

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF DELAWARE**

**IN THE MATTER OF THE
APPLICATION OF ARTESIAN
WATER COMPANY, INC. FOR
A REVISION OF RATES
(FILED APRIL 11, 2014).**

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PSC DOCKET NO. 14-132

Direct Testimony and Exhibit of
Brian C. Collins

On behalf of
Christiana Care Health Services, Inc.

September 24, 2014



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Direct Testimony of Brian C. Collins

1 **Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A Brian C. Collins. My business address is 16690 Swingley Ridge Road, Suite 140,
3 Chesterfield, MO 63017.

4 **Q PLEASE STATE YOUR OCCUPATION.**

5 A I am a consultant in the field of public utility regulation and an Associate with
6 Brubaker & Associates, Inc., energy, economic and regulatory consultants.

7 **Q PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**
8 **EXPERIENCE.**

9 A These are set forth in Appendix A of my testimony.

10 **Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?**

11 A I am appearing on behalf of Christiana Care Health Services, Inc. ("CCHS"). CCHS
12 purchases substantial quantities of water from Artesian Water Company, Inc. ("AWC"
13 or "Company"), and is the only entity currently receiving services from AWC under its

1 wholesale industrial rate, which is identified as “CCH” in the Company’s cost of
2 service study.

3 **Q WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?**

4 A I have reviewed the Company’s proposed revenue allocation and cost of service
5 study, and am recommending that the Company’s cost of service study be corrected
6 to allocate Purchased Water Expense and Power Expense between rate classes. I
7 am also recommending that the Company’s proposed rate increase for CCHS above
8 the system average increase be rejected, and in doing so provide revised allocations
9 of costs based upon the Company’s current filing.

10 **Q PLEASE SUMMARIZE YOUR RECOMMENDATIONS CONCERNING THE**
11 **COMPANY’S PROPOSED REVENUE ALLOCATION.**

12 A The Company is proposing to increase CCHS’s rates by 18.29%, which is above the
13 system average claimed revenue deficiency of 15.98%. I recommend the Company’s
14 proposed increase to CCHS be rejected because it is not consistent with AWC’s cost
15 of service study.

16 Instead, I recommend that any change to CCHS’s rates reflect the claimed
17 deficiency in its rates relative to its cost of service. Based on the Company’s own
18 current cost of service study, CCHS’s rates should be increased by approximately
19 11.7%, or \$47,000, which is an increase lower than the system average claimed
20 revenue deficiency of 15.98%. Again, this below-system-average increase for CCHS
21 is justified based on the Company’s own cost of service study.

1 **Q PLEASE SUMMARIZE YOUR RECOMMENDATIONS CONCERNING THE**
2 **COMPANY'S PROPOSED COST OF SERVICE STUDY.**

3 A AWC's cost of service study should be corrected to allocate Purchased Water
4 Expense and Power Expense between rate classes taking into account an extra
5 capacity component as well as a base component. These corrections are needed to
6 accurately determine each rate class's cost of service.

7 **Revenue Allocation**

8 **Q WHAT IS THE COMPANY'S PROPOSED REVENUE ALLOCATION FOR CCHS?**

9 A In general, the Company proposes a 15.98% system average increase based on its
10 revenue allocation proposal shown in JFG Exhibit 1, Schedule 17. For CCHS, AWC
11 proposes an 18.29% revenue increase, or approximately \$73,572, as shown on BCC
12 Exhibit 1, Schedule 1, pages 1 and 2. As shown on BCC Exhibit 1, Schedule 1,
13 page 3, AWC's proposed revenue allocation for CCHS is equal to 114.44% of the
14 system average increase of 15.98%.

15 **Q DO YOU AGREE WITH THE COMPANY'S PROPOSED REVENUE ALLOCATION**
16 **FOR CCHS?**

17 A No. Based on the results of AWC's cost of service study, the Company's revenue
18 allocation is inconsistent with its cost of service study results.

