Ohio | Public Utilities Commission

LARGE FILING SEPARATOR SHEET

CASE NUMBER: 16-0907-WW-AIR

FILE DATE: May 31, 2016

SECTION: 3

FILED BY: R. Glover

FILED ON BEHALF OF: Aqua Ohio, Inc.

NUMBER OF PAGES: 34

DESCRIPTION OF DOCUMENT: Application

RECEIVED

MAY 31 2016

DOCKETING DIVISION
Public Utilities Commission of Ohio

AQUA OHIO, INC.

Rate Case No. 16-0907-WW-AIR

Standard Filing Information

Rates and Tariffs

Schedule E-3.2
Cost of Service Study

Water Division

Prepared by:

Gannett Fleming

*Excellence Delivered **As Promised***

AQUA OHIO, INC.
WATER OPERATIONS

COMPARISON OF COST OF SERVICE WITH REVENUES UNDER PRESENT AND PROPOSED RATES
FOR THE TEST YEAR ENDING DECEMBER 31, 2016

Customer Classification	Cost of Service Amount (Schedule B)	Cost of Service Percent	Revenues, Present Rates Amount	Revenues, Present Rates Percent	Revenues, Proposed Rates Amount	Revenues, Proposed Rates Percent	Proposed Increase Amount	Proposed Increase Percent Increase
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Residential	$ 45,199,401	69.3%	$ 40,502,227	68.0%	$ 44,490,479	68.3%	$ 3,988,252	9.8%
Commercial	9,224,492	14.1%	9,662,499	16.2%	10,672,427	16.3%	1,009,928	10.5%
Industrial	4,398,543	6.7%	3,772,137	6.3%	4,046,981	6.2%	274,844	7.3%
Public Authority	2,891,965	4.4%	2,529,424	4.2%	2,764,693	4.2%	235,269	9.3%
Sales for Resale	2,269,500	3.5%	1,528,822	2.6%	1,528,844	2.3%	22	0.0%
Private Fire Service	1,295,104	2.0%	1,630,332	2.7%	1,775,583	2.7%	145,251	8.9%
Total Sales	65,279,004	100.0%	59,625,441	100.0%	65,279,006	100.0%	5,653,565	9.5%
Availability Revenues			$91,582		-		(91,582)	-100.0%
Other Revenues	1,166,305		1,124,193		$1,166,305		42,112	3.7%
Total	$ 66,445,309		$ 60,841,216		$ 66,445,311		$ 5,604,095	9.2%

AQUA OHIO, INC.
WATER OPERATIONS
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2016 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account	Factor Ref.	Cost of Service	Residential	Commercial	Industrial	Public Authorities	Sales For Resale	Private Fire Protection
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OPERATION AND MAINTENANCE EXPENSES								
SOURCE OF SUPPLY EXPENSES								
Oper. Super. And Eng'ng -Labor	2		$ -	$ -	$ -	$ -	$ -	$ -
SS Operating Expense	2	48,120	28,886	8,137	4,610	2,878	3,575	34
SS Operating Labor	2		0	0	0	0	0	0
Purchased Water	1	1,043,332	585,935	178,514	120,818	63,122	93,796	1,148
TOTAL SS EXPENSE - OPERATION		1,091,451	614,821	186,651	125,428	65,999	97,371	1,181
Struct & Improve Maint SS	2	1,557	935	263	149	93	116	1
Misc Plant Maint SS - Labor	2	0	0	0	0	0	0	0
TOTAL SS EXPENSE - MAINTENANCE		1,557	935	263	149	93	116	1
TOTAL SS EXPENSE		1,093,009	615,756	186,914	125,577	66,092	97,487	1,182
POWER AND PUMPING EXPENSES								
Oper Super and Eng - Labor	6		0	0	0	0	0	0
Purch Fuel/Power for Pump	1	1,926,303	1,081,812	329,590	223,066	116,541	173,175	2,119
Pumping Labor	6	0	0	0	0	0	0	0
Rents Oper P	6		0	0	0	0	0	0
TOTAL PUMPING EXPENSE - OPERATION		1,926,303	1,081,812	329,590	223,066	116,541	173,175	2,119
Maint super and Eng - Labor	6		0	0	0	0	0	0
Maint of Pumping Eq - Labor	6	0	0	0	0	0	0	0
TOTAL PUMPING EXPENSES - MAINTENANCE		0	0	0	0	0	0	0
TOTAL PUMPING EXPENSES		1,926,303	1,081,812	329,590	223,066	116,541	173,175	2,119

AQUA OHIO, INC.
WATER OPERATIONS
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2016 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account	Factor Ref.	Cost of Service	Residential	Commercial	Industrial	Public Authorities	Sales For Resale	Private Fire Protection
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
WATER TREATMENT								
Oper Super and Eng - Labor	2	1,878,297	1,127,542	317,620	179,941	112,322	139,557	1,315
Chemicals	1	1,467,409	824,097	251,074	169,926	88,778	131,920	1,614
Softening Chemicals								
Operation Expenses	2	360,123	216,182	60,897	34,500	21,535	26,757	252
Softening Expenses								
Miscellaneous Expenses	2	634,484	380,881	107,291	60,784	37,942	47,142	444
Contract Services Lab Testing	2		0	0	0	0	0	0
TOTAL WT EXPENSE - OPERATION		4,340,313	2,548,701	736,882	445,150	260,578	345,377	3,625
Maint Super & Eng - Labor	2	0	0	0	0	0	0	0
Maint of Structures - Expenses	2	153,842	92,351	26,015	14,738	9,200	11,430	108
Maint of Structures - Labor	2	389,187	233,629	65,811	37,284	23,273	28,917	272
Maint. Of Treat Eq - Expenses	2	49,519	29,726	8,374	4,744	2,961	3,679	35
Maint. Of Treat Eq - Labor	2	0	0	0	0	0	0	0
Maint of Softening Eq - Labor								
TOTAL WT EXPENSE - MAINTENANCE		592,547	355,706	100,200	56,766	35,434	44,026	415
TOTAL WATER TREATMENT EXPENSE		4,932,860	2,904,407	837,081	501,916	296,012	389,403	4,040
TRANSMISSION AND DISTRIBUTION EXPENSES								
Super & Eng Oper TD - Labor	11	0	0	0	0	0	0	0
TD Lines Exp - Expenses	7	2,516	1,690	381	185	127	42	92
TD Lines Exp - Labor	7	1,524,884	1,023,960	230,715	112,079	76,702	25,466	55,963
Misc Meter Expense	9	9,558	7,851	1,221	211	249	26	0
Misc T&D Oper Labor	11	0	0	0	0	0	0	0
Misc. T&D Exp	11	596,351	400,987	90,168	43,653	29,877	9,899	21,767
Rents Oper TD	11	48,351	32,511	7,311	3,539	2,422	803	1,765
TOTAL T & D EXPENSE OPERATION		2,181,660	1,466,998	329,795	159,667	109,377	36,235	79,587
Super & Eng Maint TD - Labor	12	0	0	0	0	0	0	0
Maint of Structures - Expenses	12	123,734	84,783	17,917	8,105	5,655	2,178	5,098
Maint of Structures - Labor	12	0	0	0	0	0	0	0
Maint of Dist Res - Expenses	5	(142,834)	(99,270)	(22,125)	(11,041)	(7,584)	0	(2,814)
Maint of Mains - ExpensesMat's	7	556,456	373,660	84,192	40,900	27,990	9,293	20,422

