

**BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of Aqua)
Ohio, Inc. to Increase Rates for Water) Case No. 21-0595-WW-AIR
Service.)

**DIRECT TESTIMONY
OF
CONSTANCE E. HEPPENSTALL
ON BEHALF OF
AQUA OHIO, INC.**

- | | |
|-------------------------------------|--|
| <input type="checkbox"/> | Management policies, practice and organization |
| <input type="checkbox"/> | Operating income |
| <input type="checkbox"/> | Rate base |
| <input checked="" type="checkbox"/> | Allocations |
| <input type="checkbox"/> | Rate of return |
| <input checked="" type="checkbox"/> | Rates and tariffs |
| | Other |

Direct Testimony of Constance E. Heppenstall

I. WITNESS INTRODUCTION

Q1. Please state your name and address.

A. My name is Constance E. Heppenstall. My business address is 1010 Adams Avenue, Audubon, Pennsylvania.

Q2. By whom are you employed?

A. I am employed by Gannett Fleming Valuation and Rate Consultants, LLC as Senior Project Manager. My duties and responsibilities include the preparation of accounting and financial data for revenue requirement and cash working capital claims, the allocation of cost of service to customer classifications, and the design of customer rates in support of public utility rate filings.

Q3. Have you previously testified in rate case proceedings before regulatory agencies?

A. Yes. I have testified before the Pennsylvania Public Utility Commission, the Arizona Corporation Commission, the Kentucky Public Service Commission, the Virginia State Corporate Commission, the Missouri Public Service Commission, the Hawaii Public Service Commission, the West Virginia Public Service Commission, the Indiana Utility Regulatory Commission and the California Public Utility Commission concerning revenue requirements, cost of service allocation and rate design. A list of cases in which I have testified is attached to my testimony.

Q4. What is your educational background?

1 A. I have a Bachelor of Arts in Economics from the University of Virginia,
2 Charlottesville, Virginia and a Master of Science in Industrial Administration from
3 the Tepper School of Business at Carnegie-Mellon University, Pittsburgh,
4 Pennsylvania.

5 **Q5. Do you have any professional affiliations?**

6 A. Yes. I am a member of the American Water Works Association, the National
7 Association of Water Companies and the Pennsylvania Municipal Authorities
8 Association.

9 **Q6. Briefly describe your work experience.**

10 A. I joined the Valuation and Rate Division of Gannett Fleming, Inc. in August 2006, as
11 a Rate Analyst and was promoted to my current position in 2012. Prior to my
12 employment at Gannett Fleming, Inc., I was a Vice President of PriMuni, LLP where
13 I developed financial analyses to test proprietary software in order to ensure its
14 pricing accuracy in accordance with securities industry's conventions. From 1987 to
15 2001, I was employed by Commonwealth Securities and Investments, Inc. as a
16 public finance professional where I created and implemented financial models for
17 public finance clients to create debt structures to meet clients' needs. From 1986 to
18 1987, I was a public finance associate with Mellon Capital Markets.

19 **Q7. What is the purpose of your testimony in this proceeding?**

20 A. The purpose of my testimony is to explain Aqua Ohio, Inc.'s (Company) cost of
21 service allocation studies for the water operations, set forth in Schedule E-3.2 of the
22 Company's filing. This schedule presents the results of the cost of service study I
23 performed for the Company's water operations.

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II. COST OF SERVICE ALLOCATION – WATER OPERATIONS

Q8. Briefly describe the purpose of your cost allocation study for the water operations.

A. The purpose of the study was to allocate the total cost of service, which is the total revenue requirement for the combined service areas of the Company, to the several customer classifications. In the study, the total costs were allocated to the residential, commercial, industrial, public authorities, sales for resale, and private fire protection classifications in accordance with generally accepted principles and procedures. The cost of service allocation results in indications of the relative cost responsibilities of each class of customers. The allocated cost of service is one of several criteria appropriate for consideration in designing customer rates to produce the required revenues. The results of my allocation of the pro forma cost of service for the test year ended December 31, 2021, compared to the revenues under present and proposed rates as of that date are presented in the study.

Q9. Please describe the method of cost allocation that was used in your study.

