

MISSOURI-AMERICAN WATER COMPANY

JOPLIN DISTRICT

PSC STAFF STUDY

COMPARISON OF COST OF SERVICE WITH REVENUES UNDER PRESENT AND PROPOSED RATES
FOR THE TEST YEAR ENDED DECEMBER 31, 2002

Customer Classification (1)	Cost of Service		Revenues, Present Rates		Revenues, Proposed Rates		Proposed Increase	
	Amount (Schedule B) (2)	Percent (3)	Amount (4)	Percent (5)	Amount (6)	Percent (7)	Amount (8)	Percent Increase (9)
Residential	\$ 3,558,583	52.8%	\$ 4,183,872	51.9%	\$ 3,558,582	52.8%	\$ (625,290)	-14.9%
Commercial	1,339,069	19.8%	\$ 1,647,603	20.4%	\$ 1,339,069	19.9%	(308,534)	-18.7%
Industrial	1,215,316	18.0%	\$ 1,410,520	17.5%	\$ 1,215,316	18.0%	(195,204)	-13.8%
Public Authority	149,852	2.2%	\$ 207,180	2.6%	\$ 149,853	2.2%	(57,327)	-27.7%
Sales for Resale	336,944	5.0%	\$ 423,521	5.2%	\$ 336,944	5.0%	(86,577)	-20.4%
Private Fire Service	134,728	2.0%	\$ 196,627	2.4%	\$ 134,729	1.9%	(61,898)	-31.5%
Public Fire Service	-	0.0%	-	0.0%	-	0.0%	-	-
Total Sales	6,734,492	<u>99.8%</u>	8,069,323	<u>100.0%</u>	6,734,493	<u>99.8%</u>	(1,334,830)	-16.5%
Other Revenues	<u>170,992</u>		<u>170,992</u>		<u>170,992</u>		-	0.0%
Total	<u>\$ 6,905,484</u>		<u>\$ 8,240,315</u>		<u>\$ 6,905,485</u>		<u>\$ (1,334,830)</u>	-16.2%
True-Up Estimate	\$520,589				\$520,589		\$520,589	
Total w/ True-up	<u>7,426,073</u>				<u>\$ 7,426,074</u>		<u>\$ (814,241)</u>	-9.9%

Test Year Operating Revenues at Present Rates vs Proposed Rates
12 Month Test Period Ended December 31, 2002

Missouri Public Service Commission
 Company: Missouri-American Water Company
 District: Joplin

Case No. WR-2003-0500
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Line #	Class/ Description	Present Pro Forma Rates		Proposed Pro Forma Rates		Dollar Change	Percentage Change
		Sales ('000 Gal)	Total Revenue	Sales ('000 Gal)	Total Revenue		
1							
2	Monthly Billing:						
3							
4	Residential	1,406,832	\$4,183,872	1,406,832	\$3,558,582	(\$625,290)	-14.95%
5	Commercial	975,470	1,647,603	975,470	1,339,069	(308,534)	-18.73%
6	Industrial	1,668,258	1,410,520	1,668,258	1,215,316	(195,204)	-13.84%
7	Other Public Authority	114,029	207,180	114,029	149,853	(57,327)	-27.67%
8	Other Water Utilities	318,678	423,521	318,678	336,944	(86,577)	-20.44%
9	Miscellaneous	0	0	0	0	0	0.00%
10	Private Fire	0	196,627	0	134,729	(61,898)	-31.48%
11	Public Fire	0	0	0	0	0	0.00%
12	Total	<u>4,483,266</u>	<u>8,069,323</u>	<u>4,483,266</u>	<u>6,734,493</u>	<u>(\$1,334,830)</u>	<u>-16.54%</u>
13							
14							
15	Miscellaneous Revenues:						
16							
17	Reconnect Charges		12,720		12,720	0	0.00%
18	Returned Check Charge		4,683		4,683	0	0.00%
19	Application Fee		148,840		148,840	0	0.00%
20	Miscellaneous Other Revenue		4,749		4,749	0	0.00%
21	Rents from Water Property		0		0	0	0.00%
22							
23							
24			<u>\$8,240,315</u>		<u>\$6,905,485</u>	<u>(1,334,830)</u>	<u>-16.20%</u>
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**Test Year Operating Revenues at Present Rates vs Proposed Rates
12 Month Test Period Ended December 31, 2002**

Missouri Public Service Commission
Company: Missouri-American Water Company
District: Joplin

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Line #	Class/ Description	Present Pro Forma Rates				Proposed Pro Forma Rates				Dollar Change	Percentage Change
		Customer Meter Billings	Sales (^{'000} Gal)	Current Rate	Total Revenue	Customer Meter Billings	Sales (^{'000} Gal)	Proposed Rate	Total Revenue		
1											
2	Residential:										
3	<u>Minimum Charge:</u>										
4	5/8" Monthly	208,286		\$7.08	\$1,474,665	208,286		\$ 8.14	\$1,694,710	\$220,045	14.92%
5	3/4" Monthly	197		9.06	1,785	197		\$ 8.68	1,710	(75)	-4.20%
6	1" Monthly	23,981		12.84	307,916	23,981		\$ 9.69	232,312	(75,604)	-24.55%
7	1-1/2" Monthly	17		22.33	380	17		\$ 13.63	232	(148)	-38.95%
8	2" Monthly	176		33.71	5,933	176		\$ 15.84	2,788	(3,145)	-53.01%
9	3" Monthly	0		60.24	0	0		\$ 43.66	0	0	0.00%
10	4" Monthly	0		98.15	0	0		\$ 62.61	0	0	0.00%
11	6" Monthly	0		192.93	0	0		\$ 99.52	0	0	0.00%
12	8" Monthly	0		306.65	0	0		\$ 221.11	0	0	0.00%
13	10" Monthly	0		520.92	0	0		0.00	0	0	0.00%
14	12" Monthly	0		859.27	0	0		0.00	0	0	0.00%
15											
16											
17	<u>Volumetric Charges:</u>										
18	First Block		1,403,493	\$1.7029	2,390,008		1,403,493	\$1.1564	1,622,969	(767,039)	-32.09%
19	Second Block		3,339	0.9540	3,185		3,339	1.1564	3,861	676	21.22%
20	Third Block		0	0.7363	0		0	1.1564	0	0	0.00%
21	Fourth Block		0	0.4957	0		0	1.1564	0	0	0.00%
22											
23											
24	Total		<u>1,406,832</u>		<u>\$4,183,872</u>		<u>1,406,832</u>		<u>\$3,558,582</u>	<u>(\$625,290)</u>	<u>-14.95%</u>
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Test Year Operating Revenues at Present Rates vs Proposed Rates
12 Month Test Period Ended December 31, 2002

Missouri Public Service Commission
 Company: Missouri-American Water Company
 District: Joplin

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Line #	Class/ Description	Present Pro Forma Rates				Proposed Pro Forma Rates				Dollar Change	Percentage Change
		Customer Meter Billings	Sales ('000 Gal)	Current Rate	Total Revenue	Customer Meter Billings	Sales ('000 Gal)	Proposed Rate	Total Revenue		
1											
2	Commercial:										
3	<u>Minimum Charge:</u>										
4	5/8" Monthly	25,326		\$7.08	\$179,308	25,326		\$ 8.14	\$206,064	\$26,756	14.92%
5	3/4" Monthly	157		9.06	1,422	157		\$ 8.68	1,363	(59)	-4.15%
6	1" Monthly	6,028		12.84	77,400	6,028		\$ 9.69	58,395	(19,005)	-24.55%
7	1-1/2" Monthly	203		22.33	4,533	203		\$ 13.63	2,767	(1,766)	-38.96%
8	2" Monthly	3,290		33.71	110,906	3,290		\$ 15.84	52,117	(58,789)	-53.01%
9	3" Monthly	0		60.24	0	0		\$ 43.66	0	0	0.00%
10	4" Monthly	110		98.15	10,797	110		\$ 62.61	6,887	(3,910)	-36.21%
11	6" Monthly	66		192.93	12,733	66		\$ 99.52	6,568	(6,165)	-48.42%
12	8" Monthly	4		306.65	1,227	4		\$ 221.11	884	(343)	-27.95%
13	10" Monthly	0		520.92	0	0		0.00	0	0	0.00%
14	12" Monthly	0		859.27	0	0		0.00	0	0	0.00%
15											
16											
17	<u>Volumetric Charges:</u>										
18	First Block		483,167	\$1.6931	818,050		483,167	\$1.0293	497,310	(320,740)	-39.21%
19	Second Block		390,065	0.9485	369,977		390,065	1.0293	401,483	31,506	8.52%
20	Third Block		45,407	0.7320	33,238		45,407	1.0293	46,736	13,498	40.61%
21	Fourth Block		56,831	0.4929	28,012		56,831	1.0293	58,495	30,483	108.82%
22											
23											
24	Total		<u>975,470</u>		<u>\$1,647,603</u>		<u>975,470</u>		<u>\$1,339,069</u>	<u>(\$308,534)</u>	<u>-18.73%</u>
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**Test Year Operating Revenues at Present Rates vs Proposed Rates
12 Month Test Period Ended December 31, 2002**

