

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF DELAWARE

IN THE MATTER OF THE APPLICATION)
OF ARTESIAN WATER COMPANY, INC.)
FOR AUTHORITY TO INCREASE RATES) PSC DOCKET NO. 14-132
AND CHARGES FOR WATER SERVICE)
(Filed April 11, 2014))

TESTIMONY OF STAFF WITNESS

BRIAN KALCIC

Regarding
Cost of Service and Rate Design

September 24, 2014

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

2 A. Brian Kalcic, 225 S. Meramec Avenue, Suite 720, St. Louis, Missouri 63105.

3

4 **Q. What is your occupation?**

5 A. I am an economist and consultant in the field of public utility regulation, and
6 principal of Excel Consulting. My qualifications are described in the Appendix to
7 this testimony.

8

9 **Q. On whose behalf are you testifying in this case?**

10 A. I am testifying on behalf of the Delaware Public Service Commission Staff
11 (“Staff”).

12

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

14 A. Staff retained me to review the rate structure proposals submitted on behalf of
15 Artesian Water Company, Inc. (“Artesian” or “Company”), and to develop an
16 appropriate rate design that would recover Staff witness David E. Peterson’s
17 recommended revenue adjustment of \$5.756 million.

18

19 **Q. Please summarize your recommendations.**

20 A. Based upon my review of the Company's tariff, rate filing and associated discovery
21 responses, I recommend that Your Honor and the Delaware Public Service
22 Commission (“Commission”):

23

- 24 • Adopt Artesian’s cost-of-service study, as corrected, to assist with the
25 determination of class revenue responsibility in this proceeding;
- 26 • Adopt Staff’s recommended class revenue allocation, which would assign
27 non-uniform increases to Artesian’s rate classes; and
- 28 • Adopt Staff’s recommended rate design, which would produce overall
29 revenues of \$68.040 million.

30

31 I discuss the specific details associated with Staff’s rate structure recommendations
32 below.

33

34

35

1 **Q. How is the remainder of your testimony organized?**

2 A. Section I of my testimony reviews the Company's cost-of-service study ("COSS").
3 Section II presents Staff's recommended class revenue allocation and rate design.
4

5 **I. Cost-of-Service Study**
6

7 **Q. Mr. Kalcic, what type of cost-of-service study did Artesian submit in this
8 proceeding?**

9 A. Company witness John F. Guastella sponsored a class cost-of-service analysis at
10 Artesian's filed revenue requirement level utilizing the Base Extra-Capacity
11 ("BEC") cost methodology.
12

13 **Q. Please summarize the major components of the BEC cost methodology.**

14 A. In general, the BEC methodology consists of two primary steps. First, the utility's
15 system-wide revenue requirement is *classified* into functional cost categories (e.g.,
16 base, extra capacity and customer components). Second, each functional cost
17 category is *allocated* to rate classes in accordance with a factor that reflects relative
18 cost responsibility.

19 The BEC classification and allocation steps combine to produce a measure
20 of total cost of service, by rate class. By comparing allocated cost responsibility to
21 actual revenue levels, one can determine whether a given rate class is contributing
22 above or below its cost of service.
23

24 **Q. What customer classes are included in the Company's cost-of-service study?**

25 A. Artesian's revised study reports cost-of-service results for the following customer
26 classes: Residential, All Other, Christiana Care Hospital ("CCH"), Wholesale 1
27 (Middletown), Wholesale 2 (Delaware Correctional Center), Wholesale 3 (New
28 Castle) and Fire Service (which includes both Public and Private Fire Protection).
29

30 **Q. Based upon your review of Artesian's cost-of-service study, do you recommend
31 any changes to the Company's BEC cost methodology?**

32 A. No. However, in response to PSC-RD-15, Artesian indicated that New Castle was
33 inadvertently reflected as a negotiated contract customer in the Company's filed

1 cost study, rather than as a separate cost-of-service class (i.e., Wholesale 3). The
2 corrected COSS results are summarized in Schedule BK-1.

