

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 *
AND CHARGES FOR WATER SERVICE *
(Filed April 11, 2014) *

PSC Docket No. 14- _____

**DIRECT TESTIMONY
OF
JOHN F. GUASTELLA
ON BEHALF OF
ARTESIAN WATER COMPANY, INC.**

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April 11, 2014

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

2 A. John F. Guastella, Guastella Associates, LLC, 6 Beacon Street, Suite 200, Boston, MA
3 02108.

4
5 **Q. Please describe Guastella Associates, LLC.**

6 A. Guastella Associates, LLC provides utility management, valuation and rate consulting
7 services to both regulated and unregulated utilities.

8
9 **Q. Have you provided a statement of qualifications and experience of yourself and your
10 firm?**

11 A. Yes, it is provided as an appendix to this testimony.

12
13 **Q. What is the nature of your testimony?**

14 A. Our assignment in this case was to prepare a cost of service and rate design study
15 (“COSS”). The purpose of this testimony is to present the results of that study.

16
17 **Q. Have you previously prepared cost of service and rate design studies for Artesian
18 Water Company, Inc. (“AWC” or the “Company”)?**

19 A. Yes.

20
21 **Q. Are the objectives of the cost of service and rate design study the same as in the
22 previous cases?**

1 A. Yes. The objectives of the COSS are to establish the cost of serving each class of
2 customer and to design a rate structure that reasonably recovers those costs, while also
3 promoting water conservation.
4

5 **Q. Is the currently proposed rate structure continuing to encourage conservation?**

6 A. Yes. The proposed rate structure maintains inclining block rates (meaning increasing
7 rates for higher levels of usage) for “Residential” and “All Other” customers. The
8 inclining block rates combined with separate rates for different customer classes enables
9 the Company to promote conservation with pricing while also achieving cost recovery
10 from the respective customer classes.
11

12 **Q. What other customer classes does the Company serve?**

13 A. The Company’s tariff also includes separate rates for six Wholesale or Contract
14 customers, and for Christiana Care Hospital (“CCH”). Three of these customers have
15 contracts with specific rate provisions: the City of New Castle pays a rate on the basis of
16 the Company’s lowest purchased water rate, the Town of Chesapeake pays a rate that is
17 20% higher than the rate the Company pays to the Chester Water Authority for bulk water
18 purchases, and Artesian Water of Maryland (“AWMD”) pays a rate that is 10% higher
19 than the rate the Company pays to the Chester Water Authority for bulk water purchases.
20 The contract the Company has with the Town of Clayton is for water going to or from
21 Clayton, and the rate that the Company pays to Clayton is \$2.00 per thousand gallons, for
22 which no increase is being requested. The revenues from these contract customers have

1 been determined by applying the contract rates to their respective usage, and used to
2 offset the Company's pro forma revenue requirement. The rates for wholesale water
3 service to the Town of Middletown and the Delaware Correctional Center ("DCC") are
4 being determined in the COSS. While the DCC does not itself provide water or services
5 to Artesian's customers by agreement, it is a large use customer whose own water
6 production facilities have been assigned to and operated by Artesian under a separate
7 agreement.

8 The Company also provides public and private fire service. The cost of providing
9 public fire service is recouped through a charge to individual customers that receive
10 public fire protection service, according to each customer's meter size. The cost of
11 providing private fire service is recouped through a charge per size connection for
12 customers with sprinklers.

13
14 **Q. What is the cost basis for your study?**

15 A. My study is based on the pro forma revenue requirement in the amount of \$72,736,139
16 that the Company has used to support its rate increase, as reflected in Schedule DLV 3-2,
17 which is attached to Mr. Valcarengi's testimony.

18
19 **Q. Would you briefly describe your scope of work?**

20 A. Yes. All source data was obtained from the Company. We examined financial and
21 operating data, including detailed asset, revenue and expense schedules as well as
22 production data. We examined billing data in order to develop a billing analysis. We had

1 numerous telephone discussions with Company representatives in order to compile data
2 and confirm that no significant changes in the operation of the utility have occurred that
3 would significantly impact the study. We have relied on our previous physical inspection
4 of the system's major facilities.

5
6 **Q. Have you prepared an exhibit containing the results of your cost of service study?**

7 A. Yes. The cost of service study is set forth in JFG Exhibit 1.

8
9 **Q. Have you used the same methodology in this study as in the previous studies you
10 have prepared for the Company?**

11 A. Yes.

12
13 **Q. Although you have previously described this method, would you do so again for the
14 purposes of this record?**

15 A. The COSS is based on the Base-Extra Capacity method. This method, which is described
16 and illustrated in the American Water Works Association ("AWWA") Water Rates
17 Manual (M-1), identifies and classifies the various cost components which comprise the
18 revenue requirement, categorizes the costs according to what drives the quantity of costs
19 incurred according to the general design criteria and operation of a water utility, which we
20 refer to as "functionalizing" the cost components, and allocates the functionalized costs to
21 the customer classes. It also incorporates a fire service allocation within the format of the
22 study.

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Q. How did you classify and functionalize costs?

A. Artesian’s investment in utility plant in service was analyzed according to the primary plant accounts of the prescribed Uniform System of Accounts, which classify different components of the utility system. Those components are then functionalized according to the design and use of the system in meeting the demands of the customers. The functions used in the Base-Extra Capacity method are: Base, Extra Capacity Maximum Day, Extra Capacity Peak Hour, Customer (split between “Meters/Services” and “Billing and Accounting”) and Hydrant costs.

Base costs are those that tend to vary according to average use.

Extra Capacity costs, encompassing both Maximum Day and Peak Hour costs, are costs that tend to vary according to the maximum day or peak hour demands on the system.

Customer costs for billing and accounting, which includes collections (collectively referred to as commercial costs) do not vary according to either average or maximum demands and instead vary according to the number of bills. Similarly, customer costs for meters and services tend to vary according to the equivalent number of such units.

Hydrant costs are those directly allocated to public fire service.

After costs have been classified and functionalized, they are allocated to the various customer classes according to the relative average, maximum day and peak hour demands of each class, and the relative bills and equivalent meters of each class.

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Q. Is the Base-Extra Capacity cost allocation method you described set forth in JFG Exhibit 1?

A. Yes.

Q. Would you please describe Schedule 1?

A. Schedule 1 summarizes the allocation of the revenue requirement by functional classification to the customer classes. In other words, it quantifies the portion of the revenue requirement that should be recovered through rates for service from each class of customer. As reflected in Schedule 1, the customer classes are Residential, All Other, CCH, Wholesale 1 (Middletown), Wholesale 2 (DCC), and Fire Service.

Q. Is Schedule 1 used as the cost basis to develop the rate design?

A. Yes. Schedule 1 shows the revenues to be generated by each class of customer through rates. Subsequent schedules show the specific calculation of rates.

Q. Would you please explain how you “functionalized” the costs that are reflected in Schedule 1?

A. Yes. The allocation of cost components to the functions of Base, Extra Capacity Maximum Day, Extra Capacity Peak Hour, Customer and Hydrants, is accomplished as shown on Schedules 2 through 10.

1 **Q. Before proceeding with an explanation of your schedules in numerical order, how**
2 **did you establish the total system demands used for the cost allocation?**

3 A. As a first step, analyses were made of the total system water demands. Based on these
4 analyses, system demand ratios of 1.70 and 2.50 were established for maximum day and
5 peak hour demands in relation to the average day demand, respectively.

6 Schedule 10 sets forth the average day, maximum day and peak hour system
7 demands in million gallons per day (“mgd”) and the ratio of each to the average day.
8 Also shown on Schedule 10 is the fire demand, which has been established at 8,000
9 gallons per minute (“gpm”). The 8,000 gpm fire demand equates to a rate of flow of
10 11.52 million gallons per day (mgd). The fire demand is based on a review of hydrant
11 flow tests, guidelines established by the Insurance Service Organization (and its
12 predecessor, the National Board of Fire Underwriters), the fire demand used in the
13 Company’s last rate case, and judgment as to the size and characteristics of the service
14 area.

15

16 **Q. Would you please explain Schedule 2?**

17 A. Schedule 2 summarizes the allocation of the various revenue requirement components to
18 functional classifications and is supported by Schedules 3 through 9. The numerical
19 “code” next to each revenue requirement component refers to the explanations for the
20 allocations, which are found on Schedule 9, pages 1 through 7. Schedule 9, page 1,
21 provides a summary listing of each allocation code and percentage. Pages 2 through 7 of
22 that same schedule provide explanations and, where warranted, calculations of the code.

1 Schedule 3 sets forth the allocation of the pro forma rate base, by component. The
2 results were used to allocate utility operating income and income taxes on Schedule 2.

3 Schedule 4 sets forth the allocation of utility plant, the result of which was carried
4 forward to Schedule 3, and was also used to allocate intangible assets. The utility plant
5 allocation was also used to allocate property taxes and amortization of investment tax
6 credits on Schedule 2.

7 Schedule 5 contains the allocation for accumulated depreciation, and the results
8 carried forward to Schedule 3.

9 Schedule 6 contains the allocation of materials and supplies, and the results are
10 carried forward to Schedule 3.

11 Schedule 7 consists of two pages containing the allocation of pro forma operation
12 and maintenance expenses, the results of which were carried forward to Schedule 2 and
13 were also used to allocate cash working capital on Schedule 3.

14 Schedule 8 contains the allocation for pro forma annual depreciation expense, and
15 the results carried forward to Schedule 2, and were also used to allocate deferred taxes on
16 that schedule.

17
18 **Q. Would you describe Schedule 11, which summarizes the customer class allocation**
19 **factors?**

20 A. Yes. Schedule 11 consists of two pages. Page 1 sets forth estimated non-coincidental
21 water demands (as explained below) by customer classes. Customer demands were
22 determined by using typical customer demand ratios and by taking into consideration the

1 volume of water used by each customer class, the overall system demands, other
2 consumption and demand data, Artesian's previous cost of service studies and results of
3 other studies, and judgment.

4 Also included on Page 1 of Schedule 11 are the average day, maximum day, peak
5 hour, and fire demands used to allocate costs to fire service. The average day demand for
6 fire service is estimated at 1% of total system average day. The maximum day fire
7 demand is based on a coincidental fire demand of 8,000 gpm for 4 hours duration, which
8 equals 1.92 mgd. The peak hour fire demand is the 8,000 gpm or a rate of 11.52 mgd.

9 The demands shown on Page 1 of Schedule 11 are non-coincidental, meaning the
10 maximum day and peak hour demands that could be anticipated without diversity of
11 demand among customer classes.

12 Page 2 of Schedule 11 reflects calculations necessary to adjust the allocation
13 percentages among customer classes in order to account for the special characteristics of
14 the Wholesale customers. Unlike the Residential and All Other classes, there are no
15 distribution facilities and related costs allocated to the Wholesale customers.
16 Specifically, only 46.23% of the base costs, 57.14% of the Maximum Day costs and
17 6.57% of the Peak Hour costs are necessary to serve the Wholesale customers. In order to
18 recognize that CCH should not pay a disproportionate amount of the costs related to the
19 distribution system, the allocation of mains to CCH was reduced by excluding
20 approximately 25% of the cost of mains (an estimate of the relative cost of mains 6" in
21 diameter and smaller). Thus, only 87.00% of the base costs, 89.00% of the Maximum
22 Day costs and 77.00% of the Peak Hour costs were allocated to CCH. Accordingly, the

1 percentage share of Base, Maximum Day and Peak Hour for the various customer classes,
2 as shown on Page 1 of Schedule 11, were adjusted on Page 2 in order to reflect the
3 reduced percentages applicable to the Wholesale customers. Work papers will be made
4 available that provide the calculation of these percentages. As adjusted, the allocation
5 percentages for each customer class shown on Schedule 11 are used to allocate the dollar
6 amount of functionalized costs from Schedule 2 (Base, Maximum Day, Peak Hour,
7 Customer-Meter/Service and Customer-Commercial) to the customer classes, as reflected
8 on Schedule 1.

9
10 **Q. Having allocated the revenue requirements to customer classes, how did you then**
11 **calculate the proposed rates needed to yield the allocated costs?**

12 A. With respect to general metered rates, the first step was to establish the “Customer”
13 charges, by meter size, as shown in the top half of Schedule 13.

14 The customer charges are designed to recover the costs allocated to each
15 “Customer” function. The charge for a 5/8-inch meter is calculated by dividing the
16 number of equivalent 5/8-inch meters served (Schedule 12, page 2) into the total cost
17 allocation to the “Meters and Services and Billing and Accounting” function. The
18 customer charges for other meter sizes are based on their existing relationship to the
19 charge for a 5/8-inch meter, in order to maintain the customer charge structure established
20 by the Delaware Public service Commission. The number of bills and Equivalent
21 Residential Connections (“ERC”) are shown on two pages of Schedule 12, by meter size

1 and by customer class; page 1 reflects meter cost ratios and page 2 reflects the ratios
2 under the existing rate structure.
3

4 **Q. How did you calculate the proposed metered rates for each customer class?**

5 A. The calculated customer charge revenues to be generated from each customer class were
6 subtracted from the total costs allocated to each customer class, and the remainder was
7 divided by the respective consumption within the usage rate blocks for each class, as
8 shown in the bottom half of Schedule 13, maintaining the existing relationship of the rate
9 blocks within each class. Wholesale "Rate 1" (Middletown) and Wholesale "Rate 2"
10 (DCC) produce revenues according to the cost allocations. The contract provisions with
11 respect to "Rate 3" (New Castle), "Rate 4" (AWMD), "Rate 5" (Chesapeake) and "Rate
12 6" (Clayton) reflect rates established by contract and for which there will be no increases.
13

14 **Q. How did you calculate fire service rates?**

15 A. The revenue derived from public fire service rates includes the cost of public fire hydrants
16 plus the capacity cost for the potential fire flows that can be met by the water system
17 through the public fire hydrants. Similarly, the revenue derived from private fire service
18 includes the cost of service connections maintained by the Company plus the capacity
19 costs to meet fire service demands for those connections. The capacity costs represent an
20 element of cost that is common to both public and private fire flow requirements.

1 Schedule 14 shows the allocation of capacity costs between private and public fire
2 service. This schedule also summarizes the public fire service costs (capacity and
3 hydrants) and the private fire service costs (capacity, meter/services and billing).

4 Hydrant costs include all revenues required by the Company to support the
5 operating expenses and return on investment in connection with the fire hydrants it owns,
6 operates and maintains.

7 The capacity costs include the portion of the total operating expenses and return
8 on investment in connection with the supply, distribution, and other portions of the
9 system (exclusive of hydrants) owned, operated and maintained by the Company,
10 assignable to fire service, as taken from Schedule 1. Because fire flows are related to
11 both public fire hydrants and private fire service connections, the capacity portion of the
12 fire service revenue requirement has been allocated to public fire service and to private
13 fire service based on consideration of the magnitude of the potential demands for each
14 class of fire service.