Missouri Public Service Commission
Company: Missouri-American Water Company
District: Joplin

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Line #	Class/ Description	Present Pro Forma Rates				Proposed Pro Forma Rates				Dollar Change	Percentage Change
		Customer Meter Billings	Sales ('000 Gal)	Current Rate	Total Revenue	Customer Meter Billings	Sales ('000 Gal)	Proposed Rate	Total Revenue		
1											
2	Industrial:										
3	<u>Minimum Charge:</u>										
4	5/8" Monthly	108		\$7.08	\$765	108		\$ 8.14	\$879	\$114	14.90%
5	3/4" Monthly	24		9.06	217	24		\$ 8.68	208	(9)	-4.15%
6	1" Monthly	202		12.84	2,594	202		\$ 9.69	1,957	(637)	-24.56%
7	1-1/2" Monthly	24		22.33	536	24		\$ 13.63	327	(209)	-38.99%
8	2" Monthly	427		33.71	14,394	427		\$ 15.84	6,764	(7,630)	-53.01%
9	3" Monthly	0		60.24	0	0		\$ 43.66	0	0	0.00%
10	4" Monthly	192		98.15	18,845	192		\$ 62.61	12,020	(6,825)	-36.22%
11	6" Monthly	73		192.93	14,084	73		\$ 99.52	7,265	(6,819)	-48.42%
12	8" Monthly	14		306.65	4,293	14		\$ 221.11	3,096	(1,197)	-27.88%
13	10" Monthly	0		520.92	0	0		0.00	0	0	0.00%
14	12" Monthly	1		859.27	859	1		0.00	0	(859)	-100.00%
15											
16											
17	<u>Volumetric Charges:</u>										
18	First Block		47,541	\$2.1352	101,510		47,541	\$0.7090	33,707	(67,803)	-66.79%
19	Second Block		327,504	1.1961	391,728		327,504	0.7090	232,201	(159,527)	-40.72%
20	Third Block		188,503	0.9231	174,007		188,503	0.7090	133,649	(40,358)	-23.19%
21	Fourth Block		1,104,710	0.6216	686,688		1,104,710	0.7090	783,243	96,555	14.06%
22											
23											
24	Total		<u>1,668,258</u>		<u>\$1,410,520</u>		<u>1,668,258</u>		<u>\$1,215,316</u>	<u>(\$195,204)</u>	<u>-13.84%</u>
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Test Year Operating Revenues at Present Rates vs Proposed Rates
12 Month Test Period Ended December 31, 2002

Missouri Public Service Commission
 Company: Missouri-American Water Company
 District: Joplin

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Line #	Class/ Description	Present Pro Forma Rates				Proposed Pro Forma Rates				Dollar Change	Percentage Change
		Customer Meter Billings	Sales (^{'000} Gal)	Current Rate	Total Revenue	Customer Meter Billings	Sales (^{'000} Gal)	Proposed Rate	Total Revenue		
1											
2	Other Public Authority:										
3	<u>Minimum Charge:</u>										
4	5/8" Monthly	445		\$7.08	\$3,151	445		\$ 8.14	\$3,621	\$470	14.92%
5	3/4" Monthly	34		9.06	308	34		\$ 8.68	295	(13)	-4.22%
6	1" Monthly	559		12.84	7,178	559		\$ 9.69	5,415	(1,763)	-24.56%
7	1-1/2" Monthly	36		22.33	804	36		\$ 13.63	491	(313)	-38.93%
8	2" Monthly	612		33.71	20,631	612		\$ 15.84	9,695	(10,936)	-53.01%
9	3" Monthly	0		60.24	0	0		\$ 43.66	0	0	0.00%
10	4" Monthly	48		98.15	4,711	48		\$ 62.61	3,005	(1,706)	-36.21%
11	6" Monthly	0		192.93	0	0		\$ 99.52	0	0	0.00%
12	8" Monthly	48		306.65	14,719	48		\$ 221.11	10,613	(4,106)	-27.90%
13	10" Monthly	0		520.92	0	0		0.00	0	0	0.00%
14	12" Monthly	0		859.27	0	0		0.00	0	0	0.00%
15											
16											
17	<u>Volumetric Charges:</u>										
18	First Block		45,806	\$1.8663	85,487		45,806	\$1.0236	46,886	(38,601)	-45.15%
19	Second Block		64,368	1.0455	67,297		64,368	1.0236	65,886	(1,411)	-2.10%
20	Third Block		3,036	0.8068	2,449		3,036	1.0236	3,108	659	26.91%
21	Fourth Block		819	0.5433	445		819	1.0236	838	393	88.31%
22											
23											
24	Total		<u>114,029</u>		<u>\$207,180</u>		<u>114,029</u>		<u>\$149,853</u>	<u>(\$57,327)</u>	<u>-27.67%</u>
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Test Year Operating Revenues at Present Rates vs Proposed Rates
12 Month Test Period Ended December 31, 2002

Missouri Public Service Commission
 Company: Missouri-American Water Company
 District: Joplin

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Line #	Class/ Description	Present Pro Forma Rates				Proposed Pro Forma Rates				Dollar Change	Percentage Change
		Customer Meter Billings	Sales ('000 Gal)	Current Rate	Total Revenue	Customer Meter Billings	Sales ('000 Gal)	Proposed Rate	Total Revenue		
1											
2	Other Water Utilities:										
3	<u>Minimum Charge:</u>										
4	5/8" Monthly	0		\$7.08	\$0	0		\$ 8.14	\$0	\$0	0.00%
5	3/4" Monthly	0		9.06	0	0		\$ 8.68	0	0	0.00%
6	1" Monthly	13		12.84	167	13		\$ 9.69	126	(41)	-24.55%
7	1-1/2" Monthly	0		22.33	0	0		\$ 13.63	0	0	0.00%
8	2" Monthly	129		33.71	4,349	129		\$ 15.84	2,043	(2,306)	-53.02%
9	3" Monthly	0		60.24	0	0		\$ 43.66	0	0	0.00%
10	4" Monthly	2		98.15	196	2		\$ 62.61	125	(71)	-36.22%
11	6" Monthly	22		192.93	4,244	22		\$ 99.52	2,189	(2,055)	-48.42%
12	8" Monthly	23		306.65	7,053	23		\$ 221.11	5,086	(1,967)	-27.89%
13	10" Monthly	0		520.92	0	0		0.00	0	0	0.00%
14	12" Monthly	0		859.27	0	0		0.00	0	0	0.00%
15											
16											
17	<u>Volumetric Charges:</u>										
18	First Block		16,074	\$2.6169	42,064		16,074	\$1.0273	16,513	(25,551)	-60.74%
19	Second Block		143,115	1.4660	209,807		143,115	1.0273	147,021	(62,786)	-29.93%
20	Third Block		92,383	1.1313	104,513		92,383	1.0273	94,904	(9,609)	-9.19%
21	Fourth Block		67,106	0.7619	51,128		67,106	1.0273	68,937	17,809	34.83%
22											
23											
24	Total		<u>318,678</u>		<u>\$423,521</u>		<u>318,678</u>		<u>\$336,944</u>	<u>(\$86,577)</u>	<u>-20.44%</u>
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Test Year Operating Revenues at Present Rates vs Proposed Rates
12 Month Test Period Ended December 31, 2002

Missouri Public Service Commission
 Company: Missouri-American Water Company
 District: Joplin