A. The base-extra capacity method, as described in 2017 and prior Water Rates Manuals published by the American Water Works Association (AWWA), was used to allocate the pro forma costs. Base-extra capacity is a recognized method for allocating the cost of providing water service to customer classifications in

1 proportion to the classifications' use of the commodity, facilities, and services. It is
2 generally accepted as a sound method for allocating the cost of water service and
3 was used by the Company in the Company's previous studies.

4 **Q10. Please describe the procedure you used to perform the cost allocation study**
5 **presented in Schedule E-3.2 of the Company's filing.**

6 A. Each identified classification of cost in the pro forma cost of service was allocated to
7 the customer classifications using appropriate factors. These allocations are
8 presented in Schedule E-3.2b on pages 2 through 6 of 31. The items of cost, which
9 include operation and maintenance expenses, depreciation expense, taxes and
10 income available for return, are identified in column 1 of Schedule E-3.2b. The cost
11 of each item, shown in column 3, is allocated to the several customer classifications
12 based on allocation factors referenced in column 2. The development of the
13 allocation factors is presented in Schedule E-3.2c. I will use some of the larger cost
14 items to illustrate the principles and considerations used in the cost allocation
15 methodology.

16 Purchased electric power, treatment chemicals and waste disposal are
17 examples of costs that tend to vary with the amount of water consumed and are thus
18 considered base costs. They are allocated to the several customer classifications in
19 direct proportion to the average daily consumption of those classifications through
20 the use of Factor 1. The development of Factor 1 is shown in Schedule E-3.2c on
21 page 7 of 31 and includes an estimate of consumption for unmetered customers.
22 Other source of supply, water treatment and transmission costs are associated with
23 meeting usage requirements in excess of the average, generally to meet maximum

1 day requirements. Costs of this nature were allocated to customer classifications
2 partially as base costs, proportional to average daily consumption, partially as
3 maximum day extra capacity costs, in proportion to maximum day extra capacity,
4 and, in the case of certain pumping stations and transmission mains, partially as fire
5 protection costs, through the use of Factors 2 and 3. The development of the
6 allocation factors, referenced as Factors 2 and 3, is shown in Schedule E-3.2c, on
7 pages 7 through 10 of 31.

8 Costs associated with storage facilities and the capital costs of distribution
9 mains were allocated partly on the basis of average consumption and partly on the
10 basis of maximum hour extra demand, including the demand for fire protection
11 service, because these facilities are designed to meet maximum hour and fire
12 demand requirements. The development of the factors, referenced as Factors 4 and
13 5, used for these allocations is shown in Schedule E-3.2c, on pages 11 through 14 of
14 31.

15 Fire demand costs were allocated to public and private fire protection service
16 in proportion to the relative potential demands on the system by public fire hydrants
17 and private service lines as presented in Schedule E-3.2d on page 29 of 31. The
18 portion of fire demand allocated to Public Fire Protection is reallocated to
19 Residential, Commercial, Industrial, and Public Authority classifications based on
20 meter equivalents.

21 Costs associated with pumping facilities and the operation and maintenance
22 of mains were allocated on combined bases of maximum day and maximum hour
23 extra capacity because these facilities serve both functions. For pumping facilities,

1 the relative weightings of Factor 2 (maximum day), Factor 3 (maximum day and
2 fire) and Factor 4 (maximum hour) were based on estimated proportion serving
3 maximum day, maximum day and fire and maximum hour functions. The
4 development of this weighted factor, referenced as Factor 6, is presented on page 15
5 of 31.

6 For operation and maintenance of mains, the relative weightings of Factor 3
7 (maximum day and fire) and Factor 4 (maximum hour) were based on a sample of
8 the footage of transmission and distribution mains. For cost allocation purposes,
9 mains 10-inch and larger were classified as serving a transmission function and
10 mains less than 10-inch were classified as serving a distribution function. The
11 development of this weighted factor, referenced as Factor 7, is presented on page 16
12 of 31. Costs associated with public fire hydrants were assigned to Residential,
13 Commercial, Industrial and Public Authority classes based on meter equivalents, as
14 shown in Factor 8.

15 Costs associated with meters were allocated to customer classifications in
16 proportion to the capacity requirements of the sizes and quantities of meters serving
17 each classification. The development of the factor for meters, referenced as Factor
18 9, is presented on pages 17 and 18 of 31. Factor 10, Allocation of Services, on pages
19 19 and 20 of 31, was developed in a similar manner as Factor 9.