3
4 **Q. Have you used the COSS results shown in Schedule BK-1 as a guide in the**
5 **determination of Staff's recommended class revenue allocation in this**
6 **proceeding?**

7 A. Yes, I have.

8
9 **II. Class Revenue Allocation and Rate Design**

10
11 **Q. Mr. Kalcic, how does the Company propose to recover its requested revenue**
12 **increase in this proceeding?**

13 A. Schedule BK-2 summarizes the Company's proposed revenue allocation that was
14 included in response to PSC-RD-15c. The overall increase in rate revenues (line 9)
15 is \$9.984 million, as requested in the Company's original filing. The class
16 increases shown on Schedule BK-2 range from 9.18% (Private Fire) to 18.06%
17 (CCH).

18
19 **Q. How did Mr. Guastella arrive at the proposed revenue allocation shown in**
20 **Schedule BK-2?**

21 A. Mr. Guastella generally relied on the results of the Company's filed COSS to set
22 class revenue levels at full cost of service.

23
24 **Q. Do you agree with the Company's revenue allocation approach?**

25 A. Yes. As discussed below, I recommend that the Commission adopt a revenue
26 allocation that would move all classes to full cost of service, using the (relative)
27 cost-based increases shown in Artesian's corrected COSS.

28
29 **Q. Have you developed a recommended class revenue allocation that would**
30 **recover Staff's recommended revenue requirement in this proceeding?**

31 A. Yes. My recommended revenue allocation is designed: (a) to recover Staff witness
32 Peterson's recommended revenue requirement of \$68.040 million, which equates to
33 an overall increase of \$5.756 million or 9.24% and (b) to move all rate classes to

1 cost of service. I present Staff's recommended class revenue allocation in Schedule
2 BK-3.

3
4 **Q. How did you determine the recommended class increases shown in column 2 of**
5 **Schedule BK-3?**

6 A. My recommended revenue allocation was developed in two steps. First, I
7 multiplied Staff's overall recommended increase in rate revenue of 9.6% (line 9) by
8 the relative cost-based class percentage increases that are shown in Schedule BK-1,
9 to develop target increases, by rate class, at Staff's recommended revenue
10 requirement level. For example, Schedule BK-1 shows that the relative cost-based
11 percentage increase for the Residential class is 1.024. Multiplying 9.6% by 1.024
12 equals 9.83%, which is Staff's target increase for the Residential class. Note that
13 Staff's target increases were used as the *final* increases for all classes except All
14 Other.

15 Second, I assigned the All Other class the residual increase necessary to
16 implement Staff's overall recommended revenue requirement (so as to minimize
17 rounding error in Staff's overall rate design.)

18
19 **Q. Mr. Kalcic, have you developed rates to implement your recommended class**
20 **revenue allocation?**

21 A. Yes. Schedule BK-4 presents Staff's recommended rate design and proof of
22 revenue.

23
24 **Q. Would you please describe the format of Schedule BK-4?**

25 A. Yes. Present rate revenue is derived in column 3 from the class billing
26 determinants and present rates shown in columns 1 and 2, respectively. Column 4
27 shows Staff's recommended rates. Column 5 shows the annual class revenue
28 produced by the recommended rates. Finally, column 6 shows Staff's
29 recommended percentage increases to individual tariff components and class
30 revenue levels.

31
32 **Q. What is Staff's recommended revenue level at current rates?**

33 A. Mr. Peterson is sponsoring a present revenue level of \$62.283 million, which is
34 equal to the Company's actual test year revenues shown in Schedule DLV 3A-1-S.

1 The class revenue adjustments needed to arrive at starting revenues of \$62.283
2 million are included on pages 1 and 2 of Schedule BK-4.

3
4 **Q. Does Staff possess actual test year billing determinants, by rate class?**

5 A. No, it does not.
6

7 **Q. How did Staff develop its recommended rates and prepare a proof of revenue
8 without actual test year billing determinants?**

9 A. The class revenue adjustments needed to produce test year revenues of \$62.283
10 million are shown in Schedule BK-4, and derived from Schedule DLV 3A-1-S. For
11 the Residential class, Staff is recommending a revenue adjustment at present rates
12 of *minus* \$993,630, i.e., a revenue decrease of \$993,630 from the level used in
13 Artesian's supplemental filing. In developing its recommended Residential rates,
14 Staff's rate design incorporates a proportional increase to that \$993,630 revenue
15 adjustment (at present rates) of 9.83%, which is the same percentage as Staff's
16 overall recommended Residential increase. By "growing" the Residential revenue
17 adjustment from -\$993,630 to -\$1,091,289 (or 9.83%), Staff's rate design
18 appropriately accounts for the lack of actual test year billing determinants.