15 The design of private fire service rates is set forth on Schedule 15. The billing
16 costs are allocated to each size connection according to the number of bills. The cost of
17 meters and services are allocated to each size connection according to the existing
18 relationship of rates. The capacity costs are allocated according to carrying capacity
19 ratios for each size connection. The sum of all three components equals the rate, by size
20 connection.

21 The designed rates, by meter size, for public fire service are derived by
22 maintaining the existing relationship of rates among meter sizes for customers served by

1 public fire hydrants, as shown on Schedule 16. There are 78,577 customers that are billed
2 for public fire service.

3
4 **Q. Have you prepared schedules showing a comparison of present and designed rates
5 and revenues?**

6 A. Yes. Schedule 17 shows a comparison of present and designed rates and revenues for
7 general metered customers, before conversion from quarterly to monthly billing for all
8 customers. Schedule 18 shows a comparison of present and designed rates and revenues
9 for public and private fire protection service.

10
11 **Q. Am I correct that the comparisons of rates and revenues under present and
12 designed rates are calculated on the basis of a billing analysis for the pro forma test
13 year?**

14 A. Yes. The billing analysis under proposed rates is set forth in Schedule 19 and the billing
15 analysis under present rates is set forth in Schedule 20. Schedule 21 compares the present
16 and proposed rates, and shows the change in the residential rate blocks in order to
17 accommodate the conversion to monthly billing for all customers.

18
19 **Q. Are the variations in the percentage increases for the various customer classes
20 reasonable, in your opinion?**

21 A. Yes. The Company's rate filing reflects an overall 15.91% increase in water sales
22 revenues. As shown on Schedule 21, a comparison of present and proposed rates, while

1 the percentage increases differ among the various rates, such differences are inevitable
2 when the goal is to establish cost based rates. The percentage rate increases to Customer
3 Charges are below the overall rate increase and the percentage increases in usage rates are
4 higher than the overall increase. The percentage increases in Public Fire service rates are
5 slightly above the overall rate increase and the percentage increases to the Private Fire
6 service rates are below the overall rate increase. I believe the cost of service study has
7 accomplished the goal of establishing the cost of serving each class of customer and
8 designing rates to recover those costs, without a disproportionate increase to any
9 individual class of customer. It also has maintained a rate structure that encourages water
10 conservation; and as it turned out the increase to the usage rates produces a greater price
11 signal for conservation.

12
13 **Q. Does that conclude your testimony at this time?**

14 **A. Yes.**
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ARTESIAN WATER COMPANY INC.

COST OF SERVICE STUDY

April 2014

ARTESIAN WATER COMPANY INC.

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ARTESIAN WATER COMPANY INC.

FUNCTIONAL ALLOCATION TO CUSTOMER CLASSES

Function	Total	Residential	All Other	CCH	Wholesale 1 (Middletown)	Wholesale 2 (DCC)	Miscellaneous Other Use	Fire Service	
								Capacity	Hydrants
Base Extra Capacity: Maximum Day	\$ 26,365,602	\$ 15,983,882	\$ 9,036,784	\$ 364,346	\$ 424,143	\$ 292,790	\$ -	\$ 263,656	
Peak Hour Customer: Meters / Services	8,186,034	4,820,771	2,316,918	57,179	120,196	82,974	-	787,996	
Billing & Accounting	18,890,082	10,034,637	4,538,626	56,821	18,985	13,110	-	4,227,903	
Hydrants	10,076,058	7,314,221	1,377,679	5,622	-	-	-	1,378,536	
	7,022,979	6,588,455	366,197	176	-	-	-	68,151	1,063,447
Total	\$ 71,604,203	\$ 44,741,967	\$ 17,636,204	\$ 484,144	\$ 563,324	\$ 388,874	\$ -	\$ 6,726,242	\$ 1,063,447

ARTESIAN WATER COMPANY INC.

ALLOCATION OF PRO FORMA REVENUE REQUIREMENT TO FUNCTIONAL CLASSIFICATIONS

Description	Total Amount	Code	Base	Extra - Capacity			Customer		Hydrants
				Maximum Day	Peak Hour	Meters and Services	Billing and Accounting		
UTILITY OPERATING INCOME	\$ 18,623,832	31	\$ 6,724,531	\$ 2,137,387	\$ 7,109,967	\$ 2,249,898	\$ 42,940	\$ 359,109	
OPERATION & MAINTENANCE	34,358,129	74	13,465,404	3,938,679	5,194,756	4,554,014	6,929,795	275,481	
DEPRECIATION	8,919,372	83	2,901,160	1,026,456	2,811,155	1,968,611	-	211,989	
PROPERTY TAXES	2,834,625	41	974,524	253,459	1,122,144	403,625	-	80,872	
FRANCHISE & OTHER	53,808	31	19,429	6,175	20,542	6,500	124	1,038	
PAYROLL TAXES	1,136,448	72	273,905	169,010	194,034	191,638	296,872	10,991	
FEDERAL INCOME TAX	6,042,042	31	2,181,608	693,422	2,306,653	729,924	13,931	116,504	
STATE INCOME TAX	1,693,376	31	611,429	194,342	646,475	204,572	3,904	32,652	
DEFERRED FEDERAL INCOME TAX	555,734	83	180,761	63,955	175,153	122,657	-	13,208	
DEFERRED STATE INCOME TAX	155,753	83	50,661	17,924	49,089	34,377	-	3,702	
AMORT INV TAX CREDIT	(71,272)	41	(24,503)	(6,373)	(28,214)	(10,149)	-	(2,033)	
TOTAL OPERATING REVENUE	74,301,847	21	27,358,910	8,494,438	19,601,755	10,455,667	7,287,566	1,103,512	
LESS CONTRACTUAL REVENUES	(1,131,936)	21	(416,794)	(129,407)	(298,619)	(159,285)	(111,021)	(16,811)	
LESS MISC. REVENUES	(1,565,708)	21	(576,514)	(178,997)	(413,053)	(220,325)	(153,565)	(23,253)	
REVENUE FROM SALES	\$ 71,604,203	21	\$ 26,365,602	\$ 8,186,034	\$ 18,890,082	\$ 10,076,058	\$ 7,022,979	\$ 1,063,447	
PERCENTS	100.00%	21	36.82%	11.43%	26.38%	14.07%	9.81%	1.49%	

ARTESIAN WATER COMPANY, INC.

ALLOCATION OF RATE BASE ELEMENTS TO FUNCTIONAL CLASSIFICATIONS

Description	Total Amount	Code	Base 1	Base 2	Extra - Capacity			Customer		Hydrants
					Maximum Day	Peak Hour 1	Peak Hour 2	Meters and Services	Billing and Accounting	
UTILITY PLANT	\$ 432,339,891	41	\$ 148,635,414	\$ -	\$ 38,657,861	\$ 171,150,570	\$ -	\$ 61,561,337	\$ -	\$ 12,334,709
INTANGIBLE ASSETS	140,035	41	48,143	-	12,521	55,436	-	19,940	-	3,995
ACCUMULATED DEPRECIATION	(96,589,205)	51	(29,890,677)	-	(8,504,893)	(33,772,060)	-	(21,114,329)	-	(3,307,246)
ADVANCES FOR CONSTRUCTION	(11,285,433)	32	(4,013,184)	-	-	(6,019,776)	-	(150,571)	-	(1,101,902)
CONTRIBUTIONS IN AID OF CONSTRUCTION	(82,805,854)	33	(28,258,399)	-	(72,188)	(43,320,455)	-	(7,393,587)	-	(3,761,225)
DEFERRED INCOME TAXES	(43,108,828)	83	(14,021,797)	-	(4,961,033)	(13,586,788)	-	(9,514,630)	-	(1,024,579)
DEFERRED ITC	(585,700)	41	(201,360)	-	(52,371)	(231,861)	-	(83,398)	-	(16,710)
ACCUM DEP - ADVANCES	1,895,916	34	672,404	-	-	1,008,606	-	26,730	-	188,176
ACCUM DEP - CIAC	16,098,900	35	5,067,987	-	31,607	7,663,769	-	2,472,709	-	862,828
MATERIAL & SUPPLIES	1,462,552	61	471,861	-	47,855	459,069	-	481,829	-	1,938
CASH WORKING CAPITAL	2,535,123	74	993,548	-	290,616	383,296	-	336,019	511,317	20,326
TAXES PAID FOR CIAC	1,670,190	33	569,970.51	-	1,456.03	873,771.45	-	149,128.29	-	75,863.72
TOTALS	\$ 221,767,586	31	\$ 80,073,911	\$0	\$ 25,451,431	\$ 84,663,578	\$0	\$ 26,791,177	\$ 511,317	\$4,276,174
PERCENTS	100.00%	31	36.11%	0.00%	11.48%	38.18%	0.00%	12.08%	0.23%	1.93%

ARTESIAN WATER COMPANY INC.

ALLOCATION OF UTILITY PLANT TO FUNCTIONAL CLASSIFICATIONS

Account No.	Description	Total Amount	Code	Base	Extra - Capacity			Customer		Hydrants
					Maximum Day	Peak Hour	Meters and Services	Billing and Accounting		
310.000	SOURCE OF SUPPLY	\$ 2,787,735	2	\$ 1,639,746	\$ 1,147,989	\$ -	\$ -	\$ -	\$ -	\$ -
	Land									
314.000	Wells	12,963,965	2	7,625,404	5,338,561	-	-	-	-	-
314.001	Wells - Monitoring	1,034,834	2	608,690	426,145	-	-	-	-	-
316.000	Collecting Mains	1,372,064	2	807,048	565,016	-	-	-	-	-
	PUMPING PLANT									
320.000	Land	279,037	4	111,615	78,130	89,292	-	-	-	-
321.000	Structures	5,231,782	4	2,092,713	1,464,899	1,674,170	-	-	-	-
325.000	Electric Pumping Equipment	10,018,635	4	4,007,454	2,805,218	3,205,963	-	-	-	-
325.100	Submersible Pumps	1,878,300	4	751,320	525,824	601,056	-	-	-	-
	WATER TREATMENT									
330.000	Land	209,889	2	123,457	86,432	-	-	-	-	-
331.000	Structures	34,819,083	2	20,480,585	14,338,499	-	-	-	-	-
332.000	Water Treatment Equipment	17,657,600	2	10,386,200	7,271,400	-	-	-	-	-
	TRANSMISSION & DISTRIBUTION									
340.000	Land	788,857	5	-	-	788,857	-	-	-	-
342.000	Reservoirs and Standpipes	21,223,343	3	-	-	21,223,343	-	-	-	-
343.000	Transmission and Distribution Mains	205,285,859	3	82,106,344	-	123,159,515	-	-	-	-
345.000	Services	32,766,256	6	-	-	-	32,766,256	-	-	-
346.000	Meters small (5/8)	0	6	-	-	-	-	-	-	-
346.100	Meters other	21,454,371	6	-	-	-	21,454,371	-	-	-
348.000	Fire Hydrants	10,863,891	8	-	-	-	-	-	-	10,863,891
	GENERAL									
369.000	General Land	2,267,545	41	779,566	202,754	897,654	-	-	-	64,683
369.001	Land - Leasehold	0	41	-	-	-	-	-	-	-
390.000	Office and Warehouse Building	18,354,857	41	6,310,271	1,641,208	7,266,145	2,613,568	2,613,568	-	523,666
390.001	Office and Warehouse - Leasehold	2,005,386	41	689,438	179,312	793,873	285,549	285,549	-	57,214
391.000	Office Furniture	1,741,780	41	598,812	155,742	689,519	248,014	248,014	-	49,693
391.001	Office Equipment	287,075	41	98,694	25,669	113,644	40,877	40,877	-	8,190
391.002	EDP Equipment	1,628,676	41	559,827	145,629	644,745	231,909	231,909	-	46,466
391.004	Computer Software	2,011,809	41	691,646	179,887	796,416	286,464	286,464	-	57,397
391.005	Computer Equipment Mainframe	28,731	41	9,878	2,569	11,374	4,091	4,091	-	820
391.007	Office Equip-Comp-PeopleSoft	5,990,350	41	2,059,440	635,630	2,371,403	852,972	852,972	-	170,905
391.008	Office Equip-Comp-GIS System	423,345	41	145,543	37,854	167,590	60,281	60,281	-	12,078
392.000	Transportation Equipment	7,089,800	41	2,437,423	633,938	2,806,642	1,009,524	1,009,524	-	202,273
393.000	Stores	28,400	41	9,764	2,539	11,243	4,044	4,044	-	810
394.000	Tools, Shop and Garage Equipment	625,478	41	215,035	55,927	247,608	89,062	89,062	-	17,845
394.001	Tools, Shop and Garage Equip. - Leasehold	125,862	41	43,270	11,254	49,825	17,922	17,922	-	3,591
395.000	Lab Equipment	171,224	1	171,224	-	-	-	-	-	-
396.000	Power Operated Equipment	2,222,800	41	764,183	198,753	879,941	316,507	316,507	-	63,417
397.000	Communication Equipment	4,870,756	41	1,674,532	435,521	1,928,188	693,552	693,552	-	138,963
398.000	Miscellaneous Equipment	1,850,515	41	636,194	165,465	732,564	263,497	263,497	-	52,795
	TOTALS	\$ 452,339,891	41	\$ 148,635,414	\$ 38,657,861	\$ 171,150,570	\$ 61,561,337	\$ -	\$ 12,334,709	
	PERCENTS	100.00%	41	34.38%	8.94%	39.59%	14.24%	0.00%	2.85%	

ARTESIAN WATER COMPANY, INC.