AQUA OHIO, INC.
WATER OPERATIONS
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2016 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account	Factor Ref.	Cost of Service	Residential	Commercial	Industrial	Public Authorities	Sales For Resale	Private Fire Protection
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Maint of Mains - Labor	7	312,993	210,175	47,356	23,005	15,744	5,227	11,487
Fire Main Maint TD	8		0	0	0	0	0	0
Maint of Services - Expenses	10	38,421	31,225	3,247	296	396	19	3,239
Maint of Services - Labor	10	20,798	16,903	1,757	160	214	10	1,753
Maint of Meters - Mat'l	9	0	0	0	0	0	0	0
Maint of Meters - Labor	9	0	0	0	0	0	0	0
Maint of Hydrants - Expenses	8	23,798	19,601	3,047	528	622	0	0
Maint of Hydrants - Labor	8	18,218	15,006	2,333	404	476	0	0
Contract Svc - Other Maint T&D	12		0	0	0	0	0	0
TOTAL T & D EXPENSE - MAINTENANCE		951,585	652,083	137,723	62,356	43,511	16,727	39,185
TOTAL T & D EXPENSE		3,133,245	2,119,081	467,518	222,023	152,888	52,963	118,772
CUSTOMER ACCOUNTS								
Supervision Labor	13	0	0	0	0	0	0	0
Customer Records Labor	13	1,242,500	1,140,615	75,792	3,355	5,094	0	17,643
Cust Acct Supplies, Expenses	13	1,775,567	1,629,971	108,310	4,794	7,280	0	25,213
Collection Agency Expense	13	0	0	0	0	0	0	0
Postage	13	0	0	0	0	0	0	0
Uncollectible Accts	20	677,742	622,167	41,342	1,830	2,779	0	9,624
Customer Accounting Labor	13	0	0	0	0	0	0	0
Misc Expenses	13	112,529	103,302	6,864	304	461	0	1,598
Misc Customer Service	13	0	0	0	0	0	0	0
TOTAL CUSTOMER ACCOUNTING EXPENSE		3,808,338	3,496,054	232,309	10,283	15,614	0	54,078
ADMINISTRATIVE AND GENERAL EXPENSES								
Salaries AG	15	1,027,213	758,905	127,169	55,880	37,185	30,816	17,257
Pcard Undistributed	15		0	0	0	0	0	0
Utilities	15	150,898	111,483	18,681	8,209	5,463	4,527	2,535
Misc. General Exp	15	69,439	51,302	8,597	3,777	2,514	2,083	1,167
Telephone	15	266,743	197,069	33,023	14,511	9,656	8,002	4,481
Management Fees								
Accounting Services	15	0	0	0	0	0	0	0
Legal Services	15	0	0	0	0	0	0	0

AQUA OHIO, INC.
WATER OPERATIONS
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2016 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account	Factor Ref.	Cost of Service	Residential	Commercial	Industrial	Public Authorities	Sales For Resale	Private Fire Protection
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Other Services	13	79,814	73,269	4,869	215	327	0	1,133
Insurance Other	15	100,289	74,093	12,416	5,456	3,630	3,009	1,685
Ins Gen Liab Oper AG	15	412,440	304,711	51,060	22,437	14,930	12,373	6,929
Ins Work Comp AG	16	171,015	120,668	23,155	10,996	7,234	6,139	2,822
Ins Other Oper AG	15	0	0	0	0	0	0	0
Vehicle and Other Insurance	15	0	0	0	0	0	0	0
Injuries & Damages	16		0	0	0	0	0	0
Employee Pension & Benefits	16	3,010,887	2,124,482	407,674	193,600	127,361	108,091	49,680
Reg Commision Exp	19	177,708	123,578	24,968	11,818	7,784	6,078	3,483
Rents AG	15	64,063	47,330	7,931	3,485	2,319	1,922	1,076
Printing and Postage	15	22,061	16,298	2,731	1,200	799	662	371
Misc General Expenses	15	4,387,731	3,241,655	543,201	238,693	158,836	131,632	73,714
Membership Fees	15	10,502	7,759	1,300	571	380	315	176
TOTAL A & G OPERATIONS		9,950,801	7,252,603	1,266,775	570,848	378,417	315,649	166,509
General Plant Maint AG - Labor	15	0	0	0	0	0	0	0
General Plant Maint AG	15	0	0	0	0	0	0	0
TOTAL A & G EXPENSE - MAINTENANCE		0	0	0	0	0	0	0
TOTAL A & G EXPENSE		9,950,801	7,252,603	1,266,775	570,848	378,417	315,649	166,509
Total Operation & Maintenance Expenses		24,844,556	17,469,713	3,320,188	1,653,713	1,025,565	1,028,676	346,701

AQUA OHIO, INC.
WATER OPERATIONS
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2016 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account	Factor Ref.	Cost of Service	Residential	Commercial	Industrial	Public Authorities	Sales For Resale	Private Fire Protection
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
DEPRECIATION EXPENSE								
Organization	15	649	480	80	35	24	19	11
Miscellaneous Intangible Plant	15	1,516,989	1,120,752	187,803	82,524	54,915	45,510	25,485
Struct & Imp SS	2	35,145	21,097	5,943	3,367	2,102	2,611	25
Collect & Impounding	1	302	170	52	35	18	27	0
Lake, River & Other Intakes	2	42,709	25,638	7,222	4,092	2,554	3,173	30
Wells & Springs	2	56,404	33,860	9,538	5,404	3,373	4,191	39
Infiltration Galleries & Tunnels	2	408	245	69	39	24	30	0
Supply Mains	2	8,887	5,335	1,503	851	531	660	6
Struct & Imp P	6	54,516	34,132	8,810	4,705	3,037	2,889	943
Power Generation Equip Other	6	131,657	82,431	21,276	11,362	7,333	6,978	2,278
Pump Equip Electric	6	257,458	161,194	41,605	22,219	14,340	13,645	4,454
Pump Equip Diesel	6	1,937	1,213	313	167	108	103	34
Hydraulic Pumping Equipment	6	6,742	4,221	1,090	582	376	357	117
Pump Equip Other	6	24,157	15,125	3,904	2,085	1,346	1,280	418
Struct & Imp WT	2	352,860	211,822	59,669	33,804	21,101	26,218	247
WT Equip Non-Media	2	776,965	466,412	131,385	74,433	46,463	57,729	544
Struct & Imp TD	7	15,250	10,240	2,307	1,121	767	255	560
Dist Reservoirs & Standpipe	5	256,261	178,101	39,695	19,809	13,607	0	5,048
Tank Painting	5	121,317	84,315	18,792	9,378	6,442	0	2,390
TD Mains	7	1,674,881	1,124,683	253,409	123,104	84,247	27,971	61,468
Services	10	781,636	635,236	66,048	6,019	8,051	391	65,892
Meters	9	457,785	376,025	58,459	10,117	11,948	1,236	0
Meter Installations	9	320,316	263,107	40,904	7,079	8,360	865	0
Hydrants	8	204,620	168,538	26,199	4,537	5,345	0	0
Other P/E TD	7	0	0	0	0	0	0	0
Struct & Imp Offices	15	130,015	96,055	16,096	7,073	4,707	3,900	2,184
Limited term Utility Plant Leasehold	15	4,313	3,187	534	235	156	129	72
Office Furniture & Equip	15	13,319	9,840	1,649	725	482	400	224
Comp & Periph Equip	15	28,421	20,998	3,519	1,546	1,029	853	477
Other Office Equipment	15	296,279	218,891	36,679	16,118	10,725	8,888	4,977
Trans Equip	15	297,451	219,757	36,824	16,181	10,768	8,924	4,997
Stores Equipment	15	0	0	0	0	0	0	0
Tools,Shop,Garage Equip	15	64,457	47,621	7,980	3,506	2,333	1,934	1,083
Laboratory Equipment	2	14,847	8,913	2,511	1,422	888	1,103	10