19 **Q PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED REVENUE ALLOCATION**
20 **FOR CCHS IS INCONSISTENT WITH ITS COST OF SERVICE STUDY RESULTS.**

21 A While the Company proposes an above system average increase for CCHS, the
22 Company's cost of service study results show that CCHS should receive a below

1 system average increase of 20.37%, or 73.08% of the system average increase of
2 27.87%. This is shown in BCC Exhibit 1, Schedule 2, page 3.

3 **Q BASED ON THE RESULTS OF THE COST OF SERVICE STUDY, WHAT**
4 **REVENUE ALLOCATION SHOULD CCHS RECEIVE?**

5 A Based on the Company's cost of service study results, I recommend that any
6 increase CCHS receives bring it no higher than cost of service. Based on the
7 Company's claimed revenue deficiency and cost of service study, CCHS should
8 receive an increase of 11.68%, which is 73.08% of the system average revenue
9 increase of 15.98%. This increase, of course, is based on the revenue requirement
10 claimed by AWC. I am recommending that the rate base, operating and capital costs
11 approved by the Commission in this proceeding be factored into the cost of service
12 study with the adjustments to cost classification discussed herein. The rate for
13 wholesale industrial water usage, i.e., CCH, should be determined on the basis of the
14 approved revenues.

15 **Cost of Service Study**

16 **Q DID YOU REVIEW AWC'S COST OF SERVICE STUDY (JFG EXHIBIT 1) AND THE**
17 **ACCOMPANYING TESTIMONY OF MR. JOHN GUASTELLA?**

18 A Yes, I did. Mr. Guastella's cost of service study utilizes the widely accepted Base-
19 Extra Capacity method for *functionalizing, classifying* and *allocating* costs to AWC's
20 various customer classes. Investment in water utility plant and operating costs are
21 first *functionalized* according to the role they play in providing water service: water
22 supply, pumping, treatment, transmission, distribution, metering and billing. Next,
23 these costs are *classified* into cost categories that reflect the causation of these

1 costs: Base, or average day rates of flow; Extra Capacity-Maximum Day and Extra
2 Capacity-Peak Hour rates of flow; and Customer-related costs, such as metering and
3 billing.

4 Many costs are classified to more than one category. For example, treatment
5 costs are normally classified to both the Base and Extra Capacity-Maximum Day
6 category.

7 Finally, these costs are *allocated* to customer classes. Customers with similar
8 usage characteristics (volume of use, relative peak day and peak hour demands, and
9 meter size) are grouped into classes. Each class is assigned its share of costs based
10 on volume of use and the peak demand it collectively places on the system. CCHS is
11 placed alone in a separate customer class, as identified above.

12 **Q PLEASE SUMMARIZE YOUR PROPOSED ADJUSTMENTS TO AWC'S COST OF**
13 **SERVICE STUDY FOR PURCHASED WATER AND POWER EXPENSES.**

14 A AWC's cost of service study is generally conducted consistent with accepted industry
15 practice. However, the cost of service study has not properly differentiated between
16 the costs AWC incurs for Purchased Water Expense and Power Expense based on
17 its average daily usage demands and its peak period usage. These costs vary in part
18 based on the Company's customer peak demands, and they should be allocated on a
19 corresponding basis. Otherwise, these costs will not be accurately allocated to the
20 customers who created the demands that caused the cost to be incurred.

21 Both of these expense items were classified exclusively to the Base cost
22 category in Mr. Guastella's study (JFG Exhibit 1, Schedule 7). Based on his
23 classification, costs for these items vary only with average rates of use in the cost of

1 service study, and are considered not to be influenced by maximum day or peak hour
2 rates of flow. This is not supported by the information provided by AWC.

3 **Q WHY DO YOU DISAGREE WITH MR. GUASTELLA'S CLASSIFICATION OF**
4 **PURCHASED WATER EXPENSE?**

5 A AWC projects that pro forma water purchases will constitute approximately 15.4% of
6 total supplies in the Test Period. (See Exhibit CTD 17 sponsored by Mr. C. Thomas
7 deLorimier on behalf of AWC.) Thus, nearly one gallon in every six gallons of water
8 supply will be procured through purchases from other water utilities.