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Line #	Class/ Description	Present Pro Forma Rates				Proposed Pro Forma Rates				Dollar Change	Percentage Change
		Customer Meter Billings	Sales (000 Gal)	Current Rate	Total Revenue	Customer Meter Billings	Sales (000 Gal)	Proposed Rate	Total Revenue		
1											
2	Miscellaneous:										
3	<u>Minimum Charge:</u>										
4	5/8" Monthly	0		\$7.08	\$0	0		\$ 8.14	\$0	\$0	0.00%
5	3/4" Monthly	0		9.06	0	0		\$ 8.68	0	0	0.00%
6	1" Monthly	0		12.84	0	0		\$ 9.69	0	0	0.00%
7	1-1/2" Monthly	0		22.33	0	0		\$ 13.63	0	0	0.00%
8	2" Monthly	0		33.71	0	0		\$ 15.84	0	0	0.00%
9	3" Monthly	0		60.24	0	0		\$ 43.66	0	0	0.00%
10	4" Monthly	0		98.15	0	0		\$ 62.61	0	0	0.00%
11	6" Monthly	0		192.93	0	0		\$ 99.52	0	0	0.00%
12	8" Monthly	0		306.65	0	0		\$ 221.11	0	0	0.00%
13	10" Monthly	0		520.92	0	0		0.00	0	0	0.00%
14	12" Monthly	0		859.27	0	0		0.00	0	0	0.00%
15											
16											
17	<u>Volumetric Charges:</u>										
18	First Block		0	\$0.0000	0		0	\$0.0000	0	0	0.00%
19	Second Block		0	0.0000	0		0	0.0000	0	0	0.00%
20	Third Block		0	0.0000	0		0	0.0000	0	0	0.00%
21	Fourth Block		0	0.0000	0		0	0.0000	0	0	0.00%
22											
23											
24	Total		<u>0</u>		<u>\$0</u>		<u>0</u>		<u>\$0</u>	<u>\$0</u>	<u>0.00%</u>
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**Test Year Operating Revenues at Present Rates vs Proposed Rates
12 Month Test Period Ended December 31, 2002**

Missouri Public Service Commission
Company: Missouri-American Water Company
District: Joplin

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Line #	Connection Size	Number of Connections	Present Rates		Proposed Rates		Dollar Change	Percentage Change
			Annual Rate	Total Revenue	Annual Rate	Total Revenue		
1								
2	Private Fire Service:							
3								
4	Private Fire Hydrant	3	\$669.24	\$2,008	458.56	\$1,376	(\$632)	-31.47%
5								
6	2"	5	95.88	479	65.70	328	(151)	-31.52%
7								
8	3"	0	164.76	0	112.89	0	0	0.00%
9								
10	4"	28	261.48	7,321	179.17	5,017	(2,304)	-31.47%
11								
12	6"	157	536.28	84,196	367.46	57,691	(26,505)	-31.48%
13								
14	8"	102	922.68	94,113	632.22	64,486	(29,627)	-31.48%
15								
16	10"	6	1,418.28	8,510	971.80	5,831	(2,679)	-31.48%
17								
18	12"	0	2,022.24	0	1,385.63	0	0	0.00%
19								
20								
21								
22	Total	301		\$196,627		\$134,729	(\$61,898)	-31.48%
23								
24								
25								
26	Public Fire Protection:							
27								
28	Public Fire Hydrants	1,469	0.00	0	0.00	0	0	0.00%
29								

MISSOURI-AMERICAN WATER COMPANY
JOPLIN DISTRICT
COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, ALLOCATED TO CUSTOMER CLASSIFICATIONS
PSC STAFF STUDY

Account	Factor Ref.	Cost of Service	Residential	Commercial	Industrial	Public Authorities	Sales for Resale	Fire Protection		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Private (9)	Public (10)	
OPERATION AND MAINTENANCE EXPENSES										
SOURCE OF SUPPLY EXPENSES										
Super & Eng Oper SS	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.0
Labor & Exp Oper SS	2	0	0	0	0	0	0	0	0	0.0
Labor & Exp Oper SS	2	14,837	5,193	3,218	4,847	377	1,126	16	59	0.0
Purchased Water	1	0	0	0	0	0	0	0	0	0.0
TOTAL SS EXPENSE - OPERATION		14,837	5,193	3,218	4,847	377	1,126	16	59	0.0
Misc Exp Oper SS	2	0	0	0	0	0	0	0	0	0.0
Misc Exp Oper SS	2	3,374	1,181	732	1,102	86	256	4	13	0.0
Rents Oper SS	2	5,705	1,997	1,237	1,864	145	433	6	23	0.0
Super & Eng Maint SS	2	0	0	0	0	0	0	0	0	0.0
Struct & Improve Maint SS	2	0	0	0	0	0	0	0	0	0.0
Struct & Improve Maint SS	2	128	45	28	42	3	10	0	1	0.0
Collect & Impound Maint SS	2	0	0	0	0	0	0	0	0	0.0
Lake, River & Oth Maint SS	2	0	0	0	0	0	0	0	0	0.0
Lake, River & Oth Maint SS	2	0	0	0	0	0	0	0	0	0.0
Wells & Springs Maint SS	2	0	0	0	0	0	0	0	0	0.0
Wells & Springs Maint SS	2	0	0	0	0	0	0	0	0	0.0
Infil Gall & Tunnels Maint SS	2	0	0	0	0	0	0	0	0	0.0
Supply Mains Maint SS	2	0	0	0	0	0	0	0	0	0.0
Misc Plant Maint SS	2	9,812	3,434	2,128	3,206	249	745	11	39	0.0
Misc Plant Maint SS	2	10,795	3,778	2,341	3,527	274	819	12	43	0.0
TOTAL SS EXPENSE - MAINTENANCE		29,814	10,435	6,467	9,740	757	2,263	33	119	0.0
TOTAL SS EXPENSE		44,651	15,628	9,685	14,587	1,134	3,389	49	179	0.0
POWER AND PUMPING EXPENSES										
Super & Eng Oper P	6	34,524	12,080	7,454	10,920	873	2,617	124	456	0.0
Fuel for Power Prod	1	0	0	0	0	0	0	0	0	0.0
Labor & Exp Oper Pwr Prod	6	0	0	0	0	0	0	0	0	0.0
Labor & Exp Oper Pwr Prod	6	0	0	0	0	0	0	0	0	0.0
Purch Fuel/Power for Pump	1	512,038	159,397	110,549	189,044	12,903	36,099	870	3,175	0.0
Labor & Exp Oper Pump	6	154,137	53,933	33,278	48,754	3,900	11,684	555	2,035	0.0
Labor & Exp Oper Pump	6	144	50	31	46	4	11	1	2	0.0
Expenses Transferred	6	0	0	0	0	0	0	0	0	0.0
Misc Exp Oper P	6	6,376	2,231	1,377	2,017	161	483	23	84	0.0
Rents Oper P	6	206	72	44	65	5	16	1	3	0.0
TOTAL PUMPING EXPENSE - OPERATION		707,425	227,763	152,733	250,845	17,847	50,909	1,574	5,754	0.0