AQUA OHIO, INC.
WATER OPERATIONS
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2016 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account	Factor Ref.	Cost of Service	Residential	Commercial	Industrial	Public Authorities	Sales For Resale	Private Fire Protection
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Power Operated Equipment	15	86,978	64,259	10,768	4,732	3,149	2,609	1,461
Comm Equip Non-Telephone	15	209,702	154,928	25,961	11,408	7,591	6,291	3,523
Misc Equipment	15	15,949	11,783	1,975	868	577	478	268
Other Tangible Property	15	384	284	48	21	14	12	6
Total Depreciation Expense		8,261,968	5,880,887	1,130,617	490,700	338,830	231,659	189,273
Taxes Other Than Income								
Utility Reg Assessment Fee	19	78,552	54,625	11,037	5,224	3,441	2,686	1,540
Property Taxes	18	11,525,784	7,880,179	1,700,053	789,516	539,407	344,621	272,009
Payroll Taxes	16	686,980	484,733	93,017	44,173	29,059	24,663	11,335
Other Taxes & Licenses	15	156,339	115,503	19,355	8,505	5,659	4,690	2,626
Excise	19	3,123,959	2,172,401	438,916	207,743	136,829	106,839	61,230
Total Taxes, Other Than Income		15,571,614	10,707,441	2,262,378	1,055,161	714,395	483,500	348,739
Income Taxes	18	4,812,593	3,290,370	709,858	329,663	225,229	143,897	113,577
Utility Income Available for Return	18	12,954,578	8,857,045	1,910,800	887,389	606,274	387,342	305,728
Total Cost of Service		66,445,309	46,205,456	9,333,841	4,416,625	2,910,295	2,275,073	1,304,019
Less: Other Water Revenues								
Late Payment Fee	13	549,525	504,464	33,521	1,484	2,253	0	7,803
NSF Fees	13	3,344	3,070	204	9	14	0	47
Activation Fee	9	348,788	286,494	44,540	7,708	9,103	942	0
Reconnection Charges	9	146,197	120,086	18,669	3,231	3,816	395	0
Bulk Water	1	47,129	26,468	8,064	5,458	2,851	4,237	52
Sewer Billing	13	71,322	65,474	4,351	193	292	0	1,013
SIC	19	-	0	0	0	0	0	0
Total Other Water Revenues		1,166,305	1,006,056	109,349	18,082	18,330	5,573	8,915
Total Cost of Service Related to Sales of Water		$ 65,279,004	$ 45,199,401	$ 9,224,492	$ 4,398,543	$ 2,891,965	$2,269,500	$ 1,295,104

AQUA OHIO, INC.
WATER OPERATIONS

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 1. ALLOCATION OF COSTS WHICH VARY WITH THE AMOUNT OF WATER CONSUMED.

Factors are based on the pro forma test year average daily consumption for each customer classification.

Customer Classification	Average Daily Consumption, 100 Gals./Day	Allocation Factor 1
(1)	(2)	(3)
Residential*	101,972	0.5616
Commercial *	31,073	0.1711
Industrial	21,021	0.1158
Other Public Authority	10,990	0.0605
Sales for Resale	16,315	0.0899
Private Fire Protection	202	0.0011
Total	181,573	1.0000

FACTOR 2. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AND MAXIMUM DAY EXTRA CAPACITY FUNCTIONS.

Factors are based on the weighting of the factors for average daily consumption (Factor 1) and the factors derived from maximum day extra capacity demand for each customer classification, as follows:

	Average Daily Consumption		Maximum Day Extra Capacity		
Customer Classification	Allocation Factor 1	Weighted Factor	Allocation Factor	Weighted Factor	Allocation Factor 2
(1)	(2)	(3)=(2)x 0.6667	(4)	(5)=(4)x 0.3333	(6)=(3)+(5)
Residential	0.5616	0.3745	0.6774	0.2258	0.6003
Commercial	0.1711	0.1141	0.1651	0.0550	0.1691
Industrial	0.1158	0.0772	0.0558	0.0186	0.0958
Other Public Authority	0.0605	0.0403	0.0584	0.0195	0.0598
Sales for Resale	0.0899	0.0599	0.0433	0.0144	0.0743
Private Fire Protection	0.0011	0.0007			0.0007
Total	1.0000	0.6667	1.0000	0.3333	1.0000

The derivation of the maximum day extra capacity factors in column 4 and the basis for the column 3 and 5 weightings are presented on the following page.

* Includes estimated usaoe for unmetered customers.

AQUA OHIO, INC.
WATER OPERATIONS

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 2. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AND MAXIMUM DAY EXTRA CAPACITY FUNCTIONS, cont.

Customer Classification	Average Daily Consumption, 100 Gals.	Maximum Day Extra Capacity		
		Factor*	Rate of Flow, 100 Gals. Per Day	Allocation Factor
(1)	(2)	(3)	(4)=(2)x(3)	(5)
Residential	101,972.0	1.0	101,972.0	0.6774
Commercial	31,073.0	0.8	24,858.4	0.1651
Industrial	21,021.0	0.4	8,408.4	0.0558
Other Public Authority	10,990.0	0.8	8,792.0	0.0584
Sales for Resale	16,315.0	0.4	6,526.0	0.0433
Total	181,371.0		150,556.8	1.0000

The weighting of the factors is based on the maximum day ratio of 1.50, based on a review of maximum day ratios experienced during the period 2002 through 2015.