9 Further inspection of Exhibit CTD 17 shows that AWC uses purchased water
10 to meet not only average demands, but peak demands in the summer months as
11 well.

12 It is reasonable to expect that AWC will experience its highest daily demands
13 during a summer month. Thus, the use of the Base-Maximum Day allocator is a
14 reasonable way to reflect the cost of meeting summertime demands. Purchases from
15 other utilities help AWC meet this demand, and the cost of these purchases should
16 be classified and allocated accordingly.

17 Since it also reasonable to assume that AWC will experience its peak hour
18 demand in the summer months, purchases from other utilities would also help AWC
19 to meet its peak hour demand. Therefore, I believe it is more appropriate that
20 Purchased Water Expense be classified with AWC's Allocation Factor 4,
21 Base/Maximum Day/Peak Hour. At the least, based on the foregoing considerations,
22 Purchased Water Expense should be classified with AWC's Allocation Factor 2,
23 Base/Maximum Day (JFG Exhibit 1, Schedule 9, page 1).

1 **Q WHY DO YOU BELIEVE THAT ELECTRIC POWER FOR PUMPING EXPENSE**
2 **SHOULD NOT BE CLASSIFIED SOLELY TO THE BASE COST CATEGORY?**

3 A AWC's pumping facilities are used to meet average day, peak day and peak hour
4 rates of demand. This is recognized in AWC's own cost of service study, where
5 Allocation Factor 4 (Base/Maximum Day/Peak Hour) is used to assign pumping plant
6 investment (JFG Exhibit 1, Schedule 4), accumulated pumping plant depreciation
7 (JFG Exhibit 1, Schedule 5) and non-electrical pumping plant operating and
8 maintenance expenses (JFG Exhibit 1, Schedule 7) to each of these three cost
9 categories. The pumps, in turn, must consume electric power at rates sufficient to
10 meet these peak day and peak hour demands.

11 **Q WHY DID YOU USE ALLOCATION FACTOR 4 (BASE/MAXIMUM DAY/PEAK**
12 **HOUR) INSTEAD OF ALLOCATION FACTOR 1 (BASE)?**

13 A Mr. Guastella's Allocation Factor 1 does not recognize maximum day or peak hour
14 rates of use. Thus, it is not appropriate to use this Factor to classify and allocate
15 electric power expense. Allocation Factor 4, however, incorporates average day,
16 maximum day and peak hour flow rates. Thus, it is more representative of how power
17 is used to meet AWC's average and peak pumping requirements.

18 **Q CAN YOU CITE ANY AUTHORITY FOR YOUR PROPOSED CLASSIFICATION OF**
19 **ELECTRIC POWER EXPENSE?**

20 A Yes, I can. American Water Works Association's Manual M-1, Sixth Edition,
21 *Principles of Water Rates, Fees, and Charges*, states on page 65 that the extent to
22 which power costs should be allocated to extra capacity depends on the variations in
23 demands incurred in pumping.

1 **Q WHAT IS THE EFFECT OF THE PURCHASED WATER AND POWER EXPENSE**
2 **ADJUSTMENTS ON THE COST OF SERVICE ALLOCATED TO THE CCHS**
3 **CLASS?**

4 A AWC's proposed cost of service for CCH is \$484,144 as shown in JFG Exhibit 1,
5 Schedule 1. If Purchased Water Expense and Power Expense are both allocated on
6 Factor 4, the cost to serve CCHS is reduced by \$30,451. The adjusted cost to serve
7 CCHS becomes \$453,693. This results in an increase of 12.80% for CCHS relative
8 to current revenues as shown in BCC Exhibit 1, Schedule 2, page 2.