MISSOURI-AMERICAN WATER COMPANY

JOPLIN DISTRICT

COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, ALLOCATED TO CUSTOMER CLASSIFICATIONS

PSC STAFF STUDY

Account	Factor Ref.	Cost of Service	Residential	Commercial	Industrial	Public Authorities	Sales for Resale	Fire Protection		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Private	Public	(10)
Super & Eng Maint P	6	21,080	7,376	4,551	6,668	533	1,598	76	278	0.0
Struct & Improve Maint P	6	782	274	169	247	20	59	3	10	0.0
Power Prod Equip Maint P	6	2,784	974	601	881	70	211	10	37	0.0
Pump Equip Maint P	6	13,180	4,612	2,846	4,169	333	999	47	174	0.0
Pump Equip Maint P	6	657	230	142	208	17	50	2	9	0.0
TOTAL PUMPING EXPENSES - MAINTENANCE		38,483	13,465	8,308	12,172	974	2,917	139	508	0.0
TOTAL PUMPING EXPENSES		745,908	241,229	161,042	263,018	18,820	53,826	1,712	6,262	0.0
WATER TREATMENT										0.0
Super & Eng Oper WT	2	25,452	8,908	5,521	8,315	646	1,932	28	102	0.0
Chemicals	1	95,163	29,624	20,546	35,134	2,398	6,709	162	590	0.0
Labor & Exp Oper WT	2	78,907	27,617	17,115	25,779	2,004	5,989	87	316	0.0
Labor & Exp Oper WT	2	3,172	1,110	688	1,036	81	241	3	13	0.0
Misc Exp Oper WT	2	0	0	0	0	0	0	0	0	0.0
Misc Exp Oper WT	1	4,256	1,325	919	1,571	107	300	7	26	0.0
Misc Exp Oper WT	2	37,793	13,228	8,197	12,347	960	2,868	42	151	0.0
Rents Oper WT	2	(5)	(2)	(1)	(2)	(0)	(0)	(0)	(0)	0.0
TOTAL WT EXPENSE - OPERATION		244,738	81,811	52,984	84,181	6,196	18,039	329	1,198	0.0
Super & Eng Maint WT	2	22,106	7,737	4,795	7,222	561	1,678	24	88	0.0
Struct & Improve Maint WT	2	0	0	0	0	0	0	0	0	0.0
Struct & Improve Maint WT	2	0	0	0	0	0	0	0	0	0.0
WT Equip Maint WT	2	0	0	0	0	0	0	0	0	0.0
WT Equip Maint WT	2	23,789	8,326	5,160	7,772	604	1,806	26	95	0.0
TOTAL WT EXPENSE - MAINTENANCE		45,895	16,063	9,955	14,994	1,166	3,483	50	184	0.0
TOTAL WT EXPENSE		290,633	97,874	62,939	99,175	7,362	21,522	379	1,381	0.0
TRANSMISSION AND DISTRIBUTION EXPENSES										0.0
Super & Eng Oper TD	11	79,578	45,471	14,579	5,769	2,157	3,342	2,045	6,215	0.0
Storage Facility Exp	5	0	0	0	0	0	0	0	0	0.0
Storage Facility Exp	5	1,864	574	317	363	37	122	98	354	0.0
TD Lines Exp	7	32,115	11,712	6,526	3,684	761	2,499	1,506	5,427	0.0
TD Lines Exp	7	79,066	28,835	16,066	9,069	1,874	6,151	3,708	13,362	0.0
Meter Expense	9	99,416	73,985	17,010	3,887	3,261	1,273	0	0	0.0
Meter Expense	9	16,534	12,305	2,829	646	542	212	0	0	0.0
Customer Install Exp	10	15,982	12,573	2,134	118	155	29	973	0	0.0
Customer Install Exp	10	23	18	3	0	0	0	1	0	0.0
Misc Exp Oper TD	11	13,762	7,864	2,521	998	373	578	354	1,075	0.0

Schedule C-2-SJOP

MISSOURI-AMERICAN WATER COMPANY
JOPLIN DISTRICT
COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, ALLOCATED TO CUSTOMER CLASSIFICATIONS
PSC STAFF STUDY

Account	Factor Ref.	Cost of Service	Residential	Commercial	Industrial	Public Authorities	Sales for Resale	Fire Protection		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Private	Public	(10)
Misc Exp Oper TD	11	0	0	0	0	0	0	0	0	0.0
Misc Exp Oper TD	11	14,972	8,555	2,743	1,085	406	629	385	1,169	0.0
Rents Oper TD	11	51	29	9	4	1	2	1	4	0.0
TOTAL T & D EXPENSE OPERATION		353,363	201,921	64,737	25,623	9,567	14,836	9,072	27,606	0.0
Super & Eng Maint TD	12	1,419	589	262	133	32	88	59	256	0.0
Struct & Improve Maint TD	12	0	0	0	0	0	0	0	0	0.0
Struct & Improve Maint TD	12	102	42	19	10	2	6	4	18	0.0
Dist Res Stand Maint TD	5	0	0	0	0	0	0	0	0	0.0
TD Main Maint TD	7	105,003	38,295	21,337	12,044	2,489	8,169	4,925	17,746	0.0
TD Main Maint TD	7	0	0	0	0	0	0	0	0	0.0
Fire Main Maint TD	8	0	0	0	0	0	0	0	0	0.0
Services Maint TD	10	10,780	8,481	1,439	80	105	19	657	0	0.0
Services Maint TD	10	0	0	0	0	0	0	0	0	0.0
Meters Maint TD	9	5,580	4,153	955	218	183	71	0	0	0.0
Meters Maint TD	9	6,719	5,000	1,150	263	220	86	0	0	0.0
Hydrants Maint TD	8	6,568	0	0	0	0	0	0	6,568	0.0
Hydrants Maint TD	8	0	0	0	0	0	0	0	0	0.0
Misc Plant Maint TD	12	90,162	37,444	16,662	8,439	2,011	5,590	3,733	16,283	0.0
Mat and Sup Maint TD	12	0	0	0	0	0	0	0	0	0.0
Misc Maint TD	12	710	295	131	66	16	44	29	128	0.0
Amort Def Maint TD	5	0	0	0	0	0	0	0	0	0.0
TOTAL T & D EXPENSE - MAINTENANCE		227,043	94,299	41,954	21,252	5,057	14,074	9,406	41,000	0.0
TOTAL T & D EXPENSE		580,406	296,220	106,691	46,876	14,624	28,910	18,478	68,606	0.0
CUSTOMER ACCOUNTS										0.0
Supervision CA	13	47,491	40,249	6,088	185	309	33	627	0	0.0
Meter Reading Exp CA	14	87,952	75,542	11,425	343	580	62	0	0	0.0
Meter Reading Exp CA	14	96	82	12	0	1	0	0	0	0.0
Meter Reading Exp CA	14	0	0	0	0	0	0	0	0	0.0
Cust Rec & Collection CA	13	10,711	9,078	1,373	42	70	7	141	0	0.0
Cust Rec & Collection CA	13	85,455	72,423	10,955	333	555	60	1,128	0	0.0
Uncollectible Accts	13	112,794	95,593	14,460	440	733	79	1,489	0	0.0
Misc Cust Accts Exp CA	13	11,051	9,366	1,417	43	72	8	146	0	0.0
Misc Cust Accts Exp CA	13	0	0	0	0	0	0	0	0	0.0
Misc Cust Accts Exp CA	13	12,638	10,711	1,620	49	82	9	167	0	0.0
Cust Serv & Info Exp CA	13	167,182	141,687	21,433	652	1,087	117	2,207	0	0.0
TOTAL CUSTOMER ACCOUNTING EXPENSE		535,370	454,730	68,784	2,088	3,489	375	5,905	0	0.0
ADMINISTRATIVE AND GENERAL EXPENSES										0.0
Salaries AG	15	295,077	170,377	51,579	37,209	5,577	12,069	4,751	13,515	0.0
Other Supplies & Exp AG	15	55	32	10	7	1	2	1	3	0.0
Other Supplies & Exp AG	15	111,056	64,124	19,413	14,004	2,099	4,542	1,788	5,086	0.0
Other Supplies & Exp AG	15	55,302	31,931	9,667	6,974	1,045	2,262	890	2,533	0.0
Mgmt Fees-Coporate/Shared Service Center	15	306,096	176,740	53,506	38,599	5,785	12,519	4,928	14,019	0.0
Mgmt Fees-Call Center	13	165,006	139,843	21,154	644	1,073	116	2,178	0	0.0
Mgmt Fees-Belleville Lab	2	46,922	16,423	10,177	15,329	1,192	3,561	52	188	0.0
Mgmt Fees- Financial ITS	15	16,060	9,273	2,807	2,025	304	657	259	736	0.0
Mgmt Fees- Customer Billings ITS	13	90,669	76,842	11,624	354	589	63	1,197	0	0.0

MISSOURI-AMERICAN WATER COMPANY
JOPLIN DISTRICT
COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, ALLOCATED TO CUSTOMER CLASSIFICATIONS
PSC STAFF STUDY

Account	Factor Ref.	Cost of Service	Residential	Commercial	Industrial	Public Authorities	Sales for Resale	Fire Protection		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Private	Public	(10)
Mgmt Fees-Other ITS	15	1,020	589	178	129	19	42	16	47	0.0
Outside Services AG	15	79,884	46,125	13,964	10,073	1,510	3,267	1,286	3,659	0.0
Outside Services AG	15	0	0	0	0	0	0	0	0	0.0
Property Insurance	15	0	0	0	0	0	0	0	0	0.0
Ins Gen Liab Oper AG	15	44,847	25,895	7,839	5,655	848	1,834	722	2,054	0.0
Ins Work Comp AG	16	31,228	16,454	5,724	4,637	668	1,502	512	1,730	0.0
Ins Other Oper AG	15	0	0	0	0	0	0	0	0	0.0
Property Insurance	15	58,657	33,869	10,253	7,397	1,109	2,399	944	2,686	0.0
Injuries & Damages	16	1,174	619	215	174	25	56	19	65	0.0
Employee Pension & Benefits	16	408,834	215,415	74,939	60,712	8,749	19,665	6,705	22,649	0.0
Employee Pension & Benefits	16	0	0	0	0	0	0	0	0	0.0
Employee Pension & Benefits	16	0	0	0	0	0	0	0	0	0.0
Reg Commision Exp	15	10,835	6,256	1,894	1,366	205	443	174	496	0.0
Rents AG	15	69,142	39,923	12,086	8,719	1,307	2,828	1,113	3,167	0.0
Goodwill Advertising Exp	15	0	0	0	0	0	0	0	0	0.0
Misc Exp AG	15	11,335	6,545	1,981	1,429	214	464	182	519	0.0
Research & Development	15	0	0	0	0	0	0	0	0	0.0
TOTAL A & G OPERATIONS		1,803,199	1,077,272	309,011	215,436	32,318	68,292	27,719	73,151	0.0
General Plant Maint AG	15	0	0	0	0	0	0	0	0	0.0
General Plant Maint AG	15	9,012	5,204	1,575	1,136	170	369	145	413	0.0
TOTAL A & G EXPENSE - MAINTENANCE		9,012	5,204	1,575	1,136	170	369	145	413	0.0
TOTAL A & G EXPENSE		1,812,211	1,082,476	310,586	216,573	32,489	68,660	27,864	73,564	0.0
Total Operation & Maintenance Expenses		4,009,179	2,188,156	719,726	642,317	77,918	176,683	54,387	149,991	0.0

