calendar month shall be equal to the sum of the average daily valuations of all Trust Assets for such month. The Trustee shall be permitted to deduct its fees and expenses from the Trust Assets.

The Trustee shall be reimbursed from the Trust Assets for third party tax preparation and filing fees and costs. Any and all taxes due shall be paid by the Settlor, provided, however, that in the event that the Trust is responsible for the payment of any taxes, such taxes shall be paid from the Trust Assets.

The Trustee shall be entitled to reimbursement for any and all Costs and other indemnity amounts from the Trust out of Trust Assets.

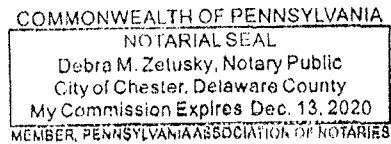
In addition, the Trustee shall have the right to be reimbursed from the Trust Assets for fees for extraordinary/administrative services, including, without limitation:

- Managing, selling or liquidating real estate
- Ascertaining the cost basis of securities for tax purposes
- Handling any assets outside the continental United States
- Assisting counsel with litigation
- Transferring securities from another account
- Preparation of court accountings and filings
- Preparation of any reports other than customary quarterly or monthly written reports

COMMONWEALTH OF PENNSYLVANIA :
: ss.
COUNTY OF :

On this, the 20th day of December 2019, before me, the undersigned officer, personally appeared Robert J. Willert, known to me, or satisfactorily proven, to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same on behalf of the Delaware County Regional Water Quality Control Authority for the purposes therein contained.

I have signed my name and affixed my seal.



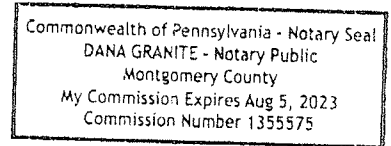
Debra M. Zelusky
Notary Public
My Commission expires:

COMMONWEALTH OF PENNSYLVANIA :
: ss.
COUNTY OF :

On this, the 27th day of December 2019, before me, the undersigned officer,
personally appeared J. Matthew Holiday who acknowledged himself to be a
Senior Trust officer of Univest Bank, and that he as such Senior Trust officer being
authorized to do so, executed the foregoing instrument for the purposes therein contained by
signing the name of the corporation by himself as trustee.

I have signed my name and affixed my seal.

Dana Granite
Notary Public





Service To:
Western Retail
123 DRIVE
CHESTER, PA 17985

Account Number
000000000 0000000
Aqua Pennsylvania Wastewater
2150630 PWSID # PA3540071

Aqua Pennsylvania Wastewater	Toll Free: 877.987.2782	Questions about your sewer service?... Contact us before the due date.
762 W. Lancaster Avenue	Fax: 866.780.8292	Bill Date
Bryn Mawr, PA 19010-3489	www.aquaamerica.com	July 28, 2020
		Total Amount Due
		\$ 40.33
		Current Charges Due Date
		August 19, 2020

Billing Detail

For period
beginning June 24, 2020 and ending July 27, 2020

Amount Owed from Last Bill	\$ 68.40
Total Payments Received	68.40
Remaining Balance	0.00
Sewer Charges 6,810 gals @.006472.....	44.07
Total Current Sewer Charges	44.07
DELCORA Customer Assistance Payment	-3.74
Amount Due	\$ 40.33

Message Center (see reverse side for other information)

- Effective July 1, 2020 the allowable wastewater DSIC is 1.18%. The PA Public Utility Commission permits a maximum wastewater DSIC of 5%.
- The due date refers to current charges and any deferred payment amount only. If you do not pay your bill on time, your service could be subject to interruption. To ensure proper credit, please remember to provide your full 16-digit account number when paying your bill.

RETURN THIS PORTION WITH YOUR PAYMENT



Aqua Pennsylvania Wastewater
762 W. Lancaster Avenue • Bryn Mawr, PA 19010-3489

MAKE CHECK PAYABLE TO:
Aqua PA WW

Account Number
000000000 0000000

Please Do Not Remit Payment To The Above Address

Cyc=15CK 1up=2517866 EC: P745 BC: P745

Seq=16344

DUE DATE 08/19/2020	TOTAL AMOUNT DUE \$40.33
------------------------	------------------------------------

Amount Enclosed \$.



Western Retail
123 DRIVE
CHESTER, PA 17985

AQUA PA WW
PO BOX 70279
PHILADELPHIA PA 19176-0279



00157811610999420000000069219



View your account, pay your current bill, check your daily balance, sign up for paperless billing, make a one-time payment.

Get Started >

[More Ways To Pay](#)

Save time and cut clutter with paperless billing!

Enroll today in WaterSmart e-Billing. You can cut the clutter of a paper bill, and we'll notify you by email when your bill is available to view online. It's simple, secure, and no additional fees.

Visit – AquaAmerica.com for more details.

APPLICATION OF AQUA PENNSYLVANIA WASTEWATER, INC.