19 Staff made corresponding adjustments to Artesian's other rate classes in
20 preparing its recommended rate design.
21

22 **Q. Mr. Kalcic, how did you determine your recommended customer charges
23 shown on Schedule BK-4, page 2 of 2?**

24 A. Staff's recommended customer charges are designed to recover all customer related
25 costs, as determined by Artesian's corrected COSS. To arrive the recommended
26 customer charge levels shown in column 4 of Schedule BK-4, page 2 of 2, I first
27 determined the cost-based customer charge increase at Artesian's filed revenue
28 requirement level, and then scaled back that increase proportionately (to reflect
29 Staff's lower recommended increase).
30

31 **Q. Please describe how you developed your recommended Public and Private Fire
32 Protection charges shown on pages 1 and 2 of Schedule BK-4.**

33 A. Staff's recommended Fire Service charges are designed to reflect the separate cost
34 based revenue requirement levels for Public and Private Fire Protection service, as

1 determined by Artesian's corrected COSS. To arrive Staff's recommended fire
2 protection charges, I first determined the required cost-based increase, by fire class,
3 at Staff's recommended revenue requirement level. I then multiplied each class's
4 existing fire service charges by its respective cost-based percentage increase
5 (10.50% in the case of Public Fire and 5.44% in the case of Private Fire).

6 As in the Company's rate design, Staff's recommended Public Fire
7 Protection charges vary according to the relative size of a customer's meter (i.e.,
8 meter capacity ratio).

9
10 **Q. How did you develop the Residential and All Other consumption charges**
11 **shown on Schedule BK-4, page 1 of 2?**

12 A. The consumption charges for both the Residential and All Other classes are
13 developed as residuals. In other words, the charges are set at the levels necessary to
14 recover each class's respective revenue requirement target, given the class revenues
15 generated by Staff's recommended customer charges. To develop the required
16 usage charges by rate block, I simply spread each class's non-customer-charge
17 revenue requirement proportionately across its respective consumption rate blocks,
18 resulting in an across-the-board consumption charge increase of 11.7% for
19 Residential and 9.9% for All Other.

20
21 **Q. Would Staff's recommended Residential and All Other consumption charges**
22 **maintain the Company's existing conservation-oriented rate structure?**

23 A. Yes. Staff's recommended rate design retains the Company's existing inclining-
24 block rate structure (where consumption charges increase with the level of usage)
25 and keeps the same relative prices across the rate blocks.

26
27 **Q. Have you prepared a summary of Staff's recommended Residential and All**
28 **Other tariff charges?**

29 A. Yes. Schedule BK-5 compares Staff's recommended rates to Artesian's present
30 rates, by tariff component.

31
32 **Q. Do you have a recommendation in the event that the Commission awards**
33 **Artesian a revenue increase that differs from Staff's recommended level?**

1 A. Yes. In that event, I would recommend that the revenue increases shown in column
2 2 of Schedule BK-3 be adjusted proportionately.

3

4 **Q. Mr. Kalcic, has Artesian proposed to implement any increases with respect to**
5 **its Miscellaneous Service charges?**

6 A. No, it has not. Likewise, Staff is proposing to leave the Company's present
7 Miscellaneous Service charges unchanged.

8

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

10 A. Yes.

APPENDIX

Qualifications of Brian Kalcic

Mr. Kalcic graduated from Benedictine University with a Bachelor of Arts degree in Economics in December 1974. In May 1977 he received a Master of Arts degree in Economics from Washington University, St. Louis. In addition, he has completed all course requirements at Washington University for a Ph.D. in Economics.

From 1977 to 1982, Mr. Kalcic taught courses in economics at both Washington University and Webster University, including Microeconomic and Macroeconomic Theory, Labor Economics and Public Finance.

During 1980 and 1981, Mr. Kalcic was a consultant to the Equal Employment Opportunity Commission, St. Louis District Office. His responsibilities included data collection and organization, statistical analysis and trial testimony.