ALLOCATION OF ACCUMULATED DEPRECIATION TO FUNCTIONAL CLASSIFICATIONS

Account No.	Description	Total Amount	Code	Base	Extra - Capacity		Customer Meters and Services	Hydrants
					Maximum Day	Peak Hour		
	SOURCE OF SUPPLY							
314.000	Wells	\$ 3,652,862	2	2,148,449	\$ 1,504,133	\$ -	-	\$ -
314.001	Wells - Monitoring	221,287	2	130,161	91,126	-	-	-
316.000	Collecting Mains	360,303	2	211,930	148,373	-	-	-
	PUMPING PLANT							
321.000	Structures - Pumping Plant	1,151,078	4	460,431	322,302	368,345	-	-
323.000	Power Production Equipment	375,540	4	150,216	105,151	120,173	-	-
325.000	Electric Pumping Equipment	1,305,913	4	522,365	365,656	417,892	-	-
325.100	Submersible Pumps	615,385	4	246,154	172,308	196,923	-	-
	WATER TREATMENT							
330.000	Land - Water Treatment	-	2	-	-	-	-	-
331.000	Structures - Water Treatment	5,724,622	2	3,367,222	2,357,399	-	-	-
332.000	Water Treatment Equipment	3,780,701	2	2,223,808	1,556,893	-	-	-
	TRANS & DIST PLANT:							
340.000	Land - Transmission and Distribution	4,713,779	5	-	-	4,713,779	-	-
342.000	Reservoirs and Standpipes	34,139,154	3	13,655,662	-	20,483,493	-	-
343.000	Transmission and Distribution Mains	10,152,045	6	-	-	-	10,152,045	-
345.000	Services	6,291,122	6	-	-	-	6,291,122	-
346.000	Meters - Other	-	6	-	-	-	-	-
346.100	Meters - Other	-	6	-	-	-	-	-
348.000	Fire Hydrants	2,575,578	8	-	-	-	-	2,575,578
	GENERAL PLANT							
369.000	General Land	5,133,283	51	1,588,555	451,997	1,794,833	1,122,132	175,765
389.001	Land - Leasehold	1,253,373	51	387,871	110,362	438,237	273,986	42,916
390.000	Office and Warehouse Building	295,846	51	91,553	26,050	103,442	64,672	10,130
390.001	Office and Warehouse - Leasehold	132,043	51	40,862	11,627	46,168	28,865	4,521
391.001	Office Equipment	687,284	51	206,499	98,756	233,313	145,868	22,848
391.002	EDP Equipment	2,049,530	51	634,251	180,466	716,611	448,026	70,177
391.004	Computer Software	31,685	51	9,805	2,790	11,079	6,926	1,085
391.005	Computer Equipment Mainframe	1,992,860	51	616,714	175,476	696,796	435,638	68,236
391.007	Computer Equipment PeopleSoft	231,943	51	71,778	20,423	81,098	50,703	7,942
391.008	Computer Equipment GIS	4,197,547	51	1,298,981	369,603	1,467,657	917,581	143,725
392.000	Transportation Equipment	24,336	51	7,531	-	8,509	5,320	833
393.000	Stores	288,251	51	89,203	25,381	100,786	63,011	9,870
394.000	Tools, Shop and Garage Equipment	89,439	51	27,678	7,875	31,272	19,551	3,062
394.001	Tools, Shop and Garage Equip.- Leasehold	161,509	1	161,509	-	-	-	-
395.000	Lab Equipment	1,608,198	51	497,676	141,605	562,301	351,551	55,065
396.000	Power Operated Equipment	2,510,031	51	776,759	221,014	877,623	548,691	85,944
397.000	Communication Equipment	862,956	51	267,052	75,985	301,729	188,641	29,548
398.000	Miscellaneous Equipment							
	TOTAL	\$ 96,589,205	51	\$ 29,890,677	\$ 8,504,893	\$ 33,772,060	\$ 21,114,329	\$ 3,307,246
	PERCENTS	100.00%	51	30.95%	8.81%	34.96%	21.86%	3.42%

ARTESIAN WATER COMPANY INC.

ALLOCATION OF MATERIALS AND SUPPLIES TO FUNCTIONAL CLASSIFICATIONS

Account No.	Description	Total Amount	Code	Base	Extra - Capacity			Customer Meters and Services	Hydrants
					Maximum Day	Peak Hour	Hydrants		
154.001	T & D Materials	\$ 577,472	3	\$ 230,989					
154.002	Meters	104,181	6	-		346,483	\$ 104,181	-	
154.003	Service supplies	118,621	6	-			118,621	-	
154.004	Chemical supplies	84,609	1	84,609				-	
154.005	Well supplies	-	1	-				-	
154.006	Gasoline	23,230	41	7,986	2,077	9,196	3,308	663	
154.007	Anti-freeze	302	41	104	27	120	43	9	
154.008	Diesel fuel	11,558	41	3,974	1,033	4,575	1,646	330	
154.009	Meter parts	173,412	6	-			173,412	-	
154.010	Electrical supplies	-	1	-				-	
154.011	Propane	-	1	-				-	
154.012	Supplies	1,671	41	574	149	661	238	48	
154.013	Pump Station Supplies	59,745	4	23,898	16,729	19,118	-	-	
154.014	Clay Valve Parts	14,314	3	5,726		8,588	-	-	
154.015	Wtr Trmt Rep Parts	12,845	2	7,555	5,290		-	-	
154.016	Inventory of Scada	26,559	2	15,622	10,937		-	-	
154.020	Inventory of Belts/Hose	-	41	-				-	
154.021	Tires	4,579	41	1,574	409	1,813	652	131	
154.022	Oil and lubricants	3,309	41	1,138	296	1,310	471	94	
154.023	Vehicle filters	1,292	41	444	116	511	184	37	
154.024	Vehicle batteries	984	41	338	88	390	140	28	
154.025	Gas and oil additives	131	41	45	12	52	19	4	
154.026	Water conservation items	-	41	-				-	
154.027	Small Parts	13	41	4	1	5	2	0	
154.030	Truck Inven - Pump Maint	-	41	-				-	
154.031	Truck Inventory - Street	20,868	41	7,174	1,866	8,261	2,971	595	
154.050	Inventory - Zero Bal Clearing	-	1	-				-	
154.501	T&D S.Beth	96,642	3	38,657		57,985			
154.502	Meters S.Beth	6,878	1	6,878					
154.503	Service Supplies S.Beth	35,129	6	-			35,129	-	
154.504	Svc Chemicals S Beth	21,965	1	21,965				-	
154.509	Meter Parts S.Beth	40,812	6	-			40,812	-	
154.513	Pump Station Supplies	3,533	2	2,078	1,455				
154.516	Scada S. Beth	17,898	2	10,528	7,370				
	13-Month Average Balance	\$ 1,462,552	61	\$ 471,861	\$ 47,855	\$ 459,069	\$ 481,829	\$ 1,938	
	PERCENTS	100.00%	61	32.26%	3.27%	31.39%	32.94%	0.13%	

ARTESIAN WATER COMPANY INC.

ALLOCATION OF PRO FORMA OPERATION AND MAINTENANCE EXPENSES TO FUNCTIONAL CLASSIFICATIONS

Account No.	Description	Total Amount	Code	Base	Extra - Capacity			Customer		Hydrants
					Maximum Day	Peak Hour	Meters and Services	Billing and Accounting		
	SOURCE OF SUPPLY									
602	Purchased Water	\$ 4,337,046	1	\$ 4,337,046				\$		
603	Miscellaneous Labor	16,654	2	9,796	6,858					
604	Maint of Wells - Misc		2							
604	Rents	5,050	2	2,971	2,080					
614.1	Maint Labor - Wells	34,197	2	20,115	14,082					
614.1	Maint Labor - Monitoring	33,530	2	19,722	13,808					
614.2	Maint of Wells - Tools & Equip	447	2	263	184					
614	Maint Expense - Wells	5,732	2	3,371	2,360					
616.1	Maint Labor		2							
616.2	Maint Expense - Mains		2							
	PUMPING PLANT									
620	Supervision Labor - Oper		4							
623	Power - Expense	1,736,710	1	1,736,710						
624	Operation Labor	792,438	4	316,975	221,883	253,580				
624	Operation Expense	59,243	4	23,697	16,568	18,958				
626	Miscellaneous Labor	283,872	4	113,549	79,484	90,839				
626	Miscellaneous Expense	53,444	4	21,378	14,964	17,102				
630	Other Pumping Equipment	41,705	4	16,862	11,877	13,346				
631	Maint Labor - Structures	369,859	4	147,944	103,561	118,355				
631	Maint Expense - Structures	72,317	4	28,927	20,249	23,141				
632	Maint of Scada	11,327	4	4,531	3,172	3,625				
633	Maint Labor - Equipment	1,006,575	4	402,630	281,841	322,104				
633	Maint Expense - Equipment	201,482	4	80,593	56,415	64,474				
	WATER TREATMENT									
641	Chemicals - Expense	781,142	1	781,142						
642	Operation Labor	360,793	2	212,218	148,574					
642	Operation Expense	458,285	2	269,563	188,722					
643	Miscellaneous Expense	1,079	2	635	444					
652	Maint Labor - Equipment	112,550	2	66,261	46,389					
652	Maint Expense - Equipment	417,239	2	245,420	171,819					
	TRANSMISSION & DISTRIBUTION									
663	Operation Labor - Meters	574,788	6					574,788		
663	Operation Expense - Meters	57,704	6					57,704		
665	Miscellaneous Labor - Oper	433,734	71	54,002	144,849			221,089		13,793
665	Miscellaneous Expense - Oper	26,775	71	3,334	8,942			13,648		851
670	Supervision Labor - Maint	64,337	71	8,010	21,486			32,795		2,046
670	Supervision Expense - Maint		71							
672	Maintenance Labor - Storage	3,183	5			3,183				
672	Maintenance Expense - Storage	394,381	5			394,381				
673	Maintenance Labor - Mains	440,187	3			394,381				
673	Maintenance Expense - Mains	400,478	3	176,075	264,112					
675	Maintenance Labor - Services	298,802	6	160,191	240,287			298,802		
675	Maintenance Expense - Services	106,405	6					106,405		
676	Maintenance Labor - Meters	165,591	6					165,591		
676	Maintenance Expense - Meters	173,412	6					173,412		
677	Maintenance Labor - Hydrants	59,598	8					59,598		
677	Maintenance Expense - Hydrants	26,290	8					26,290		
678	Misc. Payroll		71							

ARTESIAN WATER COMPANY INC.

ALLOCATION OF PRO FORMA OPERATION AND MAINTENANCE EXPENSES TO FUNCTIONAL CLASSIFICATIONS

Account No.	Description	Total Amount	Code	Base	Extra - Capacity		Customer		Hydrants
					Maximum Day	Peak Hour	Meters and Services	Billing and Accounting	
902	CUSTOMER ACCOUNTS	238,715	7	-	-	-	-	-	-
902	Meter Reading Labor	59,732	7	-	-	-	-	-	-
903	Meter Reading Expense	1,371,111	7	-	-	-	-	-	-
903	Customer Records Labor	565,021	7	-	-	-	-	-	-
904	Customer Records Expense	230,750	7	-	-	-	-	-	-
905	Uncollectible Accounts	9,458	7	-	-	-	-	-	-
905	AWC WTR Conserv - Wkly Pay								
	ADMINISTRATION AND GENERAL								
930	Miscellaneous Gen Expense	1,009,694	73	242,291	141,335	201,445	165,383	248,923	10,318
920	Admin and Gen Salaries	5,177,073	72	1,247,768	769,923	863,918	873,002	1,352,384	50,068
920	Other Gen Office Salaries	1,472,546	73	353,359	206,125	293,789	241,195	363,031	15,047
921	Office Supplies and Exp	2,056,220	73	493,420	287,826	410,238	336,798	506,926	21,012
923	Outside Services	1,378,121	73	330,700	192,907	274,950	225,729	339,752	14,083
928	Regulatory Comm Expense	767,205	73	184,102	107,392	153,066	125,664	189,141	7,840
950	Transportation Clearing - Labor	291,014	72	70,140	43,279	49,687	49,073	76,021	2,814
950	Transportation Clearing - Expense	(272,118)	73	(65,259)	(38,091)	(54,290)	(44,571)	(67,086)	(2,781)
924	Life Insurance	-	73	-	-	-	-	-	-
924	Property Insurance	487,875	73	117,073	68,292	97,336	79,911	120,277	4,985
925	Injuries and Damages	177,977	73	42,708	24,913	35,508	29,152	43,877	1,819
926	Pensions and Benefits	4,661,130	72	1,123,417	693,193	795,627	785,999	1,217,616	45,078
931	Office Rentals	135,695	73	32,562	18,994	27,073	22,226	33,453	1,387
932	General Maint. - Labor	17,965	72	4,330	2,672	3,067	3,029	4,693	174
932	General Maint. - Expense	334,021	73	80,153	46,756	66,641	54,711	82,347	3,413
932	Maint of Grounds - Labor	16,143	72	3,691	2,401	2,756	2,722	4,217	156
953	Heating Fuel	171	73	41	24	34	28	42	2
965	Corporate Allocation	(245,870)	73	(59,000)	(34,417)	(49,054)	(40,272)	(60,615)	(2,512)
	TOTAL	\$ 34,358,129	74	\$ 13,465,404	\$ 3,938,679	\$ 5,194,756	\$ 4,554,014	\$ 6,929,795	\$ 275,481
	PERCENTS	100.00%	74	39.19%	11.46%	15.12%	13.25%	20.17%	0.80%

ARTESIAN WATER COMPANY INC.

ALLOCATION OF DEPRECIATION EXPENSE TO FUNCTIONAL CLASSIFICATIONS

Account No.	Description	Total Amount	Code	Base	Extra - Capacity			Customer		Hydrants
					Maximum Day	Peak Hour	Meters and Services	Billing and Accounting		
314.000	SOURCE OF SUPPLY	\$ 280,020	2	\$ 164,708	\$ 115,312	\$ -	\$ -	\$ -	\$ -	\$ -
314.001	Wells	22,973	2	13,513	9,460	-	-	-	-	-
316.000	Wells - Monitoring	16,190	2	9,523	6,667	-	-	-	-	-
	Collecting Mains									
321.000	PUMPING PLANT	84,755	4	33,902	23,731	27,122	-	-	-	-
323.000	Structures - Pumping Plant	61,923	4	24,769	17,338	19,815	-	-	-	-
325.000	Power Production Equipment	224,610	4	89,844	62,891	71,875	-	-	-	-
325.100	Electric Pumping Equipment	234,788	4	93,915	65,741	75,132	-	-	-	-
	Submersible Pumps									
331.000	WATER TREATMENT	696,382	2	409,612	286,770	-	-	-	-	-
332.000	Structures - Water Treatment	391,999	2	230,574	161,425	-	-	-	-	-
	Water Treatment Equipment									
342.000	TRANS & DIST PLANT	278,026	5	-	-	278,026	-	-	-	-
343.000	Reservoirs and Standpipes	2,545,297	3	1,018,119	-	1,527,178	-	-	-	-
345.000	Transmission and Distribution Mains	842,093	6	-	-	-	842,093	-	-	-
346.000	Services	823,848	6	-	-	-	823,848	-	-	-
346.100	Meters	-	6	-	-	-	-	-	-	-
346.100	Meters-Other	-	6	-	-	-	-	-	-	-
348.000	Fire Hydrants	181,427	8	-	-	-	-	-	-	181,427
390.000	GENERAL PLANT	774,575	41	266,293	69,259	306,631	110,293	-	-	22,099
390.001	Office and Warehouse Building	84,627	41	29,094	7,567	33,501	12,050	-	-	2,414
391.000	Office and Warehouse - Leasehold	55,563	41	19,102	4,968	21,996	7,912	-	-	1,585
391.001	Office Furniture	13,751	41	4,727	1,230	5,444	1,958	-	-	392
391.002	Office Equipment	195,441	41	67,191	17,475	77,369	27,829	-	-	5,576
391.004	EDP Equipment	386,066	41	132,727	34,520	152,832	54,972	-	-	11,015
391.005	Computer Software	2,954	41	1,016	264	1,169	421	-	-	84
391.007	Computer Equipment Mainframe	399,556	41	137,365	35,726	158,172	56,893	-	-	11,399
391.008	Computer Equipment PeopleSoft	28,237	41	9,708	2,525	11,178	4,021	-	-	806
392.000	Computer Equipment GIS	612,559	41	210,593	54,772	242,494	87,223	-	-	17,476
392.000	Transportation Equipment	909	41	313	81	360	129	-	-	26
393.000	Stores	20,015	41	6,881	1,790	7,923	2,850	-	-	571
394.001	Tools, Shop and Garage Equipment	4,028	41	1,385	360	1,595	574	-	-	115
395.000	Tools, Shop and Garage Equipment - Leasehold	18,252	1	18,252	-	-	-	-	-	-
396.000	Lab Equipment	128,033	41	44,017	11,448	50,684	18,231	-	-	3,653
397.000	Power Operated Equipment	311,728	41	107,170	27,873	123,404	44,387	-	-	8,894
397.000	Communication Equipment	88,825	41	30,537	7,942	35,163	12,648	-	-	2,534
398.000	Miscellaneous Equipment	9,809,450	41	3,174,849	1,027,138	3,229,065	2,108,331	-	-	270,066
	ADD: DEP RELATIVE TO TAXES PAID FOR CIAC	57,874	33	19,750	50	30,277	5,167	-	-	2,629
	ADD: AMORTIZATION EXPENSE	15,935	41	5,478	1,425	6,308	2,269	-	-	455
	LESS: DEP ON ADVANCES	(110,010)	81	(37,323)	-	(55,984)	(2,802)	-	-	(13,801)
	LESS: DEP ON CIAC	(840,784)	82	(257,093)	(987)	(393,328)	(142,390)	-	-	(46,966)
	LESS: NON-UTILITY AMORTIZATION	(13,093)	41	(4,501)	(1,171)	(5,183)	(1,864)	-	-	(374)
	TOTAL	\$ 8,919,372	83	\$ 2,901,160	\$ 1,026,456	\$ 2,811,155	\$ 1,968,611	\$ -	\$ -	\$ 211,989
	PERCENTS	100.00%	83	32.53%	11.51%	31.52%	22.07%	0.00%	0.00%	2.38%

ARTESIAN WATER COMPANY INC.