	Maximum Day Ratio	Weight
Average Day	1.00	0.6667
Maximum Day Extra Capacity	0.50	0.3333
Total	1.50	1.0000

* Ratio of maximum day to average day minus 1.0.

AQUA OHIO, INC.
WATER OPERATIONS

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 3. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE, MAXIMUM DAY EXTRA CAPACITY AND FIRE PROTECTION FUNCTIONS.

Factors are based on the weighting of the average daily consumption, the maximum day extra capacity demand, and the fire protection demand for each customer classification.

	Average Daily Consumption		Maximum Day Extra Capacity		Fire Protection		
Customer Classification	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	Allocation Factor
(1)	(2)	(3)=(2) X 0.5662	(4)	(5)=(4) X 0.2831	(6)	(7)=(6) X 0.1507	(8)=(3)+(5)+(7)
Residential	0.5616	0.3179	0.6774	0.1918	0.6761	0.1020	0.6117
Commercial	0.1711	0.0969	0.1651	0.0467	0.1051	0.0158	0.1594
Industrial	0.1158	0.0656	0.0558	0.0158	0.0182	0.0027	0.0841
Other Public Authority	0.0605	0.0343	0.0584	0.0165	0.0214	0.0032	0.0540
Sales for Resale	0.0899	0.0509	0.0433	0.0123			0.0632
Private Fire Protection	0.0011	0.0006			0.1792	0.0270	0.0276
Total	1.0000	0.5662	1.0000	0.2831	1.0000	0.1507	1.0000

AQUA OHIO, INC.
WATER OPERATIONS

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 3. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE, MAXIMUM DAY EXTRA CAPACITY AND FIRE PROTECTION FUNCTIONS, cont.

The weighting of the factors is based on the potential demand of general and fire protection service. The bases for the potential demand of general service are the maximum day ratio of 1.5 and the average daily system sendout for 2015 of 22.55 MGD. The system demand for fire protection is 10,000 Gallons per minute for 10 hours.

	Ratio	Rate of Flow, (GPD)	Weight
Average Day	1.00	22,550,000	0.5662
Maximum Day Extra Capacity	0.50	11,275,000	0.2831
Subtotal	1.50	33,825,000	0.8493
Fire Protection		6,000,000	0.1507
Total		39,825,000	1.0000

The public and private fire protection allocation factors in column 6 on the previous page are based on the relative potential demands (see Schedule E-3.2d).

AQUA OHIO, INC.
WATER OPERATIONS

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 4. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AND MAXIMUM HOUR EXTRA CAPACITY FUNCTIONS.

Factors are based on the weighting of the average daily consumption, the maximum day extra capacity demand, and the fire protection demand for each customer classification.

	Average Hourly Consumption			Maximum Hour Extra Capacity		Fire Protection		
Customer Classification	100 Gals.	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	Allocation Factor
(1)	(2)	(3)	(4)=(3) X 0.3462	(5)	(6)=(5) X 0.4327	(7)	(8)=(7) X 0.2211	(9)=(4)+(6)+(8)
Residential	4,248.83	0.6171	0.2137	0.7614	0.3295	0.6761	0.1496	0.6928
Commercial	1,294.71	0.1880	0.0651	0.1392	0.0602	0.1051	0.0232	0.1485
Industrial	875.88	0.1272	0.0440	0.0502	0.0217	0.0182	0.0040	0.0697
Other Public Authority	457.92	0.0665	0.0230	0.0492	0.0213	0.0214	0.0047	0.0490
Private Fire Protection	8.42	0.0012	0.0004			0.1792	0.0396	0.0400
Total	6,885.76	1.0000	0.3462	1.0000	0.4327	1.0000	0.2211	1.0000

The maximum hour extra capacity factors in column 5 are determined on the next page.

AQUA OHIO, INC.
WATER OPERATIONS

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 4. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AND MAXIMUM HOUR EXTRA CAPACITY FUNCTIONS, cont.

The weighting of the factors is based on the potential demand of general and fire protection service. The bases for the potential demand of general service are the maximum hour ratio of 2.0 and the average daily system sendout for 2015 of 22.55 MGD. The system demand for fire protection is 10,000 gallons per minute.

	Ratio	Rate of Flow, (GPM)	Weight
Average Hour	1.00	15,660	0.3462
Maximum Hour Extra Capacity	1.25	19,575	0.4327
Subtotal	2.25	35,235	0.7789
Fire Protection		10,000	0.2211
Total		45,235	1.0000

The maximum hour extra capacity factors in column 5 of the previous page are determined as follows:

Customer Classification	Average Hourly Consumption 100 Gals.	Maximum Hour Extra Capacity		
		Factor*	100 Gals. Per Hour	Allocation Factor
(1)	(2)	(3)	(4)=(2)x(3)	(5)
Residential	4,248.83	2.5	10,622.08	0.7614
Commercial	1,294.71	1.5	1,942.07	0.1392
Industrial	875.88	0.8	700.70	0.0502
Other Public Authority	457.92	1.5	686.88	0.0492
Total	6,877.34		13,951.73	1.0000

* Ratio of Maximum Hour To Average Hour Minus 1.0.

The public and private fire protection allocation factors in column 7 on the previous page are based on the relative potential demands (see Schedule E-3.2d).

AQUA OHIO, INC.
WATER OPERATIONS

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 5. ALLOCATION OF COSTS ASSOCIATED WITH STORAGE FACILITIES.

Factors are based on the weighting of the average hourly consumption, the maximum hour extra capacity demand, and the fire protection demand for each customer classification.

	Average Hourly Consumption			Maximum Hour Extra Capacity		Fire Protection		
Customer Classification	100 Gals.	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	Allocation Factor
(1)	(2)	(3)	(4)=(3) X 0.3969	(5)	(6)=(5) X 0.4962	(7)	(8)=(7) X 0.1069	(9)=(4)+(6)+(8)
Residential	4,248.8	0.6171	0.2449	0.7614	0.3778	0.6761	0.0723	0.6950
Commercial	1,294.7	0.1880	0.0746	0.1392	0.0691	0.1051	0.0112	0.1549
Industrial	875.9	0.1272	0.0505	0.0502	0.0249	0.0182	0.0019	0.0773
Other Public Authority	457.9	0.0665	0.0264	0.0492	0.0244	0.0214	0.0023	0.0531
Private Fire Protection	8.4	0.0012	0.0005			0.1792	0.0192	0.0197
Total	6,885.7	1.0000	0.3969	1.0000	0.4962	1.0000	0.1069	1.0000

The weighting of the factors is based on the ratio of the capacity required for a 10 hour demand of fire flow, as related to total storage capacity. The calculation is shown on the following page.

AQUA OHIO, INC.
WATER OPERATIONS

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 5. ALLOCATION OF COSTS ASSOCIATED WITH STORAGE FACILITIES, cont.

The weighting of the factors is based on the ratio of the capacity required for a 10 hour demand of fire flow, as related to total storage capacity.