MISSOURI-AMERICAN WATER COMPANY
JOPLIN DISTRICT
COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, ALLOCATED TO CUSTOMER CLASSIFICATIONS
PSC STAFF STUDY

Account	Factor Ref.	Cost of Service	Residential	Commercial	Industrial	Public Authorities	Sales for Resale	Fire Protection		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Private	Public	(10)
DEPRECIATION EXPENSE										
Struct & Imp SS	2	358	125	78	117	9	27	0	1	0.0
Struct & Imp P	6	4,149	1,452	896	1,312	105	314	15	55	0.0
Struct & Imp WT	2	2,854	999	619	932	72	217	3	11	0.0
Struct & Imp TD	7	6,424	2,343	1,305	737	152	500	301	1,086	0.0
Struct & Imp Offices	15	342	197	60	43	6	14	6	16	0.0
Struct & Imp Store,Shop,Gar	15	732	423	128	92	14	30	12	34	0.0
Struct & Imp Misc	15	1,533	885	268	193	29	63	25	70	0.0
Collect & Impounding	1	1,109	345	239	409	28	78	2	7	0.0
Lake, River & Other Intakes	2	1,053	369	228	344	27	80	1	4	0.0
Wells & Springs	2	38,084	13,329	8,260	12,442	967	2,891	42	152	0.0
Supply Mains	2	6,003	2,101	1,302	1,961	152	456	7	24	0.0
Power Generation Equip Othe	6	1,778	622	384	562	45	135	6	23	0.0
Boiler Plant Equipment P	6	0	0	0	0	0	0	0	0	0.0
Pump Equip Electric	6	37,132	12,992	8,017	11,745	939	2,815	134	490	0.0
Pump Equip Diesel	6	3,569	1,249	771	1,129	90	271	13	47	0.0
Pump Equip Other	6	6,050	2,117	1,306	1,914	153	459	22	80	0.0
WT Equip Non-Media	2	46,852	16,398	10,162	15,307	1,190	3,556	52	187	0.0
WT Equip Filter Media	2	156	55	34	51	4	12	0	1	0.0
Dist Reservoirs & Standpipe	5	45,366	13,964	7,717	8,824	903	2,967	2,386	8,606	0.0
Elevated Tanks & Standpipes	5	2,691	828	458	523	54	176	142	510	0.0
Ground Level Facilities	5	0	0	0	0	0	0	0	0	0.0
TD Mains 4 & Less	4	8,297	3,026	1,686	952	197	646	389	1,402	0.0
TD Mains 6 to 8"	4	137,914	50,297	28,024	15,819	3,269	10,730	6,468	23,307	0.0
TD Mains 10 to 16"	3	75,643	25,038	15,507	23,343	1,815	5,424	976	3,540	0.0
TD Mains 18 & Grtr	3	7,588	2,512	1,556	2,342	182	544	98	355	0.0
Services	10	114,645	90,191	15,305	848	1,112	206	6,982	0	0.0
Meters Bronze Case	9	15,054	11,203	2,576	589	494	193	0	0	0.0
Meters Plastic Case	9	341	254	58	13	11	4	0	0	0.0
Meters Other	9	4,335	3,226	742	169	142	55	0	0	0.0
Meters Other-Rem Rdr Unts	9	0	0	0	0	0	0	0	0	0.0
Meter Installations	9	45,519	33,875	7,788	1,780	1,493	583	0	0	0.0
Meter Installation Other	9	0	0	0	0	0	0	0	0	0.0
Hydrants	8	8,116	0	0	0	0	0	0	8,116	0.0
Utility Plant Acquisition Adjustment	17	0	0	0	0	0	0	0	0	0.0
Other P/E WT Res Hand Equip	2	0	0	0	0	0	0	0	0	0.0
Other P/E TD	7	0	0	0	0	0	0	0	0	0.0
Other P/E CPS	15	0	0	0	0	0	0	0	0	0.0
Office Furniture & Equip	15	(2,144)	(1,238)	(375)	(270)	(41)	(88)	(35)	(98)	0.0
Comp & Periph Equip	15	25,194	14,547	4,404	3,177	476	1,030	406	1,154	0.0
Computer Software	15	0	0	0	0	0	0	0	0	0.0
Comp Software Personal	15	0	0	0	0	0	0	0	0	0.0
Data Handling Equipment	15	0	0	0	0	0	0	0	0	0.0
Other Office Equipment	15	1,194	689	209	151	23	49	19	55	0.0
Trans Equip Lt Duty Trks	15	36,183	20,892	6,325	4,563	684	1,480	583	1,657	0.0
Trans Equip Hvy Duty Trks	15	1,778	1,027	311	224	34	73	29	81	0.0
Trans Equip Autos	15	11,155	6,441	1,950	1,407	211	456	180	511	0.0
Trans Equip Other	15	0	0	0	0	0	0	0	0	0.0
Stores Equipment	15	169	98	30	21	3	7	3	8	0.0
Tools,Shop,Garage Equip	15	12,141	7,010	2,122	1,531	229	497	195	556	0.0
Tools,Shop,Garage Equip Oth	15	0	0	0	0	0	0	0	0	0.0

MISSOURI-AMERICAN WATER COMPANY
JOPLIN DISTRICT
COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, ALLOCATED TO CUSTOMER CLASSIFICATIONS
PSC STAFF STUDY

Account	Factor Ref.	Cost of Service	Residential	Commercial	Industrial	Public Authorities	Sales for Resale	Fire Protection		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Private	Public	(10)
Laboratory Equipment	2	2,184	764	474	714	55	166	2	9	0.0
Laboratory Equip Other	2	0	0	0	0	0	0	0	0	0.0
Power Operated Equipment	15	19,716	11,384	3,446	2,486	373	806	317	903	0.0
Comm Equip Non-Telephone	15	2,396	1,383	419	302	45	98	39	110	0.0
Comm Equip Telephone	15	0	0	0	0	0	0	0	0	0.0
Misc Equipment	15	1,594	920	279	201	30	65	26	73	0.0
Total Depreciation Expense		735,247	354,334	135,066	118,999	15,778	38,082	19,844	53,144	
Amort-Other UP	18	5,216	2,295	977	929	114	298	150	452	
Taxes Other Than Income										
Utility Reg Assessment Fee	19	48,951	24,848	8,924	8,101	999	2,389	955	2,736	
Property Taxes	18	302,339	132,999	56,628	53,877	6,621	17,294	8,707	26,213	
FUTA	16	1,707	899	313	253	37	82	28	95	0.0
FICA	16	90,458	47,662	16,581	13,433	1,936	4,351	1,484	5,011	0.0
SUTA	16	2	1	0	0	0	0	0	0	0.0
Other Taxes & Licenses	15	11,275	6,510	1,971	1,422	213	461	182	516	0.0
Gross Receipts Tax	19	0	0	0	0	0	0	0	0	0.0
Total Taxes, Other Than Income		454,732	212,919	84,417	77,087	9,805	24,577	11,355	34,572	0.0
Income Taxes	18	337,977	148,676	63,303	60,228	7,402	19,332	9,734	29,303	0.0
Utility Income Available for Return	18	1,363,133	599,642	255,315	242,910	29,853	77,971	39,258	118,184	0.0
Total Cost of Service		6,905,484	3,506,022	1,258,804	1,142,470	140,870	336,944	134,728	385,646	0.0
Less: Other Water Revenues	19	170,992	170,992	0	0	0	0	0	0	0.0
Revenue Contribution	19	0	0	0	0	0	0	0	0	0.0
Total Other Water Revenues		170,992	170,992	0	0	0	0	0	0	0.0
Total Cost of Service Related to Sales of Water		\$ 6,734,492	\$ 3,335,030	\$ 1,258,804	\$ 1,142,470	\$ 140,870	\$ 336,944	\$ 134,728	\$ 385,646	0.0
Reallocation of Public Fire	20	0	223,552	80,264	72,847	8,982	0		(385,646)	0.0
Total		\$ 6,734,492	\$ 3,558,583	\$ 1,339,069	\$ 1,215,316	\$ 149,852	\$ 336,944	\$ 134,728	\$ -	0.0
		\$ 170,992	\$ 170,992						1,469	0.0
		\$ 6,905,484	\$ 3,729,575						\$ -	0.0