SUMMARY OF ALLOCATION FACTORS

Description	Code	Base	Extra - Capacity			Customer		Hydrants
			Maximum Day	Peak Hour	Meters and Services	Billing and Accounting		
BASE	1	1.000000						
BASE / MAXIMUM DAY	2	0.588200	0.411800					
BASE / PEAK HOUR	3	0.400000		0.600000				
BASE / MAXIMUM DAY / PEAK HOUR	4	0.400000	0.280000	0.320000				
PEAK HOUR	5			1.000000				
CUSTOMER - METERS & SERVICES	6				1.000000			
CUSTOMER - BILLING & ACCOUNTING	7					1.000000		
HYDRANTS	8						1.000000	
TOTAL OPERATING REVENUE	21	0.368213	0.114323	0.263812	0.140719	0.098081	0.014852	
RATE BASE	31	0.361071	0.114766	0.381767	0.120807	0.002306	0.019282	
ADVANCES	32	0.355607	0.000000	0.533411	0.013342	0.000000	0.097639	
CIAC	33	0.341261	0.000872	0.523157	0.089288	0.000000	0.045422	
ACC DEPR ON ADVANCES	34	0.354659	0.000000	0.531989	0.014099	0.000000	0.099253	
ACC DEPR ON CIAC	35	0.314803	0.001963	0.476043	0.153595	0.000000	0.053595	
UTILITY PLANT IN SERVICE	41	0.343793	0.069415	0.395870	0.142391	0.000000	0.028530	
ACCUMULATED DEPRECIATION	51	0.309462	0.088052	0.349646	0.218599	0.000000	0.034240	
MATERIALS AND SUPPLIES	61	0.322628	0.032720	0.313882	0.329444	0.000000	0.001325	
OTHER T&D	71	0.124505	0.000000	0.333959	0.509735	0.000000	0.031801	
LABOR	72	0.241018	0.148718	0.170737	0.168629	0.261228	0.009671	
O&M - EXCL POWER, CHEM & PURCH WATER	73	0.239964	0.139978	0.199511	0.163795	0.246533	0.010219	
TOTAL OPERATING EXPENSE	74	0.391913	0.114636	0.151194	0.132545	0.201693	0.008018	
DEPR EXPENSE ON ADVANCES	81	0.339267	0.000000	0.508901	0.026379	0.000000	0.125452	
DEPR EXPENSE ON CIAC	82	0.305778	0.001174	0.467811	0.169354	0.000000	0.055884	
DEPRECIATION EXPENSE	83	0.325265	0.115082	0.315174	0.220712	0.000000	0.023767	

ARTESIAN WATER COMPANY INC.

EXPLANATION OF FUNCTIONAL ALLOCATION FACTORS

- 1 Applicable to items considered to be related to "Base" or average day system demands, and allocable to all customers. Allocated 100% to base.
- 2 Applicable to items considered to be related to meeting the maximum day system demands. The calculation of the factors is as follows:

	Ratio	%
Maximum Day Demand	1.70	100.00%
Average Day Demand	1.00	58.82%
Extra Capacity / Maximum Day:	0.70	41.18%

- 3 Applicable to mains, considered to be related to meeting the peak hour system demands. The calculation of the factors is as follows:

	Ratio	%
Peak Hour Demand	2.50	100.00%
Average Day Demand	1.00	40.00%
Extra Capacity/Peak Hour	1.50	60.00%

- 4 Applicable to pumping plant, considered to be related to meeting the max day and peak hour system demands. The calculation of the factors is as follows:

	Ratio	%
Peak Hour Demand	2.50	100.00%
Max Day Demand	1.70	
Excess Peak Hour over Max Day	0.80	32.00%
Extra Capacity / Maximum Day:	0.70	28.00%
Average Day Demand	1.00	40.00%

- 5 Applicable to items considered to be related entirely to meeting peak hour system demands. Allocated 100% to Extra-Capacity/Peak Hour.
- 6 Applicable to items considered to be related entirely to meters and services. Allocation 100% to "Meters and Services".
- 7 Applicable to items considered to be entirely related to customer billing and accounting. Allocated 100% to "Billing and Accounts".
- 8 Applicable to items considered to be related entirely to Company owned fire hydrants. Allocated 100% to "Hydrants".
- 21 Applicable to the other taxes including Regulatory Fees. Factors are based on the overall weighted allocation of revenue requirement.
- 31 Applicable to items considered to be related to the Rate Base. Factors are based on the overall weighted allocation of all elements of the rate base.

ARTESIAN WATER COMPANY INC.

EXPLANATION OF FUNCTIONAL ALLOCATION FACTORS

32 Applicable to total Advances. Factors are based on the overall weighted allocation of advances by type of plant.

Description	Total Amount	Code	Base	Extra - Capacity			Customer		Hydrants
				Maximum Day	Peak Hour	Meters and Services	Billing and Accounting		
ADVANCES									
Mains	\$ 10,032,960	3	\$ 4,013,184	\$ -	6,019,776	\$ -	\$ -	\$ -	-
Services	150,571	6	-	-	-	150,571	-	-	-
Hydrants	1,101,902	8	-	-	-	-	-	-	1,101,902
TOTAL PERCENT	\$ 11,285,433 100.00%	32	\$ 4,013,184 35.56%	\$ - 0.00%	6,019,776 53.34%	\$ 150,571 1.33%	\$ - 0.00%	\$ 1,101,902 9.76%	

33 Applicable to total CIAC. Factors are based on the overall weighted allocation of CIAC by type of plant.

Description	Total Amount	Code	Base	Extra - Capacity			Customer		Hydrants
				Maximum Day	Peak Hour	Meters and Services	Billing and Accounting		
CIAC									
Land	\$ 1,038	1	\$ 1,038	\$ -	-	\$ -	\$ -	\$ -	-
Wells	59,294	2	34,877	24,417	-	-	-	-	-
Pump Stations	170,610	4	68,244	47,771	54,595	-	-	-	-
Storage	1,034,500	5	-	-	1,034,500	-	-	-	-
Mains	70,385,600	3	28,154,240	-	42,231,360	-	-	-	-
Services	7,393,587	6	-	-	-	7,393,587	-	-	-
Hydrants	3,761,225	8	-	-	-	-	-	-	3,761,225
TOTAL PERCENT	\$ 82,805,854 100.00%	33	\$ 28,258,399 34.13%	\$ 72,188 0.09%	43,320,455 52.32%	\$ 7,393,587 8.93%	\$ - 0.00%	\$ 3,761,225 4.54%	

ARTESIAN WATER COMPANY INC.

EXPLANATION OF FUNCTIONAL ALLOCATION FACTORS

34 Applicable to accumulated depreciation of Advances. Factors are based on the overall weighted allocation of accumulated depreciation on advances by type of plant.

Description	Total Amount	Code	Base	Extra - Capacity			Customer		
				Maximum Day	Peak Hour	Peak Hour	Meters and Services	Billing and Accounting	Hydrants
ADVANCES - ACC. DEP									
Mains	\$ 1,681,010	3	\$ 672,404	\$ -	\$ 1,008,606	\$ -	\$ -	\$ -	\$ -
Services	26,730	6	-	-	-	26,730	-	-	-
Hydrants	188,176	8	-	-	-	-	-	-	188,176
TOTAL PERCENT	\$ 1,895,916 100.00%	34	\$ 672,404 35.47%	\$ - 0.00%	\$ 1,008,606 53.20%	\$ 26,730 1.41%	\$ - 0.00%	\$ -	\$ 188,176 9.93%

35 Applicable to accumulated depreciation of CIAC. Factors are based on the overall weighted allocation of accumulated depreciation on CIAC by type of plant.

Description	Total Amount	Code	Base	Extra - Capacity			Customer		
				Maximum Day	Peak Hour	Peak Hour	Meters and Services	Billing and Accounting	Hydrants
CIAC - ACC. DEP									
Land	\$ (34)	1	\$ (34)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wells	20,074	2	11,808	8,266	-	-	-	-	-
Pump Stations	83,358	4	33,343	23,340	26,675	-	-	-	-
Storage	102,789	5	-	-	102,789	-	-	-	-
Mains	12,557,176	3	5,022,870	-	7,534,306	-	-	-	-
Services	2,472,709	6	-	-	-	2,472,709	-	-	-
Hydrants	862,828	8	-	-	-	-	-	-	862,828
TOTAL PERCENT	\$ 16,098,900 100.00%	35	\$ 5,067,987 31.48%	\$ 31,607 0.20%	\$ 7,663,769 47.60%	\$ 2,472,709 15.36%	\$ - 0.00%	\$ -	\$ 862,828 5.36%

ARTESIAN WATER COMPANY INC.

EXPLANATION OF FUNCTIONAL ALLOCATION FACTORS

- 41 Applicable to utility plant considered to be of an overhead nature, and related expenses. Factors are based on the overall weighted allocation of all items of utility plant, also applicable to property taxes, ITC and insurance.
- 51 Resulting overall weighted factors for accumulated depreciation.
- 61 Resulting overall weighted factors for materials and supplies.
- 71 Applicable to Other Transmission and Distribution Expense. Factors are based on the overall weighted allocation of Storage, Mains, Meters, Services and Hydrants expense.

Description	Total Amount	Code	Base	Extra - Capacity			Customer		Hydrants
				Maximum Day	Peak Hour	Meters and Services	Billing and Accounting		
T&D - Storage, Mains, Meters Services & Hydrants	\$ 2,700,818	71	\$ 336,266	-	901,963	\$ 1,376,701	\$ -	\$ 85,888	
TOTAL PERCENT	100.00%		12.45%	0.00%	33.40%	50.97%	0.00%	3.18%	

- 72 Applicable to employee benefit and labor administration and general expenses, considered to be of an overhead nature. Factors are based on the overall weighted allocation of all other labor expenses.

Description	Total Amount	Code	Base 1	Extra - Capacity			Customer		Hydrants
				Maximum Day	Peak Hour 1	Meters & Services	Billing and Accounting		
TOTAL PERCENT	\$ 6,162,542	72	\$ 1,485,284	916,480	1,052,174	\$ 1,039,180	\$ 1,609,826	\$ 59,598	
	100.00%		24.10%	14.87%	17.07%	16.86%	26.12%	0.97%	

ARTESIAN WATER COMPANY INC.

EXPLANATION OF FUNCTIONAL ALLOCATION FACTORS

73 Applicable to operation and maintenance expenses considered to be of an overhead nature. Factors are based on the overall weighted allocation of all other operation and maintenance expenses except power, chemicals and purchased water.

Description	Total Amount	Code	Base 1	Extra - Capacity			Customer		
				Maximum Day	Peak Hour 1		Meters & Services	Billing and Accounting	Hydrants
TOTAL PERCENT	\$ 10,038,368 100.00%	73	\$ 2,408,851 24.00%	\$ 1,405,154 14.00%	\$ 2,002,764 19.95%	\$ 1,644,233 16.38%	\$ 2,474,787 24.65%	\$ 102,579 1.02%	

74 Resulting overall weighted allocation of all operation and maintenance expenses. Applicable to cash working capital.

81 Applicable to the depreciation expense of Advances. Factors are based on the overall weighted allocation of depreciation expense on advances, by type of plant.

Description	Total Amount	Code	Base	Extra - Capacity			Customer		
				Maximum Day	Peak Hour		Meters and Services	Billing and Accounting	Hydrants
ADVANCES - Dep. Expense	\$ 93,307	3	\$ 37,323	\$ -	\$ 55,984	\$ -	\$ -	\$ -	
Mains	2,902	6	-	-	-	2,902	-	-	
Services	13,801	8	-	-	-	-	-	13,801	
TOTAL PERCENT	\$ 110,010 100.00%	81	\$ 37,323 33.93%	\$ - 0.00%	\$ 55,984 50.89%	\$ 2,902 2.64%	\$ - 0.00%	\$ 13,801 12.55%	

ARTESIAN WATER COMPANY INC.

EXPLANATION OF FUNCTIONAL ALLOCATION FACTORS

82 Applicable to the depreciation expense of CIAC. Factors are based on the overall weighted allocation of depreciation expense on CIAC, by type of plant.

Description	Total Amount	Code	Base	Extra - Capacity			Customer		
				Maximum Day	Peak Hour	Meters and Services	Billing and Accounting	Hydrants	
CIAC - Dep. Expense									
Wells	\$ 987	2	\$ 581	406	-	\$ -	\$ -	\$ -	-
Pump Stations	2,073	4	829	580	663	-	-	-	-
Storage	9,139	5	-	-	9,139	-	-	-	-
Mains	639,209	3	255,684	-	383,525	-	-	-	-
Services	142,390	6	-	-	-	142,390	-	-	-
Hydrants	46,986	8	-	-	-	-	-	-	46,986
TOTAL	\$ 840,784	82	\$ 257,093	987	393,328	\$ 142,390	\$ -	\$ -	46,986
PERCENT	100.00%		30.58%	0.12%	46.78%	16.94%	0.00%	5.59%	

83 Resulting overall allocation of Depreciation Expense. Applicable to deferred income taxes.

ARTESIAN WATER COMPANY INC.