DOCKET NO. A-2019-3015173

THE COUNTY OF DELAWARE, PENNSYLVANIA

SET I INTERROGATORIES

- COUNTY-I-4** Reference the response to OCA-1-36(c); please confirm the following:
- a. Will the payments due from the Trust be applied to offset DSIC charges?
 - b. If the response to 3(a) is yes, please confirm whether the current DELCORA customers, including wholesale customers and retail customers, would be subject to the DSIC following a transfer of the system to Aqua.
 - c. DELCORA states: "DELCORA will not directly make any payments to Aqua." Will DELCORA make any payments to Aqua that Aqua retains (and does not transfer back to customers in the form of bill credits)? If yes, please explain.

RESPONSE:

- a. Yes, however DSIC will not be applied until Aqua updates its Long-Term Infrastructure Improvement Plan per Section 1329 of the Public Utility Code.
- b. Yes. Please see the response to part a., above.
- c. No. Please also see the response to OCA-I-36(f).

Rate Summary	Chester City	Retail:	Trainer	Marcus Hook	Retail Industrial:	Congoleun	Monroe	Sanitary	EDU	SDCA, ETC.	Wholesale	Industrial	EASTERN	Southwest
Admin	\$ 0.41	\$ 0.41	\$ 0.41	\$ 0.41	\$ 0.41	\$ 0.41	\$ 0.41	\$ 0.41	\$ 0.41	\$ 0.41	\$ 0.41	\$ 0.41	\$ 0.41	\$ 0.41
Customer Service	\$ 0.63	\$ 0.63	\$ 0.63	\$ 0.63	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ -
Common Treatment	\$ 1.49	\$ 1.49	\$ 1.49	\$ 1.49	\$ 1.49	\$ 1.49	\$ 1.49	\$ 1.49	\$ 1.49	\$ 1.49	\$ 1.49	\$ 1.49	\$ 1.49	\$ 1.49
Common Collection	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Common Capital	\$ 0.22	\$ 0.22	\$ 0.22	\$ 0.22	\$ 0.22	\$ 0.22	\$ 0.22	\$ 0.22	\$ 0.22	\$ 0.22	\$ 0.22	\$ 0.22	\$ 0.22	\$ 0.22
Western Conveyance	\$ 0.13	\$ 0.13	\$ 0.13	\$ 0.13	\$ 0.13	\$ 0.13	\$ 0.13	\$ 0.13	\$ 0.13	\$ 0.13	\$ 0.13	\$ 0.13	\$ -	\$ -
Western Collection	\$ 2.11	\$ 2.11	\$ 2.11	\$ 2.11	\$ 2.11	\$ 2.11	\$ 2.11	\$ 2.11	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Western Capital	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Philly Rate Stabilization	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Philly LTCP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Eastern Collection	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.10	\$ -
East PWD LTCP Current	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.03	\$ -
Retail I&I	\$ 0.27	\$ 0.27	\$ 0.27	\$ 0.27	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Eastern I&I	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Industrial Pretreatment	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02
LTCP Reserve	\$ 0.34	\$ 0.34	\$ 0.34	\$ 0.34	\$ 0.34	\$ 0.34	\$ 0.34	\$ 0.34	\$ 0.34	\$ 0.34	\$ 0.34	\$ 0.34	\$ 0.34	\$ 0.34
Trainer Debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Marcus Hook Debt	\$ -	\$ -	\$ -	\$ -	\$ 3.07	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Southwest Debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.72
Southwest Debt Coverage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.07
Southwest Pumping	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.20
EDU's with Contractual Oblig	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.26	\$ -	\$ -	\$ -	\$ -	\$ -
Edgmont Debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total FY 2020 Rate	\$ 5.63	\$ 5.63	\$ 5.63	\$ 8.70	\$ 4.73	\$ 4.73	\$ 4.73	\$ 2.89	\$ 2.62	\$ 2.62	\$ 2.62	\$ 2.62	\$ 2.62	\$ 3.48

Rate Increase	5.48	5.48	5.48	8.37	6.61	6.61	6.61	2.76	2.74		3.03	2.59	3.34
Rate Increase	5.69	5.69	5.69	8.70	6.87	6.87	6.87	2.87	2.85		3.15	2.69	3.47
Rate Increase	5.75	5.75	5.75	8.78	6.93	6.93	6.93	2.89	2.87		3.18	2.71	3.50
Rate Increase	5.80	5.80	5.80	8.86	7.00	7.00	7.00	2.92	2.90		3.20	2.74	3.53
2019 Budgeted Rate	5.32	5.32	5.32	8.13	6.42	6.42	6.42	2.68	2.66		2.94	2.51	3.24

Retail increase in bill at 70,000 \$ (372.40)

Trainer Debt Per EDU									2.62
Total Debt							EDU Wholesale	\$ 1,711,694	
Retail Flow					36,836		Addtl Charge at 10%	\$ 171,169	
Industrial Flow					11,555				
Total Flow					48,391		EDU Flow	652,492	
Rate					-		Rate	\$ 0.26	
Retail Portion of Debt					-				
# of Retail EDU's					690				
Retail Rate Per EDU					-				

(*A7676991:1)

APPLICATION OF AQUA PENNSYLVANIA WASTEWATER, INC.