**MISSOURI-AMERICAN WATER COMPANY
JOPLIN DISTRICT**

COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, ALLOCATED TO CUSTOMER CLASSIFICATIONS

PSC STAFF STUDY

Account	Factor Ref.	Cost of Service	Residential	Commercial	Industrial	Public Authorities	Sales for Resale	Fire Protection		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Private	Public	(10)
RATE BASE										
Organization	17	\$ 8,246	\$ 3,621	\$ 1,545	\$ 1,472	\$ 181	\$ 473	\$ 237	\$ 717	0.0
Franchises	17	19,241	8,449	3,606	3,435	421	1,104	554	1,672	0.0
Land & Ld Rights SS	2	96,342	33,720	20,897	31,475	2,447	7,312	106	385	0.0
Land & Ld Rights P	6	12,561	4,395	2,712	3,973	318	952	45	166	0.0
Land & Ld Rights WT	2	11,715	4,100	2,541	3,827	298	889	13	47	0.0
Land & Ld Rights TD	7	27,039	9,861	5,494	3,101	641	2,104	1,268	4,570	0.0
Land & Land Rights AG	15	717	414	125	90	14	29	12	33	0.0
Struct & Imp SS	2	14,279	4,998	3,097	4,665	363	1,084	16	57	0.0
Struct & Imp P	6	330,676	115,704	71,393	104,593	8,366	25,065	1,190	4,365	0.0
Struct & Imp Pumps (STL)	6	0	0	0	0	0	0	0	0	0.0
Struct & Imp Pump Boosters	6	0	0	0	0	0	0	0	0	0.0
Struct & Imp WT	2	108,587	38,005	23,553	35,475	2,758	8,242	119	434	0.0
Struct & Imp WT Nth Pkt (ST	2	0	0	0	0	0	0	0	0	0.0
Struct & Imp WT Ctrl Pkt 1	2	0	0	0	0	0	0	0	0	0.0
Struct & Imp WT Ctrl Pkt 3	2	0	0	0	0	0	0	0	0	0.0
Struct & Imp WT Sth Pkt (ST	2	0	0	0	0	0	0	0	0	0.0
Struct & Imp WT Meramec (ST	2	0	0	0	0	0	0	0	0	0.0
Struct & Imp TD	7	341,262	124,458	69,344	39,143	8,088	26,550	16,005	57,673	0.0
Struct & Imp TD Spec Cross	7	0	0	0	0	0	0	0	0	0.0
Struct & Imp Offices	15	(187)	(108)	(33)	(24)	(4)	(8)	(3)	(9)	0.0
Struct & Imp Leasehold	15	0	0	0	0	0	0	0	0	0.0
Struct & Imp Leasehold	15	0	0	0	0	0	0	0	0	0.0
Struct & Imp Store,Shop,Gar	15	28,927	16,702	5,056	3,648	547	1,183	466	1,325	0.0
Struct & Imp Misc	15	80,090	46,244	14,000	10,099	1,514	3,276	1,289	3,668	0.0
Collect & Impounding	1	32,438	10,098	7,003	11,976	817	2,287	55	201	0.0
Lake, River & Other Intakes	2	19,628	6,870	4,257	6,412	499	1,490	22	79	0.0
Wells & Springs	2	1,715,906	600,567	372,180	560,586	43,584	130,237	1,887	6,864	0.0
Supply Mains	2	113,493	39,723	24,617	37,078	2,883	8,614	125	454	0.0
Supply Mains Nth Pkt (STL)	2	0	0	0	0	0	0	0	0	0.0
Supply Mains Ctrl Pkt (STL)	2	0	0	0	0	0	0	0	0	0.0
Supply Mains Sth Pkt (STL)	2	0	0	0	0	0	0	0	0	0.0
Supply Mains Meramec Pkt (S	2	0	0	0	0	0	0	0	0	0.0
Power Generation Equip Othe	6	65,167	22,802	14,070	20,612	1,649	4,940	235	860	0.0
Boiler Plant Equipment P	6	348	122	75	110	9	26	1	5	0.0
Pump Equip Steam	6	6,907	2,417	1,491	2,185	175	524	25	91	0.0
Pump Equip Electric	6	1,360,446	476,020	293,720	430,309	34,419	103,122	4,898	17,958	0.0
Pump Equip Elec Pre46 (STL)	6	0	0	0	0	0	0	0	0	0.0
Pump Equip Elec Post46 (STL)	6	0	0	0	0	0	0	0	0	0.0
Pump Equip Elec Boosters Po	6	0	0	0	0	0	0	0	0	0.0
Pump Equip Diesel	6	103,368	36,168	22,317	32,695	2,615	7,835	372	1,364	0.0
Pump Equip Diesel Stratman\	6	0	0	0	0	0	0	0	0	0.0
Pump Equip Diesel Ctrl Pkt	6	0	0	0	0	0	0	0	0	0.0
Pump Equip Hydraulic	6	0	0	0	0	0	0	0	0	0.0
Pump Equip Other	6	121,074	42,364	26,140	38,296	3,063	9,177	436	1,598	0.0
WT Equip Non-Media	2	1,528,567	534,998	331,546	499,383	38,826	116,018	1,681	6,114	0.0
WT Equip Non-Med North (STL	2	0	0	0	0	0	0	0	0	0.0
WT Equip Non Media Ctrl 1 &	2	0	0	0	0	0	0	0	0	0.0
WT Equip Non Media Ctrl 3 (	2	0	0	0	0	0	0	0	0	0.0
WT Equip Non Media Sth (STL	2	0	0	0	0	0	0	0	0	0.0
WT Equip Non Media Mer (STL	2	8,326	2,914	1,806	2,720	211	632	9	33	0.0