9 If Purchased Water Expense is allocated on Factor 2 and Power Expense is
10 allocated on Factor 4, the cost to serve CCHS is reduced by \$19,634. The adjusted
11 cost to serve CCHS becomes \$464,510. This results in an increase of 15.49% for
12 CCHS relative to current revenues as shown in BCC Exhibit 1, Schedule 2, page 2.

13 **Q DO YOUR ADJUSTED COST OF SERVICE STUDY RESULTS FURTHER JUSTIFY**
14 **A BELOW SYSTEM AVERAGE INCREASE FOR CCHS?**

15 A Yes. The Company's cost of service results indicate that CCHS should receive
16 73.08% of the system average increase. With my revisions to the Company's cost of
17 service study, CCHS would receive an increase even further below the system
18 average increase than that shown by the Company in JFG Exhibit 1, Schedule 1. As
19 described above, allocating Purchased Water Expense and Power Expense on
20 Factor 2 and Factor 4, respectively, would result in CCHS receiving a 15.49%
21 increase, or 55.57% of the system average increase. Allocating both Purchased
22 Water Expense and Power Expense on Factor 4 would result in CCHS receiving a
23 12.80% increase, or 45.92% of the system average increase. This is shown on BCC
24 Exhibit 1, Schedule 2, page 3.

1 Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

2 A Yes, it does.

Qualifications of Brian C. Collins

1 **Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A Brian C. Collins. My business address is 16690 Swingley Ridge Road, Suite 140,
3 Chesterfield, MO 63017.

4 **Q WHAT IS YOUR OCCUPATION AND BY WHOM ARE YOU EMPLOYED?**

5 A I am an Associate in the field of public utility regulation with the firm of Brubaker &
6 Associates, Inc. ("BAI"), energy, economic and regulatory consultants.

7 **Q PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.**

8 A I graduated from Southern Illinois University Carbondale with a Bachelor of Science
9 degree in Electrical Engineering. I also graduated from the University of Illinois at
10 Springfield with a Master of Business Administration degree. Prior to joining BAI, I
11 was employed by the Illinois Commerce Commission and City Water Light & Power
12 ("CWLP") in Springfield, Illinois.

13 My responsibilities at the Illinois Commerce Commission included the review
14 of the prudence of utilities' fuel costs in fuel adjustment reconciliation cases before
15 the Commission as well as the review of utilities' requests for certificates of public
16 convenience and necessity for new electric transmission lines. My responsibilities at
17 CWLP included generation and transmission system planning. While at CWLP, I
18 completed several thermal and voltage studies in support of CWLP's operating and
19 planning decisions. I also performed duties for CWLP's Operations Department,
20 including calculating CWLP's monthly cost of production. I also determined CWLP's

1 allocation of wholesale purchased power costs to retail and wholesale customers for
2 use in the monthly fuel adjustment.

3 In June 2001, I joined BAI as a Consultant. Since that time, I have
4 participated in the analysis of various utility rate and other matters in several states
5 and before the Federal Energy Regulatory Commission ("FERC"). I have filed or
6 presented testimony before the Arkansas Public Service Commission, Florida Public
7 Service Commission, the Idaho Public Utilities Commission, the Illinois Commerce
8 Commission, the Indiana Utility Regulatory Commission, the Minnesota Public Utilities
9 Commission, the Missouri Public Service Commission, the Public Utilities
10 Commission of Ohio, the Rhode Island Public Utilities Commission, the Public Service
11 Commission of Wisconsin, the Washington Utilities and Transportation Commission,
12 and the Wyoming Public Service Commission. I have also assisted in the analysis of
13 transmission line routes proposed in certificate of convenience and necessity
14 proceedings before the Public Utility Commission of Texas.

15 In 2009, I completed the University of Wisconsin – Madison High Voltage
16 Direct Current ("HVDC") Transmission Course for Planners that was sponsored by
17 the Midwest Independent Transmission System Operator, Inc. ("MISO").

18 BAI was formed in April 1995. BAI and its predecessor firm has participated in
19 more than 700 regulatory proceeding in forty states and Canada.