20 Costs for customer accounting, billing and collecting were allocated on the
21 basis of the number of bills rendered for each classification. Costs related to
22 uncollectible accounts and customer related management fees are allocated based on

1 the number of customers. The development of these factors, referenced as Factors
2 13 and 20, are presented on pages 22 and 28 of 31.

3 Administrative and general costs were allocated on the basis of allocated
4 direct costs, excluding those costs such as purchased water, power, chemicals and
5 waste disposal which require little administrative and general expense. The
6 development of factors for this allocation, referenced as Factor 15, is presented on
7 page 23 of 31.

8 Annual depreciation accruals were allocated on the basis of the function of
9 the facilities represented by the depreciation expense for each depreciable plant
10 account. The original cost less depreciation of utility plant in service was similarly
11 allocated for the purpose of developing factors, referenced as Factor 18, for allocat-
12 ing items such as income taxes and return. The development of Factor 18 is
13 presented on pages 25 through 27 of 31.

14 Factors 15 and 18, as well as Factors 11, 12, 16, 17 and 19, are composite
15 allocation factors. These factors are based on the result of allocating other costs and
16 are computed internally in the cost allocation program. Refer to Schedule E-3.2c for
17 a description of the bases for each composite allocation factor.

18 **Q11. What was the source of the total cost of service data set forth in Column 3 of**
19 **Schedule B?**

20 A. The pro forma costs of service were furnished by the Company and are set forth in
21 various Company schedules sponsored by Aqua Ohio witness Paul J. Hanley.

1 **Q12. Referring to Schedule E-3.2c, pages 8 and 12 of 31, please explain the source of**
2 **system maximum day and maximum hour ratios used in the development of**
3 **factors referenced as Factors 2, 3 and 4.**

4 A. The ratios were based on a review of historic Company data. The maximum day
5 ratio of 1.5 times the average day approximates the ratio of maximum daily send-out
6 experienced by the Company in the last five years. The maximum hour ratio of 2.25
7 times the average hour was estimated based on the relationship of system maximum
8 hour ratios compared to system maximum day ratios for other similar systems.

9 **Q13. What factors were considered in estimating the maximum day extra capacity**
10 **and maximum hour extra capacity demands used for the customer**
11 **classifications in the development of Factors 2, 3 and 4?**

12 A. The estimated demands were based on judgment which considered field studies of
13 actual customer class demands conducted for other Aqua Companies, field observa-
14 tions of the service areas of the Company, field studies of similar service areas, and
15 generally-accepted customer class maximum day and maximum hour demand ratios.

16 **Q14. Have you summarized the results of your cost allocation study?**

17 A. Yes. The results are summarized in Schedule E-3.2a, columns 1, 2 and 3 of
18 Schedule E-3.2a on page 1 of 31. Column 2 sets forth the total allocated pro forma
19 cost of service for the test year December 31, 2021, for each customer classification
20 identified in column 1. Column 3 presents each customer classification's cost
21 responsibility as a percent of the total cost.

22 **Q15. Have you compared these cost responsibilities with the proportionate revenue**
23 **under existing rates for each customer classification?**

1 A. Yes. A comparison of the allocated cost responsibilities and the percentage revenue
2 under existing rates can be made by comparing columns 3 and 5 of Schedule E-3.2a.
3 A similar comparison of the percentage cost responsibilities (relative cost of service)
4 and the percentage of pro forma revenues (relative revenues) under proposed rates
5 can be made by comparing columns 3 and 7 of Schedule E-3.2a. This comparison
6 shows that revenues under proposed rates generally move toward the indicated cost
7 of service. It should be emphasized that the Cost of Service Study is used as one of
8 the guidelines for rate design. A Cost of Service Study presents parameters for
9 designing rates. Designed rates rarely match exactly the rates that would be derived
10 strictly and exclusively from the results of the Cost of Service Study. For a detailed
11 discussion of proposed rates and rate design, please refer to the testimony of
12 Company witness Dan Franceski.

13 **Q16. Did you prepare an analysis of the costs related to the water customer charges?**

14 A. Yes, I did. Schedule E-3.2e on pages 30 and 31 of 31 of the water cost of service
15 study, sets forth the calculation of customer charges.

16 **Q17. What are the results of your customer charge analysis?**

17 A. The total customer cost per month for a 5/8-inch meter is \$12.996, shown on page 31
18 of 31 of Schedule E-3.2e. A charge of \$13.00 per month is proposed at this time.