From 1982 to 1996, Mr. Kalcic was employed by the firm of Cook, Eisdorfer & Associates, Inc. During that time, he participated in the analysis of electric, gas and water utility rate case filings. His primary responsibilities included cost-of-service and economic analysis, model building, and statistical analysis.

In March 1996, Mr. Kalcic founded Excel Consulting, a consulting practice that offers business and regulatory services.

Mr. Kalcic has previously testified before the state regulatory commissions of Delaware, Indiana, Kansas, Kentucky, Maine, Massachusetts, Minnesota, Missouri, New Jersey, New York, Ohio, Oregon, Pennsylvania, Texas, and also before the Bonneville Power Administration.

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Schedules Accompanying the
Direct Testimony of Staff Witness

BRIAN KALCIC

September 24, 2014

Artesian Water Company, Inc.
Company Proposed Allocation of its
Filed Increase in Total Revenue

Line	Description	Present Revenue (1)	Proposed Increase		
			Amount (2)	Percent (3)	Ratio (4)
1	Residential	\$38,378,517	\$6,105,292	15.91%	98
2	All Other	\$15,244,772	\$2,647,091	17.36%	107
3	CCH	\$409,828	\$74,011	18.06%	111
4	Wholesale 1	\$480,981	\$81,937	17.04%	105
5	Wholesale 2	\$350,202	\$38,252	10.92%	67
6	Wholesale 3	\$20,801	\$3,684	17.71%	109
7	Public Fire Service	\$4,852,021	\$858,872	17.70%	109
8	Private Fire Service	<u>\$1,904,202</u>	<u>\$174,811</u>	9.18%	57
9	Subtotal	\$61,641,324	\$9,983,950	16.20%	100
10	Contract Revenues	\$1,111,135	\$0	0.00%	
11	Miscellaneous	<u>\$1,545,173</u>	<u>\$20,279</u>	1.31%	
12	TOTAL	\$64,297,632	\$10,004,229	15.56%	

Source: PSC-RD-15c
JFG Exhibit 1
Schs. 17-21
&
Sch. DLV3-2

Artesian Water Company, Inc.
 Staff Allocation of its
 Recommended Increase in Total Revenue

Line	Description	Present Revenue (1)	Recommended Increase		
			Amount (2)	Percent (3)	Ratio (4)
1	Residential	\$37,384,887	\$3,674,392	9.83%	102
2	All Other	\$14,656,502	\$1,360,616	9.28%	97
3	CCH	\$409,828	\$43,894	10.71%	112
4	Wholesale 1	\$466,775	\$47,227	10.12%	105
5	Wholesale 2	\$224,336	\$14,502	6.46%	67
6	Wholesale 3	\$21,501	\$2,261	10.52%	110
7	Public Fire Service	\$4,725,467	\$495,977	10.50%	109
8	Private Fire Service	<u>\$1,936,209</u>	<u>\$105,385</u>	5.44%	57
9	Subtotal	\$59,825,505	\$5,744,254	9.60%	100
10	Contract Revenues	\$1,024,157	\$0	0.00%	
11	Miscellaneous	<u>\$1,433,820</u>	<u>\$11,814</u>	0.82%	
12	TOTAL	\$62,283,482	\$5,756,069	9.24%	

\$5,755,724 Target per Staff Witness Peterson
\$11,814 less: Finance Charge Increase
 \$5,743,910 Rate Revenue Target
 \$5,744,254 Per Rate Design (Line 9)
 \$345 Rounding