DOCKET NO. A-2019-3015173

OFFICE OF CONSUMER ADVOCATE

SET III INTERROGATORIES DIRECTED TO DELCORA

OCA-III-9 If the DELCORA-proposed rate stabilization trust cannot be established due to the actions by Delaware County or for some other reason, is the sale of the DELCORA wastewater assets to Aqua considered by DELCORA to be in the public interest? If not, explain fully why not. If so, explain in detail why.

RESPONSE:

Yes, the DELCORA Customer Trust is just one of the significant benefits of this transaction. As discussed in the testimony of Robert Willert, in addition to the Trust, Aqua already has an operational presence in the areas currently served by DELCORA. By merging its existing operations with DELCORA's System, Aqua will be able to create a larger-scale, efficiently operated wastewater utility, as well as a larger team of local utility professionals that are available for daily issues as well as emergencies. This larger scale utility will also provide benefits such as, larger scale buying power that will reduce costs for shared products and services like power, chemicals, personnel training, fleet purchases and maintenance.

Also, Aqua is uniquely qualified to address needed capital improvements and build the infrastructure needed to disconnect from PWD in 2028. Aqua has significant experience in large capital expenditures including, complex projects, such as what needs to be completed to disconnect from PWD. DELCORA's customers and the environment will benefit from Aqua's experience and fitness in deploying resources to complete capital improvements, as well as its experience in improving and correcting systems with compliance issues.

DELCORA's customers will also receive enhanced customer service from Aqua, including additional call center capacity and convenient on-line bill payment, as well as protections provided by the Commission's regulations including access to Aqua's Helping Hand program for customers who need assistance with paying their utility bills.

With respect to employees, Aqua has made a commitment to preserving jobs by offering employment to all of DELCORA employees. It is of critical importance to us to be able to proceed in a way that is in the best interest of our customers while, at the same time, avoiding employment disruption for our employees to the greatest extent possible.

Lastly, the transaction has environmental benefits, as disconnecting from PWD and partnership with Aqua will provide for water discharge into the Delaware River at a location that is less environmentally sensitive.

Respondent: William C. Packer
Date: 9/09/2020

APPLICATION OF AQUA PENNSYLVANIA WASTEWATER, INC.

DOCKET NO. A-2019-3015173

COUNTY OF DELAWARE, PENNSYLVANIA

SET V INTERROGATORIES

COUNTY-V-1

Please refer to the spreadsheet provided in response to OCA Interrogatory Set III-12, specifically in regard to the individual sheet named "Stay w PWD-Sum of Pro Rev - PFM". On the right hand side of the sheet "Stay w PWD-Sum of Pro Rev - PFM" is a table and graph. The table is labelled "COMPARISON" and the chart is labelled "Aqua – TOTAL SYSTEM PROJECTED REVENUE."

- (a) With regard to the table and chart, identify the author(s) by name and company;
- (b) State whether Column V relates to the table "COMPARISON" and, if yes, explain how;
- (c) Please provide the worksheets and source of each entry contained in the column with the heading "Aqua Revenue Requirement"
- (d) State whether the amounts contained in the column with the heading "Aqua Revenue Requirement" reflect or do not reflect the application of an allocation of sewer costs to water customer under Section 1311(c) of the Public Utility Code.
 - i. If the amounts do reflect an allocation of sewer costs to water customers, provide the allocation factor used for each year through 2038.
 - ii. If the amounts do not reflect an allocation of sewer costs to water customers pursuant to Section 1311(c) of the Public Utility Code, please provide the projected allocation of sewer costs to water customers to be used for each year, including the first post-acquisition rate case pursuant to Section 7.06(b) of the Asset Purchase Agreement.

RESPONSE

- a. Daniel Eshbach, Essential Utilities, Inc.
- b. Column V is the sum of the Wholesale EDU and Retail customers. It does not relate to the Comparison table.
- c. The Column AA "Aqua Revenue Requirement" contains information that was point in time and is not used subsequent tabs in the spreadsheet. The Revenue Requirement Column AA in "Stay w PDW-Sum of Pro Rev – PFM" along with the Revenue Requirement rows in each of the tabs which creates the charts, were based on 2019 budgeted wastewater revenue, and is therefore outdated. Included in this response titled as "CONFIDENTIAL COUNTY-V-1 Attachment 1" in excel format is the Company's 10 year projections of revenue requirement based on the most current information, including 2020 actual revenues being billed.
- d. Please see the response to c., above. The data referenced, while outdated, assumed 20% allocation under Act 11 in 2028. Section 7.06(b) of the APA requires the Company to request the use of Act 11 which the Company intends to do. However, for the purpose of the analysis the Company did not assume any the use of Act 11 until 2028.