19 **Q18. Does this conclude your direct testimony?**

20 A. Yes, it does.

CERTIFICATE OF SERVICE

I hereby certify that a copy of the Direct Testimony of Constance E. Heppenstall was served by electronic mail to the following persons on this 12th of July, 2021:

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/s Christopher L. Miller

Christopher L. Miller
One of the Attorneys for Aqua Ohio, Inc.

CONSTANCE E. HEPPENSTALL – LIST OF CASES TESTIFIED

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client/Utility</u>	<u>Subject</u>
1.	2010	AZ CC	W-01303A-09-0343 and SW-01303A-09-0343	Arizona American Water Company	Rate Consolidation
2.	2010	Pa PUC	R-2010-2179103	City of Lancaster – Bureau of Water	Revenue Requirements
3.	2012	Pa PUC	R-2012-2311725	Hanover Borough	Cost of Service/Revenue Requirements
4.	2012	Pa PUC	R-2012-2310366	City of Lancaster – Sewer Fund	Revenue Requirements
5.	2013	Pa PUC	R-2013-2350509	City of DuBois – Bureau of Water	Revenue Requirements
6.	2013	Pa PUC	R-2013-2390244	City of Bethlehem – Bureau of Water	Revenue Requirements
7.	2014	Pa PUC	R-2014-2418872	City of Lancaster – Bureau of Water	Revenue Requirements
8.	2014	Pa PUC	R-2014-2428304	Hanover Borough	Revenue and Revenue Requirements
9.	2015	KY PSC	Case No.2015-000143	Northern Kentucky Water District	Cost of Service
10.	2016	Pa PUC	R-2016-2554150	City of DuBois – Bureau of Water	Cost of Service/Revenue Requirements
11.	2016	AZ CC	WS-01303A-16-0145	EPCOR Water Arizona, Inc.	Cost of Service/Rate Design
12.	2017	MO PSC	WR-2017-0285	Missouri-American Water Company	Cost of Service/Rate Design
13.	2017	MO PSC	SR-2017-0286	Missouri-American Water Company	Cost of Service/Rate Design
14.	2017	VA SCC	PUR-2017-00082	Aqua Virginia, Inc	Cost of Service
15.	2017	AZ CC	WS-01303A-17-0257	EPCOR Water Arizona, Inc	Cost of Service/Rate Design
16.	2017	HI PUC	2017-0446	Hana Water Systems, LLC – North	Cost of Service/Rate Design
17.	2017	HI PUC	2017-0447	Hana Water Systems, LLC – South	Cost of Service/Rate Design
18.	2018	PA PUC	2018-200208	SUEZ Water Pennsylvania	Revenue Requirements
19.	2018	KY PSC	2018-00208	Water Service Corp of KY	Cost of Service/Rate Design
20.	2018	WV PSC	18-0573-W-42t	West Virginia American Water Co.	Cost of Service
21.	2018	IN IRC	50208	Indiana American Water Company	Cost of Service/Demand Study
22.	2018	KY PSC	2018-00291	Northern Kentucky Water District	Cost of Service/Rate Design
23.	2018	KY PSC	2018-0358	Kentucky American Water	Cost of Service/Rate Design
24.	2019	PA PUC	2019-3006904	Newtown Artesian Water Co.	Revenue Reqmts./Rate Design
25.	2019	PA PUC	2019-3010955	City of Lancaster – Sewer Fund	Rev. Reqmts./Cost of Service/Rates
26.	2020	PA PUC	2020-3017206	Philadelphia Gas Works	Cost of Service
27.	2020	PA PUC	2020-3019369	Pennsylvania American Water Co.	Cost of Service/Rate Design
28.	2020	PA PUC	2020-3019371	Pennsylvania American Water Co.	Cost of Service/Rate Design
29.	2020	PA PUC	2020-3020256	City of Bethlehem	Rev. Reqmts./Cost of Service/Rates
30.	2020	CA PUC	A2101003	San Jose Water Company	Rate Design
31.	2020	VA SCC	PUR-2020-00106	Aqua Virginia, Inc.	Cost of Service

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Summary: Testimony of Constance E. Heppenstall electronically filed by Ms. Nicole R Woods on behalf of Aqua Ohio, Inc.