SUMMARY OF SYSTEM WATER DEMANDS

Description	Factor	Quantity	Unit
Average Day	1.00	20.08	MGD
Maximum Day	1.70	34.14	MGD
Peak Hour	2.50	50.20	MGD
Fire Demand		8,000	GPM
Maximum Day Fire Use		1.920	MG
Max Day Plus Fire Demand		45.66	MGD

ARTESIAN WATER COMPANY INC.

CUSTOMER CLASS ALLOCATION FACTORS

Customer Class	Base				Maximum Day				Peak Hour			Customer			
	Average Consumption		Extra MGD		MGD		MGD		Ratio	MGD	Extra MGD	Meters and Services		Billing and Accounting	
	Annual (TG)	MGD	%	Ratio	MGD	Extra MGD	%	Ratio	MGD	MGD	Extra MGD	Number of ERC's	%	Number of Bills	%
METERED SERVICE:															
Residential	3,802,579	10.418	58.472	2.00	20.836	10.418	57.575	3.50	36.463	26.0450	51.396	906,090.0	72.590	903,744	93.813
All Other	2,150,023	5.890	33.058	1.85	10.897	5.007	27.671	3.00	17.670	11.7800	23.246	170,667.6	13.673	50,232	5.214
CCH	103,477	0.283	1.588	1.50	0.425	0.142	0.785	1.70	0.481	0.1980	0.391	696.0	0.056	24.00	0.003
Wholesale 1 (Middletown)	226,344	0.620	3.480	1.75	1.085	0.465	2.570	2.25	1.395	0.7750	1.529	-	0.000	-	0.000
Wholesale 2 (DCC)	156,131	0.428	2.402	1.75	0.749	0.321	1.774	2.25	0.963	0.5350	1.056	-	0.000	-	0.000
Contract 1 (New Castle)	0	0.000	0.000	1.75	0.000	0.000	0.000	2.25	0.000	-	0.000	-	0.000	-	0.000
Contract 2 (AWC to AWMD)	0	0.000	0.000	1.75	0.000	0.000	0.000	2.25	0.000	-	0.000	-	0.000	-	0.000
Contract 3 (Chesapeake)	0	0.000	0.000	1.75	0.000	0.000	0.000	2.25	0.000	-	0.000	-	0.000	-	0.000
Contract 4 (Clayton)	0	0.000	0.000	1.75	0.000	0.000	0.000	2.25	0.000	-	0.000	-	0.000	-	0.000
Misc. Other Use	0	0.000	0.000	1.75	0.000	0.000	0.000	2.25	0.000	-	0.000	-	0.000	-	0.000
Subtotal	6,438,554	17.639	99.000		33.992	16.353	90.374		56.972	39.3330	77.619	1,077,453.6	86.319	954,000	99.030
FIRE SERVICE		0.178	1.000		1.920	1.742	9.626		11.520	11.3418	22.382	170,774.4	13.681	9,348.00	0.970
Total		17.817	100.000		35.912	18.095	100.000		68.492	50.6748	100.000	1,248,228.0	100.000	963,348	100.000

ARTESIAN WATER COMPANY INC.

CUSTOMER CLASS ALLOCATION FACTORS - ADJUSTED

Customer Class	Base Average Consumption			Maximum Day			Peak Hour		
	Allocation Before Adjustment	Adjustment With Wholesale at 46.23% & CCH at 87.00%	Adjusted Allocation	Allocation Before Adjustment	Adjustment With Wholesale at 57.14% & CCH at 89.00%	Adjusted Allocation	Allocation Before Adjustment	Adjustment With Wholesale at 6.57% & CCH at 77.00%	Adjusted Allocation
METERED SERVICE:									
Residential	58.472	2.152	60.624	57.575	1.316	58.890	51.396	1.725	53.121
All Other	33.058	1.217	34.275	27.671	0.632	28.303	23.246	0.780	24.027
CCH	1.588	(0.207)	1.382	0.795	(0.086)	0.699	0.391	(0.090)	0.301
Wholesale 1 (Middletown)	3.480	(1.871)	1.609	2.570	(1.102)	1.468	1.529	(1.429)	0.101
Wholesale 2 (DCC)	2.402	(1.292)	1.111	1.774	(0.760)	1.014	1.056	(0.986)	0.069
Contract 1 (New Castle)	-	-	-	-	-	-	-	-	-
Contract 2 (AWC to AWMD)	-	-	-	-	-	-	-	-	-
Contract 3 (Chesapeake)	-	-	-	-	-	-	-	-	-
Contract 4 (Clayton)	-	-	-	-	-	-	-	-	-
Misc. Other Use	-	-	-	-	-	-	-	-	-
Subtotal	99.000	-	99.000	90.374	-	90.374	77.619	-	77.619
FIRE SERVICE									
Total	100.000	-	100.000	9.626	-	9.626	22.382	-	22.382
Total	100.000	-	100.000	100.000	-	100.000	100.000	-	100.000

ARTESIAN WATER COMPANY INC.

CALCULATION OF ERC'S - CUSTOMER CHARGE

Meter	Meter Ratio	Residential		All Other		CCH		Total	
		Bills	ERC's	Bills	ERC's	Bills	ERC's	Bills	ERC's
Without Fire Protection									
Monthly:									
5/8" or 1/2"	1.0	6,792	566.0	1,260	105.0	-	-	8,052	671.0
3/4"	1.2	108	10.8	192	19.2	-	-	300	30.0
1"	1.6	288	38.4	456	60.8	-	-	744	99.2
1-1/2"	3.2	-	-	192	51.2	-	-	192	51.2
2"	4.2	12	4.2	780	273.0	-	-	792	277.2
3"	6.4	-	-	72	38.4	-	-	72	38.4
4"	9.2	-	-	120	92.0	-	-	120	92.0
6"	16.0	-	-	204	272.0	-	-	204	272.0
8"	24.0	-	-	516	1,032.0	24	48.0	540	1,080.0
10"	38.0	-	-	60	190.0	-	-	60	190.0
With Fire Protection									
Monthly:									
5/8" or 1/2"	1.0	888,816	74,068.0	18,228	1,519.0	-	-	907,044	75,587.0
3/4"	1.2	4,344	434.4	3,144	314.4	-	-	7,488	748.8
1"	1.6	3,168	422.4	5,028	670.4	-	-	8,196	1,092.8
1-1/2"	3.2	120	32.0	5,664	1,510.4	-	-	5,784	1,542.4
2"	4.2	84	29.4	10,224	3,578.4	-	-	10,308	3,607.8
3"	6.4	-	-	1,692	902.4	-	-	1,692	902.4
4"	9.2	-	-	684	524.4	-	-	684	524.4
6"	16.0	12	16.0	636	848.0	-	-	648	864.0
8"	24.0	-	-	1,044	2,088.0	-	-	1,044	2,088.0
10"	38.0	-	-	36	114.0	-	-	36	114.0
TOTAL		903,744	75,621.6	50,232	14,203.0	24	48.0	954,000	89,872.6

ARTESIAN WATER COMPANY INC.

CALCULATION OF DESIGNED CUSTOMER CHARGE AND USAGE RATE

Customer Charge Cost Component	ERC's	Allocated Cost	Cost Per ERC
Meters & Services	89,872.6	\$ 8,697,522	\$ 174.16
Billing & Accounting		6,854,828	
Total		\$ 15,552,351	

Customer Charge Design:		Ratio	ERC/Bill
Monthly:			
5/8" or 1/2"		1.0	\$ 14.51
3/4"		1.2	17.42
1"		1.6	23.22
1-1/2"		3.2	46.44
2"		4.2	60.96
3"		6.4	92.89
4"		9.2	133.52
6"		16.0	232.21
8"		24.0	348.32
10"		38.0	551.51

Usage Charge Design:		Usage - TG										
Description	Total	Residential	All Other	CCH	Wholesale 1	Wholesale 2	Contract 1	Contract 2	Contract 3	Contract 4	Other	
All Other												
First 500 T.G.	1,773,283		1,773,283									
Over 500 T.G.	376,740		376,740									
Residential												
First 5 T.G.	1,689,176	1,689,176	-									
Next 15 T.G.	1,869,109	1,869,109	-									
Over 20 T.G.	247,294	247,294	-									
CCH	103,477			103,477								
Wholesale												
All Usage Rate 1 (Middletown)	226,344				226,344							
All Usage Rate 2 (DCC)	156,131					156,131						
All Usage Rate 3 (New Castle)	6,710						6,710					
All Usage Rate 4 (AWC to AWMD)								259,700				
All Usage Rate 5 (Chesapeake)									29,173			
All Usage Rate 6 (Resale-Clayton)										7,209		
All Usage Rate 7 (Resale-Other)												
Total	6,445,264	3,802,570	2,150,023	103,477	226,344	156,131	6,710	259,700	29,173	7,209		

Usage - Revenue		Usage - Revenue										
Description	Rate	Total	Residential	All Other	CCH	Wholesale 1	Wholesale 2	Contract 1	Contract 2	Contract 3	Contract 4	Other
All Other												
First 500 T.G.	\$ 6.988	\$ 12,391,702		\$ 12,391,702								
Over 500 T.G.	\$ 8.043	3,030,120		3,030,120								
Residential												
First 2 T.G.	\$ 7.793	13,163,749	13,163,749	-								
Next 5 T.G.	\$ 8.425	15,721,968	15,721,968	-								
Over 7 T.G.	\$ 9.825	2,429,664	2,429,664	-								
CCH	\$ 4.598	475,787			475,787							
Wholesale												
All Usage Rate 1 (Middletown)	\$ 2.489	563,370				563,370						
All Usage Rate 2 (DCC)	\$ 2.491	388,922					388,922					
All Usage Rate 3 (New Castle)	n/a	-										
All Usage Rate 4 (AWC to AWMD)	n/a	-										
All Usage Rate 5 (Chesapeake)	n/a	-										
All Usage Rate 6 (Clayton)	n/a	-										

Comparison - Allocated to Design:		Comparison - Allocated to Design:										
Description	Total	Residential	All Other	CCH	Wholesale 1	Wholesale 2	Contract 1	Contract 2	Contract 3	Contract 4	Other	
Customer Charge Rev	\$ 15,649,213	\$ 13,167,288	\$ 2,473,588	\$ 8,360	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Usage Charge Revenue	48,165,282	31,315,380	15,421,621	475,787	563,370	388,922	-	-	-	-	-	
Design Revenue - GMS	63,814,495	44,462,666	17,895,389	484,147	563,370	388,922	-	-	-	-	-	
Other Water Sales												
Total Design Revenue	\$ 63,814,495	\$ 44,462,666	\$ 17,895,389	\$ 484,147	\$ 563,370	\$ 388,922	\$ -	\$ -	\$ -	\$ -	\$ -	
Allocated Revenue	63,814,514	44,741,967	17,636,204	484,144	563,324	388,674	-	-	-	-	-	
Difference	\$ (19)	\$ (259,301)	\$ 259,185	\$ 3	\$ 46	\$ 48						
Percent	0.0000%	-0.58%	1.47%	0.00%	0.01%	0.01%						

ARTESIAN WATER COMPANY INC.

ALLOCATION OF FIRE TO PUBLIC AND PRIVATE

Capacity Allocation:

Description	Units	Capacity Ratio	Weighted Unit	Allocated Cost	Unit Cost
Private Fire Service					
1 1/2"	25	0.05	1.3	1,126	45.05
2"	108	0.10	10.8	9,731	90.10
4"	161	0.40	64.4	58,026	360.41
6"	319	1.00	319.0	287,429	901.03
8"	160	1.80	288.0	259,497	1,621.86
10"	5	2.80	14.0	12,614	2,522.89
12"	1	4.00	4.0	3,604	3,604.00
Public Fire Hydrants	5,158	1.00	5,158.0	4,647,526	
Total Capacity			5,859.5	\$ 5,279,555	

Summary:

Fire Allocation Description	Public	Private	Total
Capacity	\$ 4,647,526	\$ 632,029	\$ 5,279,555
Meters / Services		1,378,536	1,378,536
Billing		68,151	68,151
Hydrants	1,063,447		1,063,447
Total	\$ 5,710,973	\$ 2,078,716	\$ 7,789,689

ARTESIAN WATER COMPANY INC.

DESIGN OF PRIVATE FIRE RATES

Description	Bills		Services				Capacity		Total Rate
	Units	Rate	Ratio	ERC			Annual	Rate	
				ERC's	Annual	Rate			
Private Fire Hydrant	0	\$ 7.29	5.6	-	\$ -	\$ -	\$ -	\$ -	\$ 7.29
Private Fire Service:									
1 1/2"	300	\$ 7.29	0.3	8.5	\$ 120.89	\$ 10.07	\$ 45.05	\$ 3.75	\$ 21.11
2"	1,296	7.29	1.0	108.0	355.57	29.63	90.10	7.51	44.43
4"	1,932	7.29	2.6	418.6	924.48	77.04	360.41	30.03	114.36
6"	3,828	7.29	5.6	1,786.4	1,991.18	165.93	901.03	75.09	248.31
8"	1,920	7.29	9.2	1,472.0	3,271.22	272.60	1,621.86	135.16	415.05
10"	60	7.29	13.8	69.0	4,906.83	408.90	2,522.89	210.24	626.43
12"	12	7.29	14.5	14.5	5,155.73	429.64	3,604.13	300.34	737.27
Total	9,348			3,877.0					

ARTESIAN WATER COMPANY INC.

DESIGN OF PUBLIC FIRE RATES

Description	Ratio	Customers	ERC's	Total	
				\$ Annual	Rate
5/8" or 1/2"	1.0	75,587	75,587.0	\$ 56.49	\$ 4.71
3/4"	1.5	624	936.0	84.74	7.03
1"	2.5	683	1,707.5	141.23	11.76
1-1/2"	5.0	482	2,410.0	282.46	23.43
2"	8.0	859	6,872.0	451.94	37.59
3"	15.0	141	2,115.0	847.39	70.55
4"	25.0	57	1,425.0	1,412.31	117.59
6"	50.1	54	2,705.4	2,830.27	235.74
8"	79.9	87	6,951.3	4,513.75	376.03
10"	127.8	3	383.4	7,219.74	601.53
Total		78,577	101,092.6		

ARTESIAN WATER COMPANY INC.