Fire Protection Weight: $\frac{\text{10,000 GPM X 60 Min. X 10 Hrs.}}{\text{22,441,000 Gallons}}$ = 0.1069

General Service Weigh 1.0000 - 0.1069 = 0.8931

The weighting of the average hourly consumption and maximum hour extra demand for general service is based on the maximum hour ratio, as follows:

	Maximum Hour Ratio	Percent	Weight
Average Hour	1.00	44.44	0.3969
Extra Capacity Maximum Hour	1.25	55.56	0.4962
Total	2.25	100.00	0.8931

Customer Classification	Average Hourly Consumption 100 Gals.	Maximum Hour Extra Capacity		
		Factor*	100 Gals. Per Hour	Allocation Factor
(1)	(2)	(3)	(4)=(2)x(3)	(5)
Residential	4,248.83	2.5	10,622.08	0.7614
Commercial	1,294.71	1.5	1,942.06	0.1392
Industrial	875.88	0.8	700.70	0.0502
Other Public Authority	457.92	1.5	686.88	0.0492
Total	6,877.33		13,951.72	1.0000

* Ratio of Maximum Hour To Average Hour Minus 1.0.

AQUA OHIO, INC.
WATER OPERATIONS

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 6. ALLOCATION OF COSTS ASSOCIATED WITH POWER AND PUMPING FACILITIES.

Factors are based on the weighting of the maximum daily consumption, Factor 2, the maximum daily consumption with fire, Factor 3, and the maximum hour consumption, Factor 4, for each customer classification, as follows:

	Maximum Daily Consumption		Maximum Daily Consumption w/ Fire		Maximum Hourly Consumption		
Customer Classification	Allocation Factor 2	Weighted Factor	Allocation Factor 3	Weighted Factor	Allocation Factor 4	Weighted Factor	Allocation Factor
(1)	(2)	(3)=(2)X 0.5000	(4)	(5)=(4)X 0.2500	(6)	(7)=(6)X 0.2500	(8)=(3)+ (5)+(7)
Residential	0.6003	0.3000	0.6117	0.1529	0.6928	0.1732	0.6261
Commercial	0.1691	0.0846	0.1594	0.0399	0.1485	0.0371	0.1616
Industrial	0.0958	0.0479	0.0841	0.0210	0.0697	0.0174	0.0863
Other Public Authority	0.0598	0.0299	0.0540	0.0135	0.0490	0.0123	0.0557
Sales for Resale	0.0743	0.0372	0.0632	0.0158			0.0530
Private Fire Protection	0.0007	0.0004	0.0276	0.0069	0.0400	0.0100	0.0173
Total	1.0000	0.5000	1.0000	0.2500	1.0000	0.2500	1.0000

The weighting of the factors is based on the estimated percentage of pumps associated with maximum day facilities, maximum day and fire facilities, and maximum hour facilities, as follows:

	Weight
Associated with Maximum Day	0.5000
Associated with Maximum Day and Fire	0.2500
Associated with Maximum Hour	0.2500
Total	1.0000

AQUA OHIO, INC.
WATER OPERATIONS

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 7. ALLOCATION OF COSTS ASSOCIATED WITH TRANSMISSION AND DISTRIBUTION MAINS.

Factors are based on the weighting of the maximum daily consumption with fire, Factor 3, and the maximum hour consumption, Factor 4, for each customer classification, as follows:

	Maximum Daily Consumption w/ Fire		Maximum Hourly Consumption		
Customer Classification	Allocation Factor 3	Weighted Factor	Allocation Factor 4	Weighted Factor	Allocation Factor
(1)	(2)	(3)=(2)X 0.2638	(4)	(5)=(4)X 0.7362	(6)=(3)+(5)
Residential	0.6117	0.1614	0.6928	0.5101	0.6715
Commercial	0.1594	0.0420	0.1485	0.1093	0.1513
Industrial	0.0841	0.0222	0.0697	0.0513	0.0735
Other Public Authority	0.0540	0.0142	0.0490	0.0361	0.0503
Sales for Resale	0.0632	0.0167			0.0167
Private Fire Protection	0.0276	0.0073	0.0400	0.0294	0.0367
Total	1.0000	0.2638	1.0000	0.7362	1.0000

The weighting of the factors is based on a sample of the footage of mains, designated as either transmission mains or distribution mains, as follows:

	Footage of Mains	Weight
Transmission Mains	946,163	0.2638
Distribution Mains	2,639,878	0.7362
Total	3,586,041	1.0000

AQUA OHIO, INC.
WATER OPERATIONS

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 8. ALLOCATION OF COSTS ASSOCIATED WITH FIRE HYDRANTS.

Factors are based on the relative capacity of meters by size and customer classification, as developed on the following page and summarized.

Customer Classification	5/8" Equivalents	Allocation Factor
(1)	(2)	(3)
Residential	79,899	0.8237
Commercial	12,420	0.1280
Industrial	2,151	0.0222
Other Public Authority	2,534	0.0261
Total	97,004	1.0000

FACTOR 9. ALLOCATION OF COSTS ASSOCIATED WITH METERS.

Factors are based on the relative capacity of meters by size and customer classification, as developed on the following page and summarized below.

Customer Classification	5/8" Equivalents	Allocation Factor
(1)	(2)	(3)
Residential	79,899	0.8214
Commercial	12,420	0.1277
Industrial	2,151	0.0221
Other Public Authority	2,534	0.0261
Sales for Resale	265	0.0027
Private Fire	0	0.0000
Total	97,269	1.0000

AQUA OHIO, INC.
WATER OPERATIONS

BASIS FOR ALLOCATING METER COSTS TO CUSTOMER CLASSIFICATIONS

Meter Size	5/8" Equivalent	Residential		Commercial		Industrial		Other Public Authority		Sales for Resale		Total	
		Number of Meters	Weighting	Number of Meters	Weighting	Number of Meters	Weighting	Number of Meters	Weighting	Number of Meters	Weighting	Number of Meters	Weighting
(1)	(2)	(3)	(4)=(2)X(3)	(5)	(6)=(2)X(5)	(7)	(8)=(2)X(7)	(9)	(10)=(2)X(11)	(11)	(12)=(2)X(13)	(13)	(14)
5/8	1.0	77,076	77,076	3,480	3,480	53	53	95	95	0	0	80,704	80,704
3/4	1.5	79	119	59	89	0	0	4	6	0	0	142	214
1	2.5	416	1,040	882	2,205	48	120	69	173	0	0	1,415	3,538
1-1/2	5.0	264	1,320	339	1,695	28	140	43	215	0	0	674	3,370
2	8.0	33	264	397	3,176	58	464	95	760	0	0	583	4,664
3	15.0	2	30	29	435	6	90	13	195	1	15	51	765
4	25.0	2	50	7	175	15	375	16	400	2	50	42	1,050
6	50.0	0	0	7	350	7	350	2	100	4	200	20	1,000
8	80.0	0	0	0	0	2	160	0	0	0	0	2	160
Multi-Meters				46	815	21	399	21	590			88	1,804
Total		77,872	79,899	5,246	12,420	238	2,151	358	2,534	7	265	83,721	97,269

AQUA OHIO, INC.
WATER OPERATIONS

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 10. ALLOCATION OF COSTS ASSOCIATED WITH SERVICES.