**MISSOURI-AMERICAN WATER COMPANY
JOPLIN DISTRICT**

**COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, ALLOCATED TO CUSTOMER CLASSIFICATIONS
PSC STAFF STUDY**

Account	Factor Ref.	Cost of Service	Residential	Commercial	Industrial	Public Authorities	Sales for Resale	Fire Protection		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Private	Public	(10)
WT Equip Filter Media	2	3,030	1,061	657	990	77	230	3	12	0.0
Dist Reservoirs & Standpipe	5	1,903,111	585,778	323,719	370,155	37,872	124,463	100,104	361,020	0.0
Elevated Tanks & Standpipes	5	142,724	43,930	24,277	27,760	2,840	9,334	7,507	27,075	0.0
Ground Level Facilities	5	0	0	0	0	0	0	0	0	0.0
TD Mains Not Classified by	7	(3,457,486)	(1,260,945)	(702,561)	(396,574)	(81,942)	(268,992)	(162,156)	(584,315)	0.0
TD Mains 4 & Less	4	634,077	231,248	128,844	72,729	15,028	49,331	29,738	107,159	0.0
TD Mains 6 to 8"	4	10,543,506	3,845,217	2,142,440	1,209,340	249,881	820,285	494,490	1,781,853	0.0
TD Mains 10 to 16"	3	5,782,424	1,913,982	1,185,397	1,784,456	138,778	414,600	74,593	270,617	0.0
TD Mains 18 & Grtr	3	579,446	191,797	118,786	178,817	13,907	41,546	7,475	27,118	0.0
TD Mains AC 4 (STL)	4	0	0	0	0	0	0	0	0	0.0
TD Mains CI <10 1900-28 (S*	4	0	0	0	0	0	0	0	0	0.0
TD Mains CI <10 1929-56 (S*	4	0	0	0	0	0	0	0	0	0.0
TD Mains CI <10 1957-93 (S*	4	0	0	0	0	0	0	0	0	0.0
TD Mains CI 12 (STL)	3	0	0	0	0	0	0	0	0	0.0
TD Mains CI 16 (STL)	3	0	0	0	0	0	0	0	0	0.0
TD Mains DI 6-8 (STL)	4	0	0	0	0	0	0	0	0	0.0
TD Mains DI 12 (STL)	3	0	0	0	0	0	0	0	0	0.0
TD Mains DI 16 & >(STL)	3	0	0	0	0	0	0	0	0	0.0
TD Mains Galve 1 (STL)	4	0	0	0	0	0	0	0	0	0.0
TD Mains LJ 20 (STL)	3	0	0	0	0	0	0	0	0	0.0
Fire Mains	8	0	0	0	0	0	0	0	0	0.0
Services	10	4,447,619	3,498,942	593,757	32,912	43,142	8,006	270,880	0	0.0
Meters Bronze Case	9	599,782	446,358	102,623	23,451	19,673	7,677	0	0	0.0
Meters Plastic Case	9	13,614	10,132	2,329	532	447	174	0	0	0.0
Meters Other	9	59,041	43,938	10,102	2,309	1,937	756	0	0	0.0
Meters Other-Rem Rdr Units	9	0	0	0	0	0	0	0	0	0.0
Meter Installations	9	1,416,078	1,053,845	242,291	55,369	46,447	18,126	0	0	0.0
Meter Installation Other	9	0	0	0	0	0	0	0	0	0.0
Hydrants	8	475,613	0	0	0	0	0	0	475,613	0.0
Other P/E Intangible	15	0	0	0	0	0	0	0	0	0.0
Other P/E WT Res Hand Equip	2	0	0	0	0	0	0	0	0	0.0
Other P/E TD	7	(868)	(317)	(176)	(100)	(21)	(68)	(41)	(147)	0.0
Other P/E CPS	15	0	0	0	0	0	0	0	0	0.0
Office Furniture & Equip	15	(169,749)	(98,013)	(29,672)	(21,405)	(3,208)	(6,943)	(2,733)	(7,775)	0.0
Comp & Periph Equip	15	150,523	86,912	26,311	18,981	2,845	6,156	2,423	6,894	0.0
Computer Software	15	186,450	107,656	32,591	23,511	3,524	7,626	3,002	8,539	0.0
Comp Software Personal	15	10,626	6,135	1,857	1,340	201	435	171	487	0.0
Data Handling Equipment	15	0	0	0	0	0	0	0	0	0.0
Other Office Equipment	15	26,678	15,404	4,663	3,364	504	1,091	430	1,222	0.0
Trans Equip Lt Duty Trks	15	(28,914)	(16,695)	(5,054)	(3,646)	(546)	(1,183)	(466)	(1,324)	0.0
Trans Equip Hvy Duty Trks	15	13,425	7,752	2,347	1,693	254	549	216	615	0.0
Trans Equip Autos	15	41,571	24,003	7,267	5,242	786	1,700	669	1,904	0.0
Trans Equip Other	15	60,175	34,745	10,519	7,588	1,137	2,461	969	2,756	0.0
Stores Equipment	15	(1,310)	(756)	(229)	(165)	(25)	(54)	(21)	(60)	0.0
Tools,Shop,Garage Equip	15	148,150	85,542	25,897	18,682	2,800	6,059	2,385	6,785	0.0
Tools,Shop,Garage Equip Oth	15	0	0	0	0	0	0	0	0	0.0
Laboratory Equipment	2	69,810	24,434	15,142	22,807	1,773	5,299	77	279	0.0
Laboratory Equip Other	2	0	0	0	0	0	0	0	0	0.0
Power Operated Equipment	15	96,206	55,549	16,817	12,132	1,818	3,935	1,549	4,406	0.0
Comm Equip Non-Telephone	15	47,719	27,553	8,341	6,017	902	1,952	768	2,186	0.0
Comm Equip Telephone	15	(31,463)	(18,167)	(5,500)	(3,967)	(595)	(1,287)	(507)	(1,441)	0.0

Schedule C-8-SJOP

MISSOURI-AMERICAN WATER COMPANY
JOPLIN DISTRICT
COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, ALLOCATED TO CUSTOMER CLASSIFICATIONS
PSC STAFF STUDY

Account	Factor Ref.	Cost of Service	Residential	Commercial	Industrial	Public Authorities	Sales for Resale	Fire Protection		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Private	Public	
Misc Equipment	15	35,976	20,773	6,289	4,537	680	1,471	579	1,648	0.0
Accum Amortization Reserve	17	(71,296)	(31,306)	(13,361)	(12,726)	(1,561)	(4,092)	(2,053)	(6,196)	0.0
Total Utility Plant in Service		29,881,451	13,122,111	5,599,265	5,333,466	654,053	1,713,803	861,098	2,597,655	0.0
Other Rate Base Items										
Add:										
Other Utility Plant Adjustments	17	0	0	0	0	0	0	0	0	0.0
Cash Working Capital	15	(45,684)	(26,378)	(7,986)	(5,761)	(863)	(1,868)	(736)	(2,092)	0.0
Materials and Supplies	15	210,562	121,578	36,806	26,552	3,980	8,612	3,390	9,644	0.0
Prepayments	15	66	38	12	8	1	3	1	3	0.0
OPEB's Contributed to External Fund	16	282,245	148,715	51,736	41,913	6,040	13,576	4,629	15,636	0.0
Premature Retirement	17	0	0	0	0	0	0	0	0	0.0
Regulatory Deferrals	17	0	0	0	0	0	0	0	0	0.0
Less:										
Accumulated Deferred ITC (3%)	17	(5,635,112)	(2,474,378)	(1,056,020)	(1,005,867)	(123,409)	(323,455)	(162,291)	(489,691)	0.0
Deferred Income Taxes	17	(4,348,437)	(1,909,399)	(814,897)	(776,196)	(95,231)	(249,600)	(125,235)	(377,879)	0.0
Pensions	16	(357,806)	(188,528)	(65,586)	(53,134)	(7,657)	(17,210)	(5,868)	(19,822)	0.0
Total Other Rate Base Elements		(9,894,166)	(4,328,351)	(1,855,935)	(1,772,485)	(217,139)	(569,944)	(286,110)	(864,202)	0.0
Total Original Cost Measure of Value		\$ 19,987,285	\$ 8,793,760	\$ 3,743,329	\$ 3,560,981	\$ 436,914	\$ 1,143,859	\$ 574,988	\$ 1,733,453	0.0

T&D OP BASIS FOR FACTOR 11	245,000	140,003	44,885	17,767	6,630	10,285	6,287	19,143	0.0
FACTOR 11		0.5714	0.1832	0.0725	0.0271	0.0420	0.0257	0.0781	1.0000
T&D Mnt BASIS FOR FACTOR 12	134,650	55,928	24,880	12,605	2,997	8,346	5,581	24,314	0.0
FACTOR 12		0.4153	0.1848	0.0936	0.0223	0.0620	0.0414	0.1806	1.0000
A&G BASIS FOR FACTOR 15	1,585,511	915,334	277,127	199,994	30,021	64,915	25,484	72,637	0.0
FACTOR 15		0.5774	0.1748	0.1261	0.0189	0.0409	0.0161	0.0458	1.0000
LABOR BASIS FOR FACTOR 16	1,275,411	672,123	233,764	189,352	27,324	61,348	20,881	70,620	0.0
FACTOR 16		0.5269	0.1833	0.1485	0.0214	0.0481	0.0164	0.0554	1.0000
UPIS BASIS FOR FACTOR 17	29,925,260	13,141,348	5,607,474	5,341,286	655,013	1,716,318	862,359	2,601,462	0.0
FACTOR 17		0.4391	0.1874	0.1785	0.0219	0.0574	0.0288	0.0869	1.0000
RATE BASE BASIS FOR FACTOR 18	19,987,285	8,793,760	3,743,329	3,560,981	436,914	1,143,859	574,988	1,733,453	0.0
FACTOR 18		0.4399	0.1873	0.1782	0.0219	0.0572	0.0288	0.0867	1.0000
TOTAL COS BASIS FOR FACTOR 19	6,845,698	3,474,919	1,247,987	1,133,002	139,667	334,112	133,599	382,413	0.0
FACTOR 19		0.5076	0.1823	0.1655	0.0204	0.0488	0.0195	0.0559	1.0000
COS w/o Fire Factor 20	6,048,166	3,506,022	1,258,804 #	1,142,470 #	140,870 #				0.0
FACTOR 20		0.5797	0.2081	0.1889	0.0233				1.0000

Table of Factors - Table Name "FACTORS"