COMPARISON OF PRESENT AND DESIGNED RATES AND REVENUE
CUSTOMER AND WATER CHARGES

Customer Charge	Present		Designed		Percent Change
	Rates	Revenue	Rates	Revenue	
Quarterly:					
5/8" or 1/2"	\$ 13.22	\$ 12,097,569.12	\$ 14.51	\$ 13,278,042.96	9.76%
3/4"	15.86	123,517.68	17.42	135,666.96	9.84%
1"	21.15	189,081.00	23.22	207,586.80	9.79%
Monthly:					
1-1/2"	42.29	252,725.04	46.44	277,525.44	9.81%
2"	55.51	616,161.00	60.96	676,656.00	9.82%
3"	84.59	149,216.76	92.89	163,857.96	9.81%
4"	121.59	97,758.36	133.52	107,350.08	9.81%
6"	211.47	180,172.44	232.21	197,842.92	9.81%
8"	317.20	502,444.80	348.32	551,738.88	9.81%
10"	502.23	48,214.08	551.51	52,944.96	9.81%
Total Customer Charge		\$ 14,256,860.28		\$ 15,649,212.96	9.77%

Water Charge	Present		Designed		Percent Change
	Rates	Revenue	Rates	Revenue	
All Other					
First 500 T.G.	\$ 5.887	\$ 10,439,317.02	\$ 6.988	\$ 12,391,701.60	18.70%
Over 500 T.G.	6.776	2,552,790.24	8.043	3,030,119.82	18.70%
Residential					
First 2 T.G.	6.565	11,089,440.44	7.793	13,163,748.57	18.71%
Next 5 T.G.	7.098	13,245,641.68	8.425	15,721,968.33	18.70%
Over 7 T.G.	8.277	2,046,852.44	9.825	2,429,663.55	18.70%
CCH	3.887	402,215.10	4.598	475,787.25	18.29%
Wholesale					
All Usage Rate 1 (Middletown)	2.125	480,981.00	2.489	563,370.22	17.13%
All Usage Rate 2 (DCC)	2.243	350,201.83	2.491	388,922.32	11.06%
All Usage Rate 3 (New Castle)	-	20,801.00	n/a	20,801.00	0.00%
All Usage Rate 4 (AWC to AWMD)	-	976,991.40	n/a	976,991.40	0.00%
All Usage Rate 5 (Chesapeake)	-	119,725.99	n/a	119,725.99	0.00%
All Usage Rate 6 (Clayton)	2.000	14,418.00	n/a	14,418.00	0.00%
Total Usage Charge		\$ 41,739,376.14		\$ 49,297,218.05	18.11%
Total		\$ 55,996,236.42		\$ 64,946,431.01	15.98%

ARTESIAN WATER COMPANY INC.

COMPARISON OF PRESENT AND DESIGNED RATES AND REVENUE
FIRE PROTECTION CHARGES

Public Fire Protection Charge	Bills	Present		Designed		Percent Change
		Rates	Revenue	Rates	Revenue	
Monthly:						
5/8" or 1/2"	907,044	\$ 4.00	\$ 3,628,176	\$ 4.71	\$ 4,272,177	17.75%
3/4"	7,488	5.98	44,778	7.03	52,641	17.56%
1"	8,196	10.00	81,960	11.76	96,385	17.60%
1-1/2"	5,784	19.94	115,333	23.43	135,519	17.50%
2"	10,308	31.99	329,753	37.59	387,478	17.51%
3"	1,692	60.02	101,554	70.55	119,371	17.54%
4"	684	100.04	68,427	117.59	80,432	17.54%
6"	648	200.39	129,853	235.74	152,760	17.64%
8"	1,044	319.71	333,777	376.03	392,575	17.62%
10"	36	511.38	18,410	601.53	21,655	17.63%
Total Public Fire Charge	942,924		\$ 4,852,021		\$ 5,710,992	17.70%

Private Fire Protection Charge	Bills	Present		Designed		Percent Change
		Rates	Revenue	Rates	Revenue	
Quarterly:						
Private Fire Service						
1 1/2"	300	\$ 19.28	5,784	\$ 21.11	6,333	9.49%
2"	1,296	40.95	53,071	44.43	57,582	8.50%
4"	1,932	106.69	206,125	114.36	220,944	7.19%
6"	3,828	227.47	870,755	248.31	950,532	9.16%
8"	1,920	378.70	727,104	415.05	796,897	9.60%
10"	60	565.73	33,944	626.43	37,586	10.73%
12"	12	618.19	7,418	737.27	8,847	19.26%
Total Private Fire Charge			\$ 1,904,202		\$ 2,078,722	9.17%
Total Fire			\$ 6,756,222		\$ 7,789,713	15.30%

ARTESIAN WATER COMPANY, INC.

BILLING ANALYSIS - METRED SALES TO GENERAL CUSTOMERS - PROPOSED RATES

Customer Charge	Rate		Residential		CCH		All Other		Customer 1 (Middletown)		Customer 2 (DCC)		Customer 3 (New Castle)		Customer 4 (WVC to AWVC)		Customer 5 (Chesapeake)		Customer 6 (Clinton)		Misc. Other (L3)		Total			
	Units	Revenue	Units	Revenue	Units	Revenue	Units	Revenue	Units	Revenue	Units	Revenue	Units	Revenue	Units	Revenue	Units	Revenue	Units	Revenue	Units	Revenue	Units	Revenue		
Without Fire Protection	Monthly:																									
	5/8" or 1/2"	\$ 14.51	\$ 6,732	180	\$ 1,230																					
	3/4"	\$ 17.42	1,891.36	109	1,891.36																					
	1"	\$ 23.22	258	6,851.35	456	10,565.32																				
	1-1/2"	\$ 46.44	11	791.52	192	8,916.48																				
With Fire Protection	Monthly:																									
	5/8" or 1/2"	\$ 14.51	688,816	12,885,720.16	18,228	264,458.28																				
	3/4"	\$ 17.42	4,344	75,677.48	3,144	54,768.48																				
	1"	\$ 23.22	3,168	73,550.36	5,026	116,750.16																				
	1-1/2"	\$ 46.44	120	5,572.80	5,664	263,026.16																				
Total Customer Charge	Units																									
	Revenue		\$ 13,167,265.72		\$ 2,473,557.56		\$ 6,356.68		\$ 24																	
	Units																									
	Revenue																									
	Units																									
	Revenue																									
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	Units																									
	Revenue																									

Water Charge	Rate		Residential		CCH		All Other		Customer 1 (Middletown)		Customer 2 (DCC)		Customer 3 (New Castle)		Customer 4 (WVC to AWVC)		Customer 5 (Chesapeake)		Customer 6 (Clinton)		Misc. Other (L3)		Total	
	Units	Revenue	Units	Revenue	Units	Revenue	Units	Revenue	Units	Revenue	Units	Revenue	Units	Revenue	Units	Revenue	Units	Revenue	Units	Revenue	Units	Revenue	Units	Revenue
All Other	First 500 T.G.	\$ 6.88																						
	Over 500 T.G.	\$ 6.84																						
	Residential	\$ 7.75	1,689,176	13,183,748.57																				
	First 2 T.G.	\$ 7.75	1,689,176	13,183,748.57																				
	Over 2 T.G.	\$ 9.25	247,284	2,429,683.55																				
CCH		\$ 4.98																						
	Wholesale																							
Wholesale	All Usage Rate 1 (Middletown)	\$ 2.489																						
	All Usage Rate 2 (DCC)	\$ 2.461																						
	All Usage Rate 3 (New Castle)	na																						
	All Usage Rate 4 (WVC to AWVC)	na																						
	All Usage Rate 5 (Chesapeake)	na																						
Total Usage Charge	Units																							
	Revenue		\$ 31,315,380.45		\$ 15,421,621.42		\$ 103,477		\$ 475,797.25		\$ 226,344		\$ 593,370.22		\$ 156,131		\$ 386,922.32		\$ 6,710		\$ 20,801.00		\$ 258,344	
Subtotal	Units																							
	Revenue		\$ 44,482,665.17		\$ 17,865,368.98		\$ 4,494,146.93		\$ 4,694,146.93		\$ 3,369,922.32		\$ 3,369,922.32		\$ 20,801.00		\$ 976,370.22		\$ 119,725.99		\$ 119,725.99		\$ 258,344	
Total	Units																							
	Revenue		\$ 44,482,665.17		\$ 17,865,368.98		\$ 4,494,146.93		\$ 4,694,146.93		\$ 3,369,922.32		\$ 3,369,922.32		\$ 20,801.00		\$ 976,370.22		\$ 119,725.99		\$ 119,725.99		\$ 258,344	

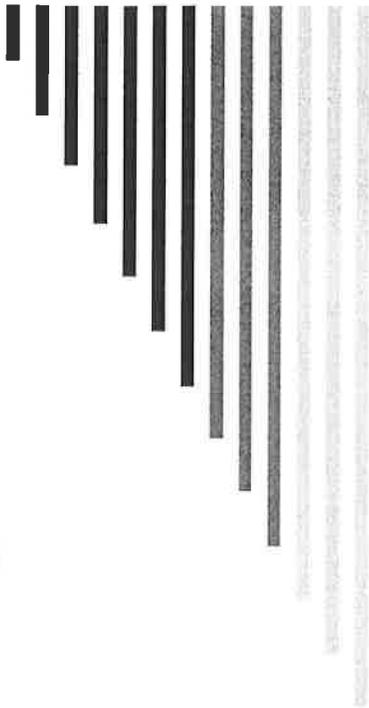
ARTESIAN WATER COMPANY INC.

RATE COMPARISON

Description	Bills/Usage	Present		Designed		Percent Increase
		Rates	Revenue	Rates	Revenue	
Customer Charge:						
Monthly						
5/8" or 1/2"	915,096	\$ 13.22	\$ 12,097,569	\$ 14.51	\$ 13,278,043	9.76%
3/4"	7,788	15.86	123,518	17.42	135,667	9.84%
1"	8,940	21.15	189,081	23.22	207,587	9.79%
1-1/2"	5,976	\$ 42.29	\$ 252,725	\$ 46.44	\$ 277,525	9.81%
2"	11,100	55.51	616,161	60.96	676,656	9.82%
3"	1,764	84.59	149,217	92.89	163,858	9.81%
4"	804	121.59	97,758	133.52	107,350	9.81%
6"	852	211.47	180,172	232.21	197,843	9.81%
8"	1,584	317.20	502,445	348.32	551,739	9.81%
10"	96	502.23	48,214	551.51	52,945	9.81%
Total	954,000		\$ 14,256,860		\$ 15,649,213	9.77%
Water Charge:						
All Other						
First 500 T.G.	1,773,283	\$ 5.887	\$ 10,439,317	\$ 6.988	\$ 12,391,702	18.70%
Over 500 T.G.	376,740	6.776	2,552,790	8.043	3,030,120	18.70%
Residential						
First 2 T.G.	1,689,176	\$ 6.565	\$ 11,089,440	\$ 7.793	\$ 13,163,749	18.71%
Next 5 T.G.	1,866,109	7.098	13,245,642	8.425	15,721,968	18.70%
Over 7 T.G.	247,294	8.277	2,046,862	9.925	2,429,664	18.70%
CCH - Usage						
	103,477	\$ 3.887	\$ 402,215	\$ 4.598	\$ 475,787	18.29%
Wholesale						
All Usage Rate 1 (Middletown)	226,344	\$ 2.125	\$ 480,981	\$ 2.489	\$ 563,370	17.13%
All Usage Rate 2 (DCC)	156,131	2.243	350,202	2.491	388,922	11.06%
All Usage Rate 3 (New Castle)	6,710	3.100	20,801	3.100	20,801	0.00%
All Usage Rate 4 (AWC to AVMMI)	259,700	3.762	976,991	3.762	976,991	0.00%
All Usage Rate 5 (Chesapeake)	29,173	4.104	119,726	4.104	119,726	0.00%
All Usage Rate 6 (Clayton)	7,209	2.000	14,418	2.000	14,418	0.00%
Total	6,741,346		\$ 41,739,376		\$ 49,297,218	18.11%
Total Metered Sales to General Customers						
			\$ 55,996,236		\$ 64,946,431	15.98%
Public Fire Protection Charge						
Monthly						
5/8" or 1/2"	907,044	\$ 4.00	\$ 3,628,176	\$ 4.71	\$ 4,272,177	17.75%
3/4"	7,488	5.98	44,778	7.03	52,641	17.56%
1"	8,196	10.00	81,960	11.76	96,385	17.60%
1-1/2"	5,784	\$ 19.94	\$ 115,333	\$ 23.43	\$ 135,519	17.50%
2"	10,308	31.99	328,753	37.59	387,478	17.51%
3"	1,892	60.02	101,554	70.55	119,371	17.54%
4"	684	100.04	68,427	117.59	80,432	17.54%
6"	648	200.39	129,853	235.74	152,760	17.64%
8"	1,044	319.71	333,777	376.03	392,575	17.62%
10"	36	511.38	18,410	601.53	21,655	17.63%
Total Public Fire Charge	942,924		\$ 4,852,021		\$ 5,710,992	17.70%
Private Fire Protection Charge						
Monthly						
Private Fire Service						
1 1/2"	300	\$ 19.28	\$ 5,784	\$ 21.11	\$ 6,333	9.49%
2"	1,296	40.95	53,071	44.43	57,582	8.50%
4"	1,932	106.69	206,125	114.36	220,944	7.19%
6"	3,828	227.47	870,755	248.31	960,532	9.16%
8"	1,920	378.70	727,104	415.05	786,887	8.60%
10"	60	565.73	33,944	626.43	37,586	10.73%
12"	12	618.19	7,418	737.27	8,647	19.26%
Total Private Fire Charge	9,348		\$ 1,904,202		\$ 2,078,722	9.17%
Total Fire			\$ 6,756,222		\$ 7,789,713	15.30%
Total Revenue From Sales						
Miscellaneous Revenues			\$ 62,752,469		\$ 72,736,144	15.91%
			1,595,139		1,565,708	1.93%
Total Revenues			\$ 64,286,594		\$ 74,301,852	15.58%

Guastella Associates, LLC

Qualifications & Experience



**Rate Setting
Valuation
Management
Consulting**

...SERVING REGULATED AND UNREGULATED WATER AND WASTEWATER UTILITIES SINCE 1978

6 Beacon Street, Suite 200, Boston, MA 02108
(617) 423-3030
www.guastella.com



INTRODUCTION

GUASTELLA ASSOCIATES, LLC

Guastella Associates, LLC (“formerly John F. Guastella Associates, Inc.”) is a consulting firm that specializes in providing utility rate setting, valuation and management services for public and privately-owned water and wastewater utilities.

John F. Guastella established Guastella Associates in 1978. Previously, Mr. Guastella was Director of the Water Division of the New York Public Service Commission. The Water Division provided the New York Commission with technical assistance in regulating the rates and service provided by approximately 450 privately-owned utilities. During the period from 1987 through 1991, Mr. Guastella also managed a 5,500 customer water utility in New York State. In 1989, Guastella Associates acquired the rates and valuation section of Coffin & Richardson, Inc., a general consulting firm that also provided a full range of services to water and wastewater utilities.

As can be seen from the following qualifications and experience, key staff members have many years of combined experience in virtually every aspect of utility rate setting and valuation. The technical expertise of key staff, combined with their former employment by real estate and utility companies, a regulatory agency, and the management of water utilities, provides a total perspective towards addressing the rates and valuation needs of today’s water and wastewater utilities.

Guastella Associates has assisted the largest privately-owned utilities with respect to the most challenging issues, performing complex studies and providing expert testimony in administrative hearings as well as court proceedings. In addition, our client base has included hundreds of small water and wastewater utilities - - obtaining rate increases that turn operating losses into profits, posturing them for financing, correcting record keeping errors and, for some, negotiating their sale at multiples of their original cost net investment rate base. Some of our most successful assignments have been to help establish new developer-related water and wastewater utilities, applying the correct principles at the outset in order to develop fully compensatory initial rates, record keeping procedures and asset management, so they are structured to become self-sustaining utilities that will achieve the highest possible profit and ultimate market value.