Factors are based on the relative capacity of services by size and customer classification, as developed on the following page and summarized below.

Customer Classification (1)	3/4" Equivalents (2)	Allocation Factor (3)
Residential	78,851	0.8127
Commercial	8,199	0.0845
Industrial	749	0.0077
Other Public Authority	997	0.0103
Sales for Resale	47	0.0005
Private Fire Protection	8,180	0.0843
Total	97,023	1.0000

AQUA OHIO, INC.
WATER OPERATIONS

BASIS FOR ALLOCATING SERVICE COSTS TO CUSTOMER CLASSIFICATIONS

Service Size (1)	3/4" Equivalent (2)	Residential Number of Services (3)	Residential Weighting (4)=(2)X(3)	Commercial Number of Services (5)	Commercial Weighting (6)=(2)X(5)	Industrial Number of Services (7)	Industrial Weighting (8)=(2)X(7)	Other Public Authority Number of Services (9)	Other Public Authority Weighting (10)=(2)X(11)	Sales for Resale Number of Services (11)	Sales for Resale Weighting (12)=(2)X(13)	Private Fire Protection Number of Services (13)	Private Fire Protection Weighting (14)=(2)X(15)	Total Number of Services (15)	Total Weighting (16)
3/4	1.00	77,155	77,155	3,539	3,539	53	53	99	99	0	0	0	0	80,846	80,846
1	2.00	416	832	882	1,764	48	96	69	138	0	0	0	0	1,415	2,830
1-1/2	2.70	264	713	339	915	28	76	43	116	0	0	0	0	674	1,820
2	4.00	33	132	397	1,588	58	232	95	380	0	0	332	1,328	915	3,660
3	4.00	2	8	75	300	6	24	13	52	1	4	2	8	99	396
4	5.30	2	11	7	37	36	191	37	196	2	11	111	588	195	1,034
6	8.00	0	0	7	56	7	56	2	16	4	32	500	4,000	520	4,160
8	10.70	0	0	0	0	2	21	0	0	0	0	171	1,830	173	1,851
10	13.30	0	0	0	0	0	0	0	0	0	0	20	266	20	266
12	16.00	0	0	0	0	0	0	0	0	0	0	10	160	10	160
	Total	77,872	78,851	5,246	8,199	238	749	358	997	7	47	1,146	8,180	84,867	97,023

AQUA OHIO, INC.
WATER OPERATIONS

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 11. ALLOCATION OF TRANSMISSION AND DISTRIBUTION OPERATION SUPERVISION AND ENGINEERING AND MISCELLANEOUS EXPENSES.

Factors are based on transmission and distribution operation expenses other than those being allocated, as follows:

Customer Classification	Transmission & Distribution Operating Expenses	Allocation Factor
(1)	(2)	(3)
Residential	$ 1,033,500	0.6724
Commercial	232,316	0.1512
Industrial	112,475	0.0732
Other Public Authority	77,078	0.0501
Sales for Resale	25,533	0.0166
Private Fire Protection	56,056	0.0365
Total	$ 1,536,958	1.0000

FACTOR 12. ALLOCATION OF TRANSMISSION AND DISTRIBUTION MAINTENANCE SUPERVISION AND ENGINEERING, STRUCTURES AND IMPROVEMENTS, AND OTHER EXPENSES.

Factors are based on transmission and distribution maintenance expenses other than those being allocated, as follows:

Customer Classification	Transmission & Distribution Maintenance Expenses	Allocation Factor
(1)	(2)	(3)
Residential	$ 567,300	0.6852
Commercial	119,806	0.1448
Industrial	54,251	0.0655
Other Public Authority	37,856	0.0457
Sales for Resale	14,549	0.0176
Private Fire Protection	34,087	0.0412
Total	$ 827,850	1.0000

AQUA OHIO, INC.
WATER OPERATIONS

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 13. ALLOCATION OF BILLING AND COLLECTING COSTS.

Factors are based on the total number of bills.

Customer Classification	Total Bills	Allocation Factor
(1)	(2)	(3)
Residential (includes unmetered)	948,447	0.9180
Commercial (included unmetered)	63,021	0.0610
Industrial	2,822	0.0027
Other Public Authority	4,281	0.0041
Sales for Resale	48	0.0000
Private Fire Protection	14,664	0.0142
Total	1,033,283	1.0000

FACTOR 14. ALLOCATION OF METER READING COSTS.

Factors are based on the number of metered bills.

Customer Classification	Number of Metered Bills	Allocation Factor
(1)	(2)	(3)
Residential	948,447	0.9311
Commercial	63,021	0.0619
Industrial	2,822	0.0028
Other Public Authority	4,281	0.0042
Sales for Resale	48	0.0000
Total	1,018,619	1.0000

AQUA OHIO, INC.
WATER OPERATIONS

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 15. ALLOCATION OF ADMINISTRATIVE AND GENERAL EXPENSES AND CASH WORKING CAPITAL.

Factors are based on the allocation of all other operation and maintenance expenses excluding purchased water, power, chemicals and waste disposal.

Customer Classification	Operation & Maintenance Expenses	Allocation Factor
(1)	(2)	(3)
Residential	$7,725,267	0.7388
Commercial	1,294,235	0.1238
Industrial	569,055	0.0544
Other Public Authority	378,707	0.0362
Sales for Resale	314,137	0.0300
Private Fire Protection	175,311	0.0168
Total	$10,456,711	1.0000

AQUA OHIO, INC.
WATER OPERATIONS

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 16. ALLOCATION OF LABOR RELATED TAXES AND BENEFITS.

Factors are based on the allocation of direct labor expense.

Customer Classification	Direct Labor Expense	Allocation Factor
(1)	(2)	(3)
Residential	$4,526,732	0.7056
Commercial	868,554	0.1354
Industrial	412,108	0.0643
Other Public Authority	271,010	0.0423
Sales for Resale	229,993	0.0359
Private Fire Protection	105,691	0.0165
Total	$6,414,089	1.0000

FACTOR 17. ALLOCATION OF ORGANIZATION, FRANCHISES AND CONSENTS, MISCELLANEOUS INTANGIBLE PLANT AND OTHER RATE BASE ELEMENTS.

Factors are based on the allocation of the original cost less depreciation other than those items being allocated, as follows:

Customer Classification	Original Cost Less Depreciation	Allocation Factor
(1)	(2)	(3)
Residential	$130,176,078	0.6833
Commercial	28,157,349	0.1479
Industrial	13,079,729	0.0687
Other Public Authority	8,942,700	0.0470
Sales for Resale	5,595,956	0.0294
Private Fire Protection	4,512,653	0.0237
Total	$190,464,466	1.0000

AQUA OHIO, INC.
WATER OPERATIONS

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 18. ALLOCATION OF INCOME TAXES AND INCOME AVAILABLE FOR RETURN.