20 BAI provides consulting services in the economic, technical, accounting, and
21 financial aspects of public utility rates and in the acquisition of utility and energy
22 services through RFPs and negotiations, in both regulated and unregulated markets.
23 Our clients include large industrial and institutional customers, some utilities and, on
24 occasion, state regulatory agencies. We also prepare special studies and reports,
25 forecasts, surveys and siting studies, and present seminars on utility-related issues.

1 In general, we are engaged in energy and regulatory consulting, economic
2 analysis and contract negotiation. In addition to our main office in St. Louis, the firm
3 also has branch offices in Phoenix, Arizona and Corpus Christi, Texas.

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**ARTESIAN WATER COMPANY INC.
 REVENUE ALLOCATION**

<u>Line</u>	<u>Class</u>	<u>Current Revenues</u> (1)	<u>AWC</u>	
			<u>Proposed Revenue Allocation</u> ⁽¹⁾ (2)	<u>Increase Over Current Revenues</u> (3)
1	CCHS	\$ 402,215	\$ 475,787	\$ 73,572
2	Other Classes	<u>\$ 55,594,021</u>	<u>\$ 64,470,644</u>	<u>\$ 8,876,622</u>
3	Total	\$ 55,996,236	\$ 64,946,431	\$ 8,950,195

⁽¹⁾ JFG Exhibit 1, Schedule 17

**ARTESIAN WATER COMPANY INC.
 REVENUE ALLOCATION**

<u>Line</u>	<u>Class</u>	<u>Current Revenues</u> (1)	<u>AWC</u>	
			<u>Proposed Revenue Allocation</u> ⁽¹⁾ (2)	<u>% Increase Over Current Revenues</u> (3)
1	CCHS	\$ 402,215	\$ 475,787	18.292%
2	Other Classes	<u>\$ 55,594,021</u>	<u>\$ 64,470,644</u>	15.967%
3	Total	\$ 55,996,236	\$ 64,946,431	15.984%

⁽¹⁾ JFG Exhibit 1, Schedule 17

**ARTESIAN WATER COMPANY INC.
 REVENUE ALLOCATION**

<u>Line</u>	<u>Class</u>	<u>Current Revenues</u> (1)	<u>AWC Proposed Revenue Allocation</u>	
			<u>% Increase over Current Revenues</u> ⁽¹⁾ (2)	<u>% of System Average Increase</u> (3)
1	CCHS	\$ 402,215	18.292%	114.44%
2	Other Classes	<u>\$ 55,594,021</u>	15.967%	99.90%
3	Total	\$ 55,996,236	15.984%	100.00%

⁽¹⁾ JFG Exhibit 1, Schedule 17

**ARTESIAN WATER COMPANY INC.
COST OF SERVICE**

<u>Line</u>	<u>Class</u>	<u>Current Revenues</u> (1)	<u>AWC</u>		<u>Adjusted Cost of Service</u> ⁽²⁾		<u>Adjusted Cost of Service</u> ⁽³⁾	
			<u>Cost of Service</u> ⁽¹⁾ (2)	<u>Increase Over Current Revenues</u> (3)	<u>Adjusted Cost of Service</u> (4)	<u>Increase Over Current Revenues</u> (5)	<u>Adjusted Cost of Service</u> (6)	<u>Increase Over Current Revenues</u> (7)
1	CCHS	\$ 402,215	\$ 484,144	\$ 81,929	\$ 464,510	\$ 62,295	\$ 453,693	\$ 51,478
2	Other Classes	\$ 55,594,021	\$ 71,120,058	\$ 15,526,037	\$ 71,139,690	\$ 15,545,669	\$ 71,150,508	\$ 15,556,487
3	Total	\$ 55,996,236	\$ 71,604,202	\$ 15,607,966	\$ 71,604,200	\$ 15,607,964	\$ 71,604,201	\$ 15,607,965