Source: Sch. BK-4

Artesian Water Company, Inc.
Staff Recommended Rates
and Proof of Revenue

Schedule BK-4
Page 1 of 2

Billing Determinants	(1)	Present		Recommended		% Increase
		Rate	Revenue	Rate	Revenue	
	(1)	(2)	(3)	(4)	(5)	(6)
Residential						
Customer Charge			\$11,996,582		\$12,677,179	5.67%
Usage: First 2	1689176	\$6.565	\$11,089,440	\$7.334	\$12,388,417	11.71%
Next 5	1866109	\$7.098	\$13,245,642	\$7.930	\$14,798,244	11.72%
Over 7	247294	\$8.277	<u>\$2,046,852</u>	\$9.247	<u>\$2,286,728</u>	11.72%
subt	3802579		\$38,378,517		\$42,150,568	9.83%
Staff Revenue Adj.			<u>(\$993,630)</u>		<u>(\$1,091,289)</u>	9.83%
Total Residential			\$37,384,887		\$41,059,279	9.83%
All Other						
Customer Charge			\$2,252,665		\$2,380,899	5.69%
Usage: First 500	1773283	\$5.887	\$10,439,317	\$6.470	\$11,473,141	9.90%
Over 500	376740	\$6.776	<u>\$2,552,790</u>	\$7.448	<u>\$2,805,960</u>	9.92%
subt	2150023		\$15,244,772		\$16,660,000	9.28%
Staff Revenue Adj.			<u>(\$588,270)</u>		<u>(\$642,881)</u>	9.28%
Total All Other			\$14,656,502		\$16,017,119	9.28%
CCH						
Customer Charge	24	\$317.20	\$7,613	\$335.28	\$8,047	5.70%
Usage	103477	\$3.887	<u>\$402,215</u>	\$4.307	\$445,675	10.81%
subt			\$409,828		\$453,722	10.71%
Wholesale						
All Usage Rate 1	219659	\$2.125	\$466,775	\$2.340	\$514,002	10.12%
All Usage Rate 2	100016	\$2.243	\$224,336	\$2.388	\$238,838	6.46%
All Usage Rate 3	6936	\$3.100	<u>\$21,501</u>	\$3.426	<u>\$23,762</u>	10.52%
subt	326611		\$712,612		\$776,602	8.98%
Public Fire						
Fixed Charge			\$4,725,467		\$5,221,444	10.50%
Private Fire						
Hydrants	0	\$227.47	\$0	\$239.85	\$0	5.44%
Sprinkler						
1.5"	300	\$19.28	\$5,784	\$20.33	\$6,099	5.45%
2"	1296	\$40.95	\$53,071	\$43.18	\$55,961	5.45%
4"	1932	\$106.69	\$206,125	\$112.50	\$217,350	5.45%
6"	3828	\$227.47	\$870,755	\$239.85	\$918,146	5.44%
8"	1920	\$378.70	\$727,104	\$399.31	\$766,675	5.44%
10"	60	\$565.73	\$33,944	\$596.52	\$35,791	5.44%
12"	12	\$618.19	<u>\$7,418</u>	\$651.83	<u>\$7,822</u>	5.44%
subt	9348		\$1,904,202		\$2,007,844	5.44%
Staff Revenue Adj.			<u>\$32,007</u>		<u>\$33,749</u>	5.44%
Total Private Fire			\$1,936,209		\$2,041,594	5.44%
TOTAL			\$59,825,505		\$67,270,181	12.44%