Factors are based on the allocation of the original cost measure of value rate base as shown on the following pages and summarized below.

Customer Classification	Original Cost Measure of Value	Allocation Factor
(1)	(2)	(3)
Residential	$115,485,676	0.6837
Commercial	24,913,804	0.1475
Industrial	11,565,790	0.0685
Other Public Authority	7,901,311	0.0468
Sales for Resale	5,044,753	0.0299
Private Fire Protection	3,987,917	0.0236
Total	$168,899,251	1.0000

FACTOR 19. ALLOCATION OF REGULATORY COMMISSION EXPENSES, ASSESSMENTS AND OTHER WATER REVENUES.

The factors are based on the allocation of the total cost of service, excluding those items being allocated.

Customer Classification	Total Cost of Service	Allocation Factor
(1)	(2)	(3)
Residential	$43,854,852	0.6954
Commercial	8,858,920	0.1405
Industrial	4,191,841	0.0665
Other Public Authority	2,762,241	0.0438
Sales for Resale	2,159,470	0.0342
Private Fire Protection	1,237,767	0.0196
Total	$63,065,090	1.0000

AQUA OHIO, INC.
WATER OPERATIONS
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2016 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account	Factor Ref.	Cost of Service	Residential	Commercial	Industrial	Public Authorities	Sales For Resale	Private Fire Protection
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
RATE BASE								
Organization	17	$ 127,954	$ 87,431	$ 18,924	$ 8,790	$ 6,014	$ 3,762	$ 3,033
Franchises	17	11,179	7,639	1,653	768	525	329	265
Miscellaneous	17	5,414,356	3,699,630	800,783	371,966	254,475	159,182	128,320
Land & Ld Rights SS	2	1,188,626	713,532	200,997	113,870	71,080	88,315	832
Struct & Imp SS	2	1,045,026	627,329	176,714	100,113	62,493	77,645	732
Collect & Impounding	1	22,475	12,622	3,846	2,603	1,360	2,021	25
Lake, River & Other Intakes	2	1,363,359	818,424	230,544	130,610	81,529	101,298	954
Infiltration Galleries & Tunnels	2	23,009	13,812	3,891	2,204	1,376	1,710	16
Wells & Springs	2	1,295,809	777,874	219,121	124,139	77,489	96,279	907
Supply Mains	2	422,774	253,791	71,491	40,502	25,282	31,412	296
Land & Ld Rights P	6	58,344	36,529	9,428	5,035	3,250	3,092	1,009
Struct & Imp P	6	1,444,607	904,468	233,448	124,670	80,465	76,564	24,992
Power Generation Equip Other	6	3,016,541	1,888,657	487,473	260,328	168,021	159,877	52,186
Pump Equip Electric	6	6,071,888	3,801,609	981,217	524,004	338,204	321,810	105,044
Pump Equip Diesel	6	23,035	14,422	3,722	1,988	1,283	1,221	399
Pump Equip Hydraulic	6	236,279	147,935	38,183	20,391	13,161	12,523	4,088
Pump Equip Other	6	896,030	561,004	144,798	77,327	49,909	47,490	15,501
Land & Ld Rights WT	2	499,778	300,017	84,512	47,879	29,887	37,134	350
Struct & Imp WT	2	13,903,069	8,346,012	2,351,009	1,331,914	831,404	1,032,998	9,732
WT Equip Non-Media	2	23,836,835	14,309,252	4,030,809	2,283,569	1,425,443	1,771,077	16,686
Land & Ld Rights TD	7	786,092	527,861	118,936	57,778	39,540	13,128	28,850
Struct & Imp TD	7	497,646	334,169	75,294	36,577	25,032	8,311	18,264
Dist Reservoirs & Standpipe	5	11,120,193	7,728,534	1,722,518	859,591	590,482	0	219,068
TD Mains	7	77,521,395	52,055,617	11,728,987	5,697,823	3,899,326	1,294,607	2,845,035
Services	10	11,461,043	9,314,390	968,458	88,250	118,049	5,731	966,166
Meters	9	5,017,810	4,121,629	640,774	110,894	130,965	13,548	0
Meter Installations	9	8,550,467	7,023,354	1,091,895	188,965	223,167	23,086	0
Hydrants	8	7,967,233	6,562,348	1,020,092	176,668	208,125	0	0
Other P/E TD	7	0	0	0	0	0	0	0
Land & Land Rights AG	15	526,258	388,800	65,151	28,628	19,051	15,788	8,841
Struct & Imp Store,Shop,Gar	15	4,784,715	3,534,948	592,348	260,289	173,207	143,541	80,383
Limited Term Utility Plant	15	62,273	46,007	7,709	3,388	2,254	1,868	1,046
Office Furniture & Equip	15	167,869	124,022	20,782	9,132	6,077	5,036	2,820
Comp & Periph Equip	15	168,487	124,478	20,859	9,166	6,099	5,055	2,831

AQUA OHIO, INC.
WATER OPERATIONS
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2016 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account	Factor Ref.	Cost of Service	Residential	Commercial	Industrial	Public Authorities	Sales For Resale	Private Fire Protection
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Office Machines and Equipment	15	236,686	174,864	29,302	12,876	8,568	7,101	3,976
Trans Equip	15	2,239,735	1,654,716	277,279	121,842	81,078	67,192	37,628
Stores Equipment	15	5,785	4,274	716	315	209	174	97
Tools,Shop,Garage Equip	15	1,006,025	743,251	124,546	54,728	36,418	30,181	16,901
Laboratory Equipment	2	208,337	125,065	35,230	19,959	12,459	15,479	146
Power Operated Equipment	15	704,804	520,709	87,255	38,341	25,514	21,144	11,841
Comm Equip Non-Telephone	15	1,907,000	1,408,892	236,087	103,741	69,033	57,210	32,038
Misc Equipment	15	177,126	130,861	21,928	9,636	6,412	5,314	2,976
Other Tangible Property	17	(74,999)	(51,247)	(11,092)	(5,152)	(3,525)	(2,205)	(1,777)
Total Utility Plant in Service		195,942,957	133,919,531	28,967,618	13,456,101	9,200,189	5,757,024	4,642,494
Other Rate Base Items								
Other Utility Plant Adjustments	17		0	0	0	0	0	0
Reg Asset Deferred Depr.	17	(37,124)	(25,367)	(5,491)	(2,550)	(1,745)	(1,091)	(880)
Reg Asset Deferred Other	15	(40,540)	(29,951)	(5,019)	(2,205)	(1,468)	(1,216)	(681)
Investment Tax Credits	17	4,085	2,791	604	281	192	120	97
Deferred Pension and OPEB	16		0	0	0	0	0	0
Tank Painting Reserve	5	2,142,521	1,489,052	331,877	165,617	113,768	0	42,208
Deferred Income Taxes	17	27,978,178	19,117,489	4,137,973	1,922,101	1,314,974	822,558	663,083
Reg Asset - Deferred FIT	17	42,629	29,128	6,305	2,929	2,004	1,253	1,010
Reg Asset - Pensions & Post Ret.	16	(3,046,044)	(2,149,289)	(412,434)	(195,861)	(128,848)	(109,353)	(50,260)
Total Other Rate Base Elements		27,043,706	18,433,855	4,053,814	1,890,311	1,298,878	712,271	654,577
Total Original Cost Measure of Value		$ 168,899,251	$115,485,676	$ 24,913,804	$11,565,790	$ 7,901,311	$5,044,753	$ 3,987,917

AQUA OHIO, INC.
WATER OPERATIONS

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 20. ALLOCATION OF UNCOLLECTIBLE ACCOUNTS.