⁽¹⁾ JFG Exhibit 1, Schedule 1

⁽²⁾ Purchased Water - Factor 2; Power Expense - Factor 4

⁽³⁾ Purchased Water - Factor 4; Power Expense - Factor 4

**ARTESIAN WATER COMPANY INC.
 COST OF SERVICE**

<u>Line</u>	<u>Class</u>	<u>Current Revenues</u> (1)	<u>AWC</u>		<u>Adjusted Cost of Service⁽²⁾</u>		<u>Adjusted Cost of Service⁽³⁾</u>	
			<u>Cost of Service⁽¹⁾</u> (2)	<u>% Increase Over Current Revenues</u> (3)	<u>Adjusted Cost of Service</u> (4)	<u>% Increase Over Current Revenues</u> (5)	<u>Adjusted Cost of Service</u> (6)	<u>% Increase Over Current Revenues</u> (7)
1	CCHS	\$ 402,215	\$ 484,144	20.37%	\$ 464,510	15.49%	\$ 453,693	12.80%
2	Other Classes	<u>\$ 55,594,021</u>	<u>\$ 71,120,058</u>	27.93%	<u>\$ 71,139,690</u>	27.96%	<u>\$ 71,150,508</u>	27.98%
3	Total	\$ 55,996,236	\$ 71,604,202	27.87%	\$ 71,604,200	27.87%	\$ 71,604,201	27.87%

⁽¹⁾ JFG Exhibit 1, Schedule 1

⁽²⁾ Purchased Water - Factor 2; Power Expense - Factor 4

⁽³⁾ Purchased Water - Factor 4; Power Expense - Factor 4

**ARTESIAN WATER COMPANY INC.
COST OF SERVICE**

<u>Line</u>	<u>Class</u>	<u>Current Revenues</u> (1)	<u>AWC Cost of Service ⁽¹⁾</u>		<u>Adjusted Cost of Service ⁽²⁾</u>		<u>Adjusted Cost of Service ⁽³⁾</u>	
			<u>% Increase Over Current Revenues</u> (2)	<u>% of System Average Increase</u> (3)	<u>% Increase Over Current Revenues</u> (4)	<u>% of System Average Increase</u> (5)	<u>% Increase Over Current Revenues</u> (6)	<u>% of System Average Increase</u> (7)
1	CCHS	\$ 402,215	20.37%	73.08%	15.49%	55.57%	12.80%	45.92%
2	Other Classes	<u>\$ 55,594,021</u>	27.93%	100.19%	27.96%	100.32%	27.98%	100.39%
3	Total	\$ 55,996,236	27.87%	100.00%	27.87%	100.00%	27.87%	100.00%

⁽¹⁾ JFG Exhibit 1, Schedule 1

⁽²⁾ Purchased Water - Factor 2; Power Expense - Factor 4

⁽³⁾ Purchased Water - Factor 4; Power Expense - Factor 4

**ARTESIAN WATER COMPANY INC.
 COST OF SERVICE**

<u>Line</u>	<u>Class</u>	<u>AWC Cost of Service</u> ⁽¹⁾ (1)	<u>Adjusted Cost of Service</u> ⁽²⁾ (2)	<u>Adjusted Cost of Service</u> ⁽³⁾ (3)
1	Residential	\$ 44,741,967	\$ 44,652,306	\$ 44,539,203
2	All Other	17,636,204	17,439,435	17,322,786
3	CCHS	484,144	464,510	453,693
4	Wholesale 1 (Middletown)	563,324	563,306	563,329
5	Wholesale 2 (DDC)	388,874	388,883	388,881
6	Fire Service - Capacity	6,726,242	7,032,313	7,272,862
7	Fire Service - Hydrants	<u>1,063,447</u>	<u>1,063,447</u>	<u>1,063,447</u>
8	Total	\$ 71,604,202	\$ 71,604,200	\$ 71,604,201

⁽¹⁾ JFG Exhibit 1, Schedule 1

⁽²⁾ Purchased Water - Factor 2; Power Expense - Factor 4

⁽³⁾ Purchased Water - Factor 4; Power Expense - Factor 4