Artesian Water Company, Inc.
Staff Recommended Rates
and Proof of Revenue

Detail	Number of Monthly Bills (1)	Present		Recommended		% Increase (6)
		Rate (2)	Revenue (3)	Rate (4)	Revenue (5)	
Customer Charges						
<u>Residential</u>						
5/8"	895608	\$13.22	\$11,839,938	\$13.97	\$12,511,644	5.67%
3/4"	4452	\$15.86	\$70,609	\$16.76	\$74,616	5.67%
1"	3456	\$21.15	\$73,094	\$22.35	\$77,242	5.67%
1 1/2"	120	\$42.29	\$5,075	\$44.70	\$5,364	5.70%
2"	96	\$55.51	\$5,329	\$58.67	\$5,632	5.69%
6"	<u>12</u>	<u>\$211.47</u>	<u>\$2,538</u>	<u>\$223.52</u>	<u>\$2,682</u>	5.70%
subt	903744		\$11,996,582		\$12,677,179	5.67%
<u>All Other</u>						
5/8"	19488	\$13.22	\$257,631	\$13.97	\$272,247	5.67%
3/4"	3336	\$15.86	\$52,909	\$16.76	\$55,911	5.67%
1"	5484	\$21.15	\$115,987	\$22.35	\$122,567	5.67%
1 1/2"	5856	\$42.29	\$247,650	\$44.70	\$261,763	5.70%
2"	11004	\$55.51	\$610,832	\$58.67	\$645,605	5.69%
3"	1764	\$84.59	\$149,217	\$89.41	\$157,719	5.70%
4"	804	\$121.59	\$97,758	\$128.52	\$103,330	5.70%
6"	840	\$211.47	\$177,635	\$223.52	\$187,757	5.70%
8"	1560	\$317.20	\$494,832	\$335.28	\$523,037	5.70%
10"	<u>96</u>	<u>\$502.23</u>	<u>\$48,214</u>	<u>\$530.86</u>	<u>\$50,963</u>	5.70%
subt	50232		\$2,252,665		\$2,380,899	5.69%
<u>Public Fire Charges</u>						
5/8"	907044	\$4.00	\$3,628,176	\$4.42	\$4,009,134	10.50%
3/4"	7488	\$5.98	\$44,778	\$6.61	\$49,496	10.54%
1"	8196	\$10.00	\$81,960	\$11.05	\$90,566	10.50%
1 1/2"	5784	\$19.94	\$115,333	\$22.03	\$127,422	10.48%
2"	10308	\$31.99	\$329,753	\$35.34	\$364,285	10.47%
3"	1692	\$60.02	\$101,554	\$66.31	\$112,197	10.48%
4"	684	\$100.04	\$68,427	\$110.53	\$75,603	10.49%
6"	648	\$200.39	\$129,853	\$221.40	\$143,467	10.48%
8"	1044	\$319.71	\$333,777	\$353.23	\$368,772	10.48%
10'	<u>36</u>	<u>\$511.38</u>	<u>\$18,410</u>	<u>\$565.00</u>	<u>\$20,340</u>	10.49%
subt	942924		\$4,852,021		\$5,361,281	10.50%
Staff Revenue Adj.			(<u>\$126,554</u>)		(<u>\$139,837</u>)	10.50%
Total Public Fire			\$4,725,467		\$5,221,444	10.50%

Summary

Residential	\$37,384,887	\$41,059,279	9.83%
All Other	\$14,656,502	\$16,017,119	9.28%
CCH	\$409,828	\$453,722	10.71%
Wholesale	\$712,612	\$776,602	8.98%
Public Fire	\$4,725,467	\$5,221,444	10.50%
Private Fire	\$1,936,209	\$2,041,594	5.44%
Subt	\$59,825,505	\$65,569,759	9.60%
Contract	\$1,024,157	\$1,024,157	0.00%
Misc. Revenue	\$1,433,820	\$1,445,634	0.82%
TOTAL	\$62,283,482	\$68,039,551	9.24%

Artesian Water Company, Inc.
Comparison of General Metered Service
Present and Staff Recommended Rates

<u>Line</u>	<u>Description</u>	<u>Present</u>	<u>Recommended</u>	<u>Increase</u>	
		<u>Rate</u>	<u>Rate</u>	<u>Amount</u>	<u>%</u>
		(1)	(2)	(3)	(4)
	Monthly Customer Charge				
1	5/8"	\$13.22	\$13.97	\$0.75	5.67%
2	3/4"	\$15.86	\$16.76	\$0.90	5.67%
3	1"	\$21.15	\$22.35	\$1.20	5.67%
4	1 1/2"	\$42.29	\$44.70	\$2.41	5.70%
5	2"	\$55.51	\$58.67	\$3.16	5.69%
6	3"	\$84.59	\$89.41	\$4.82	5.70%
7	4"	\$121.59	\$128.52	\$6.93	5.70%
8	6"	\$211.47	\$223.52	\$12.05	5.70%
9	8"	\$317.20	\$335.28	\$18.08	5.70%
10	10"	\$502.23	\$530.86	\$28.63	5.70%
	Water Charge per 1,000 Gallons				
	Residential				
11	0 - 2,000 gallons	\$6.565	\$7.334	\$0.77	11.71%
12	2,001 -7,000 gal.	\$7.098	\$7.930	\$0.83	11.72%
13	Over 7,000 gal.	\$8.277	\$9.247	\$0.97	11.72%
	All Other				
14	0 - 500,000 gallons	\$5.887	\$6.470	\$0.583	9.90%
15	Over 500,000 gal.	\$6.776	\$7.448	\$0.672	9.92%

Source: Sch. BK-4