Our wide-range of experience and expertise has enabled us to successfully address the special needs of large investor-owned utilities in rate cases and condemnation proceedings. We bring the same high level of expertise to the small water and wastewater utilities, which is essential to their success, and at prices they can afford.



OUTLINE OF SERVICES

GUASTELLA ASSOCIATES, LLC

Guastella Associates, LLC ("formerly John F. Guastella Associates, Inc.") is a consulting firm specializing in utility management, valuation, appraisals and rate determinations. Guastella Associates has been providing professional services to regulated and unregulated utilities since 1978.

Specific areas of expertise includes:

I. RATE ANALYSIS

A. Revenue Requirements

1. Examination of books and records -- revenues, expenses and capital investment.
2. Determination of the cost of providing service (revenue requirement) -- normalize historical data, establish known changes and perform projections.

B. Rate Design

1. Perform cost allocation studies to establish cost of service for residential, commercial, industrial, wholesale and fire protection customers, and for other special users.
2. Develop rate structures -- combine billing analyses and cost allocations to form usage rates, flat rates, minimum service and facilities charges, and such other special charges as connection fees, availability rates, etc.

C. Reports

1. Investor-owned utilities -- prepare complete rate filings for submission to regulatory agencies; prepare testimony, exhibits, and assist in all aspects of adjudication process.
 2. Municipal utilities -- prepare detailed rate reports in support of rate increases for use by municipal officials and presentation at municipal hearings.
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OUTLINE OF SERVICES

GUASTELLA ASSOCIATES, LLC

II. VALUATIONS

A. Appraisals

1. Eminent domain condemnation proceedings, negotiations for sale of utilities, damage claims for insurance and ad valorem tax and management purposes.
2. Determinations of original cost, replacement cost, reproduction cost and market value, including going concern value.
3. Calculation of the present value of cash flow under the income approach to market value determinations.
4. Analyses of market data under the sales comparison approach.

B. Depreciation

1. Actuarial studies using retirement rate or simulated plant balances methods to determine average service lives of physical property, theoretical depreciation reserve requirements and depreciation rates.
2. Establish affordable depreciation rates on the basis of comparative analyses of similar property of other utilities and practices of regulatory agencies and association

C. Feasibility Studies

1. Utility acquisitions by investors and municipalities.
2. Economic studies to establish extension of service costs and policy -- inside and outside service area.
3. Main extension agreements, guaranteed revenue contracts, refund provisions.

D. Financial Planning

1. Establish financing requirements for capital improvements.
2. Determine revenue and rate needs for various combinations of debt and equity financing.
3. Assist certain utilities in securing financing.
4. Establish financing needs, initial rates and regulatory approval of proposed new utilities.

III. MANAGEMENT

A. Operations

1. Assist in day-to-day decisions as to utility accounting and related impact on rates.
2. Solve problems as to record keeping in accordance with regulatory requirements and prescribed systems of accounts.
3. Establish general policy and tariff provisions for customer service, billing, collecting, meter testing, complaint handling, and customer and regulatory relations.

B. Administrative

1. Coordinate activities with regulatory agencies to assure compliance with rules, regulations and orders.
2. Negotiations for purchase or sale of utility property and special contracts.

C. Training

1. On-the-job training for employees while working on various projects.
 2. Special educational seminars on all aspects of utility rate settings, financing, valuation and rules.
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PROFESSIONAL QUALIFICATIONS AND EXPERIENCE
of
JOHN F. GUASTELLA

B.S., Mechanical Engineering, Stevens Institute of Technology, 1962

Member:

American Water Works Association, Lifetime Member
National Association of Water Companies
New England Water Works Association, Lifetime Member

Committees:

AWWA, Water Rates Committee (Manual M-1, 1983 Edition)
National Association of Regulatory Utility Commissioners (NARUC) and NAWC, Joint-Committee on Rate Design
NAWC, Rates and Revenues Committee
NAWC, Small Water Company Committee

Mr. Guastella is President of Guastella Associates, LLC ("formerly John F. Guastella Associates, Inc.") which provides management, valuation and rate consulting services for municipal and investor-owned utilities, as well as regulatory agencies. His clients include utilities in the states of Alaska, Arkansas, California, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Maine, Maryland, Massachusetts, Missouri, Michigan, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Dakota, Ohio, Pennsylvania, South Carolina, Texas, Rhode Island and Virginia. He has provided consulting services that include all aspects of utility regulation and rate setting, encompassing revenue requirements, revenues, operation and maintenance expenses, depreciation, taxes, return on investment, cost allocation and rate design. He has performed depreciation studies for the establishment of average service lives of utility property. He has performed appraisals of utility companies for management purposes and in connection with condemnation proceedings. He has also negotiated the sale of utility companies.

Mr. Guastella served for more than four years as President of Country Knolls Water Works, Inc., a water utility that served some 5,500 customers in Saratoga County, New York. He also served as a member of the Board of Directors of the National Association of Water Companies.

Mr. Guastella has qualified and testified as an expert witness before regulatory agencies and municipal jurisdictions in the states of Alaska, California, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Maryland, Massachusetts, Missouri, Montana, Nevada, New Hampshire, New Mexico, New Jersey, New York, North Dakota, Ohio, Pennsylvania, Rhode Island, South Carolina, Texas and Virginia.

Prior to establishing his own firm, Mr. Guastella was employed by the New York State Public Service Commission for sixteen years. For two years he was involved in the regulation of electric and gas utilities, with the remaining years devoted to the regulation of water utilities. In 1970, he was promoted to Chief of Rates and Finance in the Commission's Water Division. In 1972, he was made Assistant Director of the Water Division. In 1974, he was appointed by Alfred E. Kahn, then Chairman of the Commission, to be Director of the Water Division, a position he held until he resigned from the Commission in August 1978.

At the Commission, his duties included the performance and supervision of engineering and economic studies concerning rates and service of many public utilities. As Director of the Water Division, he was responsible for the regulation of more than 450 water companies in New York State and headed a professional staff of 32 engineers and three technicians. A primary duty was to attend Commission sessions and advise the Commission during its decision making process. In the course of that process, an average of about fifty applications per year would be reviewed and analyzed. The applications included testimony, exhibits and briefs

involving all aspects of utility valuation and rate setting. He also made legislative proposals and participated in drafting Bills that were enacted into law: one expanded the N.Y. Public Service Commission's jurisdiction over small water companies and another dealt specifically with rate regulation and financing of developer-related water systems.

In addition to his employment and client experience, Mr. Guastella served as Vice-Chairman of the Staff-Committee on Water of the National Association of Regulatory Utility Commissioners (NARUC). This activity included the preparation of the "Model Record-Keeping Manual for Small Water Companies," which was published by the NARUC. This manual provides detailed instruction on the kinds of operation and accounting records that should be kept by small water utilities, and on how to use those records.

Each year since 1974 he has prepared study material, assisted in program coordination and served as an instructor at the Eastern Annual Seminar on Water Rate Regulation sponsored over the years by the NARUC in conjunction with the University of South Florida, Florida Atlantic University, the University of Utah, Florida State University, the University of Florida and currently Michigan State University. In 1980 he was instrumental in the establishment of the Western NARUC Rate Seminar and has annually served as an instructor since that time. This course is recognized as one of the best available for teaching rate-setting principles and methodology. More than 7,000 students have attended this course, including regulatory staff, utility personnel and members of accounting, engineering, legal and consulting firms throughout the country.

Mr. Guastella served as an instructor and panelist in a seminar on water and wastewater regulation conducted by the Independent Water and Sewer Companies of Texas. In 1998, he prepared and conducted a seminar on basic rate regulation on behalf of the New England Chapter of the National Association of Water Companies. In 2000 and 2001, Mr. Guastella developed and conducted a special seminar for developer related water and wastewater utilities in conjunction with Florida State University, and again in 2003 in conjunction with the University of Florida. It provided essential training for the financial structuring of small water and wastewater utilities, rate setting, financing and the establishment of their market value in the event of a negotiated sale or condemnation. In 2004, he prepared and conducted a special workshop seminar on behalf of the Office of Regulatory Staff of South Carolina, covering rate setting, valuation and general regulation of water and wastewater utilities. In 2006, he participated in an expert workshop on full cost pricing conducted by the U. S. Environmental Protection Agency in coordination with the Institute of Public Utilities, Michigan State University. In 2006, he prepared and conducted a special seminar on rate setting and valuation on behalf of the New York Chapter of the NAWC. In 2007, he prepared and conducted a special seminar on rate setting and valuation on behalf of the New England Chapter of NAWC.

Mr. Guastella has made presentations on a wide variety of rate, valuation and regulatory issues at meetings of the National Association of Regulatory Utility Commissioners, the American Water Works Association, the New England Water Works Association, the National Association of Water Companies, the New England Conference of Public Utilities Commissioners, the Florida, New England, New Jersey and New York Chapters of NAWC, the Mid-America Regulatory Conference, the Southeastern Association of Regulatory Utility Commissioners, the Pennsylvania Environmental Conference, the Public Utility Law Section of the New Jersey Bar Association, and the NAWC Water Utility Executive Council.

John F. Guastella
List of Proceedings in which
Expert Testimony
was Presented

Year	Client	State	Regulatory Docket/Case Number
1966	Sunhill Water Corporation	New York	23968
1967	Amagansett Water Company	New York	24210
1967	Worley Homes, Inc.	New York	24466
1968	Amagansett Water Company	New York	24718
1968	Amagansett Water Company	New York	24883
1968	Sunhill Water Corporation	New York	23968
1968	Worley Homes, Inc.	New York	Supreme Court
1969	Amagansett Water Supply	New York	24883
1969	Citizens Water Supply Co.	New York	25049
1969	Worley Homes, Inc.	New York	24466/24992
1970	Brooklyn Union Gas Company	New York	25448
1970	Consolidated Edison of New York	New York	25185
1971	Hudson Valley Water Companies	New York	26093
1971	Jamaica Water Supply Company	New York	26094
1971	Port Chester Water Works, Inc.	New York	25797
1971	U & I Corp. - Merrick District	New York	26143
1971	Wanakah Water Company	New York	25873
1972	Spring Valley Water Company	New York	26226
1972	U & I Corp. - Woodhaven District	New York	26232
1973	Citizens Water Supply Company	New York	26366
1978	Rhode Island DPU&C (Bristol County)	Rhode Island	1367A
1979	Candlewick Lake Utilities Co.	Illinois	76-0218
1979	Candlewick Lake Utilities Co.	Illinois	76-0347
1979	Candlewick Lake Utilities Co.	Illinois	78-0151
1979	Jacksonville Suburban Utilities	Florida	770316-WS
1979	New York Water Service Corporation	New York	27594
1979	Salem Hills Sewerage Disposal Corp. v. V. of Voorheesville	New York	Supreme Court
1979	Seabrook Water Corporation	New Jersey	7910-846
1979	Southern Utilities Corporation	Florida	770317-WS
1979	Township of South Brunswick	New Jersey	Municipal
1979	Westchester Joint Water Works	New York	Municipal
1979	Woodhaven Utilities Corporation	Illinois	77-0109
1980	Crestwood Village Sewer Company	New Jersey	BPU 802-78
1980	Crestwood Village Water Company	New Jersey	BPU 802-77
1980	Gateway Water Supply Corporation	Texas	Municipal
1980	GWV-Central Florida District	Florida	800004-WS
1980	Jamaica Water Supply Company	New York	27587
1980	Rhode Island DPU&C (Newport Water)	Rhode Island	1480
1981	Briarcliff Utilities, Inc.	Texas	3620
1981	Candlewick Lake Utilities Co.	Illinois	81-0011
1981	Caroline Water Company, Inc.	Virginia	810065
1981	GDU, Inc. - Northport	Florida	Municipal
1981	GDU, Inc. - Port Charlotte	Florida	Municipal
1981	GDU, Inc. - Port Malabar	Florida	80-2192
1981	Hobe Sound Water Company	Florida	8000776
1981	Lake Buckhorn Utilities, Inc.	Ohio	80-999
1981	Lake Klowa Utilities, Inc.	Texas	3621
1981	Lakengren Utilities, Inc.	Ohio	80-1001
1981	Lorelei Utilities, Inc.	Ohio	80-1000
1981	New York Water Service Corporation	New York	28042
1981	Rhode Island DPU&C (Newport Water)	Rhode Island	1581
1981	Shawnee Hills Utility Company	Ohio	80-1002
1981	Smithville Water Company, Inc.	New Jersey	808-541
1981	Spring Valley Water Company, Inc.	New York	27936
1981	Spring Valley Water Company, Inc.	New York	27936
1981	Sunhill Water Corporation	New York	27903
1981	Swan Lake Water Corporation	New York	27904
1982	Chesterfield Commons Sewer Company	New Jersey	822-84
1982	Chesterfield Commons Water Company	New Jersey	822-83
1982	Crescent Waste Treatment Corp.	New York	Municipal
1982	Crestwood Village Sewer Company	New Jersey	821-33
1982	Crestwood Village Water Company	New Jersey	821-38
1982	Salem Hills Sewerage Disposal Corp.	New York	Municipal
1982	Township of South Brunswick	New Jersey	Municipal
1982	Woodhaven Utilities Corporation	Illinois	82-0167
1983	Country Knolls Water Works, Inc.	New York	28194
1983	Heritage Hills Water Works Corp.	New York	28453
1984	Crestwood Village Sewer Company	New Jersey	8310-861
1984	Crestwood Village Water Company	New Jersey	8310-860
1984	Environmental Disposal Corp.	New Jersey	816-552
1984	GDU, Inc. - Port St. Lucie	Florida	830421
1984	Heritage Village Water (water/sewer)	Connecticut	84-08-03
1984	Hurley Water Company, Inc.	New York	28820
1984	New York Water Service Corporation	New York	28901
1985	Deltona Utilities (water/sewer)	Florida	830281
1985	J. Filiberto Sanitation, Inc.	New Jersey	8411-1213
1985	Sterling Forest Pollution Control	New York	Municipal
1985	Water Works Enterprise, Grand Forks	North Dakota	Municipal
1986	GDU, Inc. - Port Charlotte	Florida	Municipal
1986	GDU, Inc. - Sebastian Highlands	Florida	Municipal
1986	Kings Grant Water/Sewer Companies (settled)	New Jersey	WR8508-868
1986	Mt. Ebo Sewage Works, Inc.	New York	Municipal
1986	Sterling Forest Pollution Control	New York	Municipal
1987	Country Knolls Water Works, Inc.	New York	29443
1987	Crestwood Village Sewer Co. (settled)	New Jersey	WR8701-38