Factors are based on the total number of customers.

Customer Classification	Total Customers	Allocation Factor
(1)	(2)	(3)
Residential	79,037	0.9180
Commercial	5,252	0.0610
Industrial	235	0.0027
Other Public Authority	357	0.0041
Sales for Resale	4	0.0000
Private Fire Protection	1,222	0.0142
Total	86,107	1.0000

AQUA OHIO, INC.
WATER OPERATIONS

BASIS FOR ALLOCATING DEMAND RELATED COSTS OF FIRE SERVICE TO PRIVATE AND PUBLIC FIRE PROTECTION CUSTOMER CLASSIFICATIONS

Description		Restrictive Diameters Squared	Quantity	Relative Demand*	Allocation Factor
(1)		(2)	(3)	(4)=(2)x(3)	(5)
PRIVATE FIRE PROTECTION					
Fire Lines					
2 -inch		4.00	332	1,328	
2.5 -inch		6.25	121	756	
3 -inch		9.00	2	18	
4 -inch		16.00	111	1,776	
6 -inch		36.00	500	18,000	
8 -inch		64.00	171	10,944	
10 -inch		100.00	20	2,000	
12 -inch		144.00	10	1,440	
Private Hydrants		32.75	886	29,017	
Total Private Fire Protection			2,153	65,279	0.1792
PUBLIC FIRE PROTECTION					
	Nozzle Sizes				
6" Valve	2- 2-1/2" & 1 - 4.5"	32.75	9,127	298,909	
Total Public Fire Protection			9,127	298,909	0.8208
Total Fire Protection			11,280	364,188	1.0000

REALLOCATE PUBLIC FIRE	Meter Equivalents	Factor 8, Allocation of Public Fire	Allocation of Public Fire Using Factor
Residential	79,899	0.8237	0.6761
Commercial	12,420	0.1280	0.1051
Industrial	2,151	0.0222	0.0182
Other Public Authority	2,534	0.0261	0.0214
	97,004	1.0000	0.8208

AQUA OHIO, INC.

Calculation of Customer Charge - Water Only
Using PUCO Staff Methodology

	Account Description		STAFF
Variable Costs per Meter Size			
	Plant Accounts		
345	Services		$27,671,549
346	Meters		10,395,686
347	Meter installations		10,544,698
389	Land and land rights		77,996
390	Office Structures and Improvements		5,904,521
391	Office Furniture and Equipment		1,244,694
348	Hydrants		0
	Total Customer Plant		55,839,145
	Less Related Depreciation Reserve		
345	Services		14,670,437
346	Meters		5,072,984
347	Meter installations		1,994,231
389	Land and land rights		0
390	Office Structures and Improvements		1,716,041
391	Office Furniture and Equipment		2,620,694
348	Hydrants		0
	Total Customer Depreciation Reserve		26,074,387
	Total "Customer Rate Base"		$29,764,758
	Rate of Return		7.67%
(1)	Return on "Customer Rate Base"		$ 2,282,958
Operation and Maintenance Expense Accounts:			
	Transmission & Distribution		
663	Meter Expense		$ 9,558
664	Meter Installation Expense		0
675	Service Maintenance		59,219
676	Meter & Meter Installation Expense		0
677	Hydrant Expense		0
(2)	Total Operation & Maintenance Expense Accounts		$ 68,778
	Variable Taxes Per Meter Size		
	Property Taxes		$11,525,784
	Gross Receipts Taxes		3,123,959
	PUCO & OCC Taxes		78,552
	Federal Income Taxes		4,812,593
	Total Variable Taxes		$19,540,888
	Multiplied by Customer Conversion Factor:		
	"Customer Rate Base"/Total Rate Base =	$29,764,758 / $168,899,251	17.62%
(3)	Total Customer Variable Taxes		$ 3,443,649

AQUA OHIO, INC.

Calculation of Customer Charge - Water Only
Using PUCO Staff Methodology

	Account Description			STAFF
Depreciation Expense Accounts				
	Plant Accounts			
345	Services			$ 781,636
346	Meters			457,785
347	Meter Installations			320,316
389	A&G Land			0
390	Office Structures and Improvements			130,015
391	Office Furniture & Equipment			338,019
348	Hydrants			0
(4)	Total Customer Plant Depreciation Expense			$ 2,027,771
	Summary of Variable Expenses Per Meter Size			
(1)	Return on "Customer Rate Base"			$ 2,282,958
(2)	Total Operation & Maintenance Expense Accounts			68,778
(3)	Total Customer Variable Taxes			3,443,649
(4)	Total Customer Plant Depreciation Expense			2,027,771
	Total Variable Expenses			$ 7,823,156
	Total Equivalent Monthly Meters	97,269 X	12	1,167,228
(a)	Monthly Customer Variable Cost			$ 6.702
Fixed Costs Per Meter Size				
	Customer Accounting Expenses			
901	Supervision			$ -
902	Meter Reading Expenses			0
903	Customer Records Labor			1,242,500
903-905	Other Customer Expense			1,888,097
(5)	Total Customer Accounting Expenses			$ 3,130,596
	Customer Payroll Related Costs			
	Payroll Related Taxes and Employee Benefits			$ 3,697,867
	Multiplied by Customer Conversion Factor			
	Customer Acct. Payroll/Total O&M Payroll =	$ 1,242,500 /	$ 6,414,089	19.37%
(6)	Total Customer Payroll Taxes and Employee Benefits			$ 716,277
	Summary of Customer Fixed Expense			
(5)	Total Customer Accounting Expenses			$ 3,130,596
(6)	Total Customer Payroll Taxes and Employee Benefits			716,277
	Total Fixed Expense			$ 3,846,873
	Divide by Total Annual Customer Bills			1,018,619
(b)	Monthly Customer Fixed Costs			$ 3.777
Summary of Fixed and Variable Costs				
(a)	Monthly Customer Variable Costs			$ 6.702
(b)	Monthly Customer Fixed Costs			$ 3.777
	Total Monthly Customer Costs			$ 10.479
	Proposed Monthly Customer Charge			$ 10.00