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Year	Client	State	Regulatory Docket/Case Number
1987	Deltona Utilities - Marco Island	Florida	850151-WS
1987	Deltona Utilities, Inc. - Citrus Springs (settled)	Florida	870092-WS
1987	First Brewster Water Corp. v. Town of Southeast (settled)	New York	Supreme Court
1987	GDU, Inc. - Silver Springs Shores	Florida	870239-WS
1987	Ocean County Landfill Corporation	New Jersey	SR-8703117
1987	Palm Coast Utility Corporation	Florida	870166-WS
1987	Sanlando Utilities Corp. (settled)	Florida	860683-WS
1987	Township of South Brunswick	New Jersey	Municipal
1987	Woodhaven Utilities Corp. (settled)	Illinois	87-0047
1988	Crescent Estates Water Co., Inc.	New York	88-W-035
1988	Elizabethtown Water Co.	New Jersey	OAL PUC3464-88
1988	Heritage Village Water Company	Connecticut	87-10-02
1988	Instant Disposal Service, Inc.	New Jersey	SR-87080864
1988	J. Filiberto Sanitation v. Morris County Transfer Station	New Jersey	01487-88
1988	Ohio Water Service Co.	Ohio	86-1887-WW-CO1
1988	St. Augustine Shores Utilities	Florida	870980-WS
1989	Elizabethtown Water Co.	New Jersey	BPU WR89020132J
1989	GDU (FPSC generic proceeding as to rate setting procedures)	Florida	880883-WS
1989	Gordon's Corner Water Co.	New Jersey	OAL PUC479-89
1989	Heritage Hills Sewage Works	Connecticut	Municipal
1989	Heritage Village Water Company	Connecticut	87-10-02
1989	Palm Coast Utility Corporation	Florida	890277-WS
1989	Southbridge Water Supply Co.	Massachusetts	DPU 89-25
1989	Sterling Forest Water Co.	New York	PSC 88-W-263
1990	American Utilities, Inc. - United States Bankruptcy Court	New Jersey	85-00316
1990	City of Carson City	Nevada	Municipal
1990	Country Knolls Water Works, Inc.	New York	90-W-0458
1990	Elizabethtown Water Company	New Jersey	WR900050497J
1990	Kent County Water Authority	Rhode Island	1952
1990	Palm Coast Utility Corporation	Florida	871395-WS
1990	Southern States Utilities, Inc.	Florida	Workshop
1990	Trenton Water Works	New Jersey	WR90020077J
1990	Waste Management of New Jersey	New Jersey	SE 87070552
1990	Waste Management of New Jersey	New Jersey	SE 87070566
1991	City of Grand Forks	North Dakota	Municipal
1991	Gordon's Corner Water Co.	New Jersey	OAL PUC8329-90
1991	Southern States Utilities, Inc.	Florida	900329-WS
1992	Elizabethtown Water Co.	New Jersey	WR 91081293J
1992	General Development Utilities, Inc. - Port Malabar Division	Florida	911030-WS
1992	General Development Utilities, Inc. - West Coast Division	Florida	911067-WS
1992	Heritage Hills Water Works, Inc.	New York	92-2-0576
1993	General Development Utilities, Inc. - Port LaBelle Division	Florida	911737-WS
1993	General Development Utilities, Inc. - Silver Springs Shores	Florida	911733-WS
1993	General Waterworks of Pennsylvania - Dauphin Cons. Water Supply	Pennsylvania	R-00932604
1993	Kent County Water Authority	Rhode Island	2098
1993	Southern States Utilities - FPSC Rulemaking	Florida	911082-WS
1993	Southern States Utilities - Marco Island	Florida	920655-WS
1994	Capital City Water Company	Missouri	WR-94-297
1994	Capital City Water Company	Missouri	WR-94-297
1994	Elizabethtown Water Company	New Jersey	WR94080346
1994	Elizabethtown Water Company	New Jersey	WR94080346
1994	Environmental Disposal Corp.	New Jersey	WR94070319
1994	General Development Utilities - Port Charlotte	Florida	940000-WS
1994	General Waterworks of Pennsylvania	Pennsylvania	R-00943152
1994	Hoosier Water Company - Mooresville Division	Indiana	39839
1994	Hoosier Water Company - Warsaw Division	Indiana	39838
1994	Hoosier Water Company - Winchester Division	Indiana	39840
1994	West Lafayette Water Company	Indiana	39841
1994	Wilmington Suburban Water Corporation	Delaware	94-149 (std)
1995	Butte Water Company	Montana	Cause 90-C-90
1995	Heritage Hills Sewage Works Corporation	New York	Municipal
1996	Consumers Illinois Water Company	Illinois	95-0342
1996	Elizabethtown Water Company	New Jersey	WR95110557
1996	Palm Coast Utility Corporation	Florida	951056-WS
1996	PenPac, Inc.	New Jersey	OAL-00788-93N
1996	Southern States Utilities, Marco Island	Florida	950495-WS
1997	Crestwood Village Water Company	New Jersey	BPU 96100739
1997	Indiana American Water Co., Inc.	Indiana	IURC 40703
1997	Missouri-American Water Company	Missouri	WR-97-237
1997	South County Water Corp	New York	97-W-0667
1997	United Water Florida	Florida	960451-WS
1998	Consumer Illinois Water Company	Illinois	98-0632
1998	Consumers Illinois Water Company	Illinois	97-0351
1998	Heritage Hills Water Company	New York	97-W-1561
1998	Missouri-American Wastewater Company	Missouri	SR-97-238
1999	Consumers Illinois Water Company	Illinois	99-0288
1999	Environmental Disposal Corp.	New Jersey	WR99040249
1999	Indiana American Water Co., Inc.	Indiana	IURC 41320
2000	South Haven Sewer Works, Inc.	Indiana	Cause: 41410
2000	Utilities Inc. of Maryland	Maryland	CAL 97-17811
2001	Artesian Water Company	Delaware	00-649
2001	Citizens Utilities Company	Illinois	01-0001
2001	Elizabethtown Water Company	New Jersey	WR-0104205
2001	Kiawah Island Utility, Inc.	South Carolina	2001-164-W/S
2001	Placid Lakes Water Company	Florida	011621-WU

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Year	Client	State	Regulatory Docket/Case Number
2001	South Haven Sewer Works, Inc.	Indiana	41903
2001	Southlake Utilities, Inc.	Florida	981609-WS
2002	Artesian Water Company	Delaware	02-109
2002	Consumers Illinois Water- Grant Park	Illinois	02-0480
2002	Consumers Illinois Water- Village Woods	Illinois	02-0539
2002	Valencia Water Company	California	02-05-013
2003	Consumers Illinois Water - Indianola	Illinois	03-0069
2003	Elizabethtown Water Company	New Jersey	WR-030-70510
2003	Golden Heart Utilities, Inc.	Alaska	U-02-13, 14 & 15
2003	Utilities, Inc. - Georgia	Georgia	CV02-0495-AB
2004	Aquarion Water Company	Connecticut	04-02-14
2004	Artesian Water Company	Delaware	04-42
2004	El Dorado Utilities, Inc.	New Mexico	D-101-CU-2004-
2004	Environmental Disposal Corp.	New Jersey	DPU WR 03 070509
2004	Heritage Hills Water Company	New York	03-W-1182
2004	Sun Valley Water & Washoe County Dept. of Water Revenues	Nevada	TMWA Municipal
2004	Jersey City MUA	New Jersey	Municipal
2004	Rockland Electric Company	New Jersey	EF02110852
2005	Aquarion Water Company	New Hampshire	DW 05-119
2005	Intercoastal Utilities, Inc.	Florida	04-0007-0011-0001
2005	Haig Point Utility Company, Inc.	South Carolina	2005-34-W/S
2005	South Central Connecticut Regional Water Auth.	Connecticut	Municipal
2006	Pennichuck Water Works, Inc.	New Hampshire	DW-04048
2006	Village of Williston Park	New York	Municipal
2006	Jersey City MUA	New Jersey	Municipal
2006	Groton Utilities	Connecticut	Municipal
2006	Connecticut Water Company	Connecticut	06-07-08
2006	Birmingham Utilities, Inc.	Connecticut	06-05-10
2006	Aqua Florida Utilities, Inc.	Florida	060368-WS
2007	Aquarion Water Company of CT	Connecticut	07-05-19
2007	Pennichuck Water Works, Inc.	New Hampshire	DW 04-048
2007	Aqua Indiana - Utility Center	Indiana	43331
2007	Environmental Disposal Corp.	New Jersey	WR 04 080760
2007	Aqua Florida Utilities, Inc.	Florida	07-0183
2007	Aqua Illinois, Inc. - Hawthorn Woods, Willowbrook & Vermilion	Illinois	07-0620/07-0621/08-0067
2008	Aqua Florida Utilities, Inc.	Florida	080121-WS
2008	Aquarion Water Company of MA	Massachusetts	D.P.U. 08-27
2008	Haig Point Utility Company, Inc.	South Carolina	2007-414-WS
2009	R.M.V. Land & C.M. Livestock, L.C.C.	New Jersey	EM02050313
2010	City of Griffin	Georgia	Civil Action No. 09V-2866
2010	Connecticut Water Company	Connecticut	09-12-11
2010	Montville WPCA	Connecticut	1400012464
2010	Milford Water Company	Massachusetts	DPU 10-78
2010	Arizona American Water Company	Arizona	W-01303A-10-0448
2011	Aqua Illinois	Illinois	ICC Docket (Consolidated)
2011	Artesian Water Company	Maryland	MPSC Case 9252
2011	Artesian Water Company	Delaware	PSC 11-207
2011	Kiawah Island Utility, Inc.	South Carolina	2011-317-WS
2012	Washington Gas Light	Maryland	Senate SB541
2012	Washington Gas Light	Maryland	House HB662
2012	Daufuskie Island Utility	South Carolina	2011-229-W/S
2012	Milford Water Company	Massachusetts	DPU 12-86
2013	Artesian Water Company	Pennsylvania	2:10-CV-07453-JP
2013	Aquarion Water Company	Massachusetts	CA 09-00592E
2013	Water Management Services	Florida	110200-WU
2013	City of Fernandina Beach	Florida	Civil Action No. 13CA000485AXYX
2013	City of Elizabeth	New Jersey	Docket Nos. UNN-L-0556-10 and UNN-L- 2608-11

Papers and Presentations

By

John F. Guastella

Year	Title	Forum
1974 through 2013	1. Basics of Rate Setting 2. Cost Allocation and Rate Design 3. Revenue Requirements	Semi-annual seminars on utility rate regulation, National Association of Regulatory Utility Commissioners, sponsored by the University of South Florida, the University of Utah, Florida State University, The University of Florida and currently Michigan State University
1974	Rate Design Studies: A Regulatory Point-of-View	Annual convention of the National Association of Water Companies, New Haven, Connecticut
1976	Lifeline Rates	Annual convention of the National Association of Water Companies, Chattanooga, Tennessee
1977	Regulating Water Utilities: The Customers' Best Interest	Annual symposium of the New England Conference of Public Utilities Commissioners, Mystic Seaport, Connecticut
1978	Rate Design: Preaching v. Practice	Annual convention of the National Association of Water Companies, Baton Rouge, Louisiana
1979	Small Water Companies	Annual symposium of the New England Conference of Public Utilities Commissioners, Newport, Rhode Island
1979	Rate Making Problems Peculiar to Private Water and Sewer Companies	Special educational program sponsored by Independent Water and Sewer Companies of Texas, Austin, Texas
1980	Water Utility Regulation	Annual meeting of the National Association of Regulatory Utility Commissioners, Houston, Texas
1981	The Impact of Water Rates on Water Usage	Annual Pennsylvania Environmental Conference, Harrisburg, Pennsylvania
1981	A Realistic Approach to Regulating Water Utilities	Mid-America Regulatory Conference, Clarksville, Indiana
1982	Issues in Water Utility Regulation	Annual symposium of the New England Conference of Public Utilities Commissioners, Rockport, Maine
1982	New Approaches to the Regulation of Water Utilities	Southeastern Association of Regulatory Utility Commissioners, Asheville, North Carolina
1983	Allocating Costs and Revenues Fairly and Effectively	Maryland Water and Sewer Finance Conference, Westminster, Maryland
1983	Lifeline and Social Policy Pricing	Annual conference of the American Water Works Association, Las Vegas, Nevada (published)
1984	The Real Cost of Service: Some Special Considerations	Annual New Jersey Section AWWA Spring Meeting, Atlantic City, New Jersey
1987	Margin Reserve: It's Not the Issue	Florida Waterworks Association Newsletter, April/May/June 1987 issue
1987	A "Current" Issue: CIAC	NAWC - New England Chapter November 6, 1987 meeting
1988	Small Water Company Rate Setting: Take It or Leave It	NAWC - New York Chapter June 14, 1988 meeting
1989	The Solution to all the Problems of Good Small Water Companies	NAWC Quarterly magazine, Winter issue
1989	Current Issues Workshop - Panel	New England Conference of Public Utilities Commissioners, Kennebunkport, Maine
1991	Alternative Rate Structures	New Jersey Section 1991 Annual Conference, AWWA, Atlantic City, New Jersey
1994	Conservation Impact on Water Rates	New England NAWC and New England AWWA, Sturbridge, Massachusetts

Papers and Presentations

By

John F. Guastella

Year	Title	Forum
1996	Utility Regulation - 21st Century	NAWC Annual Meeting, Orlando, Florida
1997	Current Status Drinking Water State Revolving Fund	NAWC Annual Meeting, San Diego, California
1998	Small Water Companies - Problems and Solutions	NAWC Annual Meeting, Indianapolis, Indiana
1998	Basic Rate Regulation Seminar	New England Chapter - NAWC, Rockport, Maine
2000	Developer Related Water and Sewer Utilities Seminar	Florida State University, Orlando, Florida
2001	Developer Related Water and Sewer Utilities Seminar	Florida State University, Orlando, Florida
2002	Regulatory Cooperation - Small Company Education	New England Chapter - NAWC, Annual Meeting
2003	Developer Related Water and Sewer Utilities Seminar	University of Florida, Orlando, Florida
2004	Basic Regulation & Rate Setting Training Seminar	Office of Regulatory Staff, Columbia, South Carolina
2005	Municipal Water Rates	Nassua-Suffolk Water Commissioners Association, Franklin Square, New York
2005	Innovations in Rate Setting and Procedures	NAWC New York Chapter, West Point, New York
2006	Basics of Rate Setting	The Connecticut Water Company, Clinton, Connecticut
2006	Innovations in Rate Setting and Procedures	NAWC New York Chapter, Catskill, New York
2006	Best Practices as Regulatory Policy	NAWC New England Chapter, Ogunquit, Maine
2006	Rate and Valuation Seminar	NAWC New York Chapter
2006	Full Cost Pricing	U.S. Environmental Protection Agency Expert Workshop, Lansing, Michigan
2006	Innovations in Rate Setting	NAWC New England Chapter, Portsmouth, New Hampshire
2007	Weather Sensitive Customer Demands	NAWC Water Utility Executive Council, Half Moon Bay, California
2007	Basics of Rate Setting and Valuation Seminar	NAWC New England Chapter, Ogunquit, Maine
2007	Small Company Characteristics	National Drinking Water Symposium, La Jolla, California
2013	Rate and Valuation Seminar	NAWC New York Chapter