	2	4	6	8	10	12	14	20
	Residential	Commercial	Industrial	Public	Resale	Private Fire	Public Fire	Total
1	0.3113	0.2159	0.3692	0.0252	0.0705	0.0017	0.0062	1.0000
2	0.3500	0.2169	0.3267	0.0254	0.0759	0.0011	0.0040	1.0000

MISSOURI-AMERICAN WATER COMPANY
JOPLIN DISTRICT
COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, ALLOCATED TO CUSTOMER CLASSIFICATIONS
PSC STAFF STUDY

Account	Factor Ref.	Cost of Service	Residential	Commercial	Industrial	Public Authorities	Sales for Resale	Fire Protection			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	Private	Public		
			3	0.3310	0.2050	0.3086	0.0240	0.0717	0.0129	0.0468	1.0000
			4	0.3647	0.2032	0.1147	0.0237	0.0778	0.0469	0.1690	1.0000
			5	0.3078	0.1701	0.1945	0.0199	0.0654	0.0526	0.1897	1.0000
			6	0.3499	0.2159	0.3163	0.0253	0.0758	0.0036	0.0132	1.0000
			7	0.3647	0.2032	0.1147	0.0237	0.0778	0.0469	0.1690	1.0000
			8	-	-	-	-	-	-	1.0000	1.0000
			9	0.7442	0.1711	0.0391	0.0328	0.0128	-	-	1.0000
			10	0.7867	0.1335	0.0074	0.0097	0.0018	0.0609	-	1.0000
			11	0.5714	0.1832	0.0725	0.0271	0.0420	0.0257	0.0781	1.0000
			12	0.4153	0.1848	0.0936	0.0223	0.0620	0.0414	0.1806	1.0000
			13	0.8475	0.1282	0.0039	0.0065	0.0007	0.0132	-	1.0000
			14	0.8589	0.1299	0.0039	0.0066	0.0007	-	-	1.0000
			15	0.5774	0.1748	0.1261	0.0189	0.0409	0.0161	0.0458	1.0000
			16	0.5269	0.1833	0.1485	0.0214	0.0481	0.0164	0.0554	1.0000
			17	0.4391	0.1874	0.1785	0.0219	0.0574	0.0288	0.0869	1.0000
			18	0.4399	0.1873	0.1782	0.0219	0.0572	0.0288	0.0867	1.0000
			19	0.5076	0.1823	0.1655	0.0204	0.0488	0.0195	0.0559	1.0000
			20	0.5797	0.2081	0.1889	0.0233	-	-	-	1.0000

**MISSOURI-AMERICAN WATER COMPANY
JOPLIN DISTRICT**

PSC STAFF STUDY

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 1.

ALLOCATION OF COSTS THAT VARY WITH THE AMT OF WATER CONSUMED.

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

Customer Classification	Average Daily Consumption, Thousand Gallons	Allocation Factor
(1)	(2)	(3)
Residential	3,854	0.3113
Commercial	2,673	0.2159
Industrial	4,571	0.3692
Other Public Authority	312	0.0252
Sales for Resale	873	0.0705
Private Fire Protection	21	0.0017
Public Fire Protection	77	0.0062
Total	12,381	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:

Customer Classification	Average Daily Consumption		Maximum Day Extra Capacity		Allocation Factor
	Allocation Factor 1	Weighted Factor	Allocation Factor	Weighted Factor	
(1)	(2)	(3)=(2)x 0.6452	(4)	(5)=(4)x 0.3548	(6)=(3)+(5)
Residential	0.3113	0.2008	0.4206	0.1492	0.3500
Commercial	0.2159	0.1393	0.2187	0.0776	0.2169
Industrial	0.3692	0.2382	0.2494	0.0885	0.3267
Other Public Authority	0.0252	0.0163	0.0256	0.0091	0.0254
Sales for Resale	0.0705	0.0455	0.0857	0.0304	0.0759
Private Fire Protection	0.0017	0.0011			0.0011
Public Fire Protection	0.0062	0.0040			0.0040
Total	1.0000	0.6452	1.0000	0.3548	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.

**MISSOURI-AMERICAN WATER COMPANY
JOPLIN DISTRICT
PSC STAFF STUDY**

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

**FACTOR 2. MAX DAY CLASS ALLOCATION AND MAX DAY TO AVERAGE DAY
MAXIMUM DAY EXTRA CAPACITY FUNCTIONS, cont.**

Customer Classification (1)	Average Daily Consumption, Thousand Gal. (2)	Maximum Day Extra Capacity		
		Factor* (3)	Rate of Flow, Thousand Gal. Per Day (4)=(2)x(3)	Allocation Factor (5)
Residential	3,854	1.00	3,854	0.4206
Commercial	2,673	0.75	2,004	0.2187
Industrial	4,571	0.50	2,285	0.2494
Other Public Authority	312	0.75	234	0.0256
Sales for Resale	873	0.90	786	0.0857
Total	12,283		9,164	1.0000

The weighting of the factors is based on the maximum day ratio of 1.55, based on a review of maximum day ratios experienced during the period 1990 through 2002 (see Schedule D).

	Maximum Day Ratio	Weight
Average Day	1.00	0.6452
Maximum Day Extra Capacity	0.55	0.3548
Total	1.55	1.0000

* Ratio of maximum day to average day minus 1.0.

**MISSOURI-AMERICAN WATER COMPANY
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FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 3.

**ALLOCATION OF COSTS ASSOC. WITH FACILITIES SERVING BASE, MAX 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.

Customer Classification	Average Daily Consumption		Maximum Day Extra Capacity		Fire Protection		Allocation Factor
	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	
(1)	(2)	(3)=(2) X 0.6097	(4)	(5)=(4) X 0.3354	(6)	(7)=(6) X 0.0549	(8)=(3)+(5)+(7)
Residential	0.3113	0.1898	0.4206	0.1411			0.3309
Commercial	0.2159	0.1316	0.2187	0.0734			0.2050
Industrial	0.3692	0.2251	0.2494	0.0836			0.3086
Other Public Authority	0.0252	0.0154	0.0256	0.0086			0.0240
Sales for Resale	0.0705	0.0430	0.0857	0.0287			0.0717
Private Fire Protection	0.0017	0.0010			0.2172	0.0119	0.0129
Public Fire Protection	0.0062	0.0038			0.7828	0.0430	0.0468
Total	1.0000	0.6097	1.0000	0.3354	1.0000	0.0549	0.9999

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

FACTOR 3. Continued

**ALLOCATION OF COSTS ASSOC 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 1.55 and the average daily system sendout for 2002 of 12.00 MGD. The system demand for fire protection is 6,000 Gallons per minute for 3 hours.

	<u>Ratio</u>	<u>Rate of Flow, (GPD)</u>	<u>Weight</u>
Average Day	1.00	12,000,000	0.6097
Maximum Day			
Extra Capacity	<u>0.55</u>	<u>6,600,000</u>	<u>0.3354</u>
Subtotal	<u>1.55</u>	18,600,000	0.9451
Fire Protection		<u>1,080,000</u>	<u>0.0549</u>
Total		<u>19,680,000</u>	<u>1.0000</u>

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).

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

FACTOR 4.

ALLOCATION OF COSTS ASSOC. WITH FACILITIES SERVING BASE AND MAX HOUR EXTRA CAPACITY FUNCT'S.

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.

Customer Classification	Average Hourly Consumption			Maximum Hour Extra Capacity		Fire Protection		Allocation Factor
	Thousand Gallons	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	
(1)	(2)	(3)	(4)=(3) X 0.2958	(5)	(6)=(5) X 0.4912	(7)	(8)=(7) X 0.2130	(9)=(4)+(6)+(8)
Residential	160.6	0.3845	0.1137	0.5110	0.2510			0.3647
Commercial	111.4	0.2667	0.0789	0.2531	0.1243			0.2032
Industrial	92.1	0.2206	0.0653	0.1005	0.0494			0.1147
Other Public Authority	13.0	0.0312	0.0092	0.0296	0.0145			0.0237
Sales for Resale	36.4	0.0871	0.0258	0.1058	0.0520			0.0778
Private Fire Protection	0.9	0.0021	0.0006			0.2172	0.0463	0.0469
Public Fire Protection	3.2	0.0077	0.0023			0.7828	0.1667	0.1690
Total	417.5	0.9999	0.2958	1.0000	0.4912	1.0000	0.2130	1.0000

The maximum hour extra capacity factors in column 5 are determined as follows:

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

FACTOR 4. Continued

**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 2.80 . The system demand for fire protection is 6,000 gallons per minute.

	<u>Ratio</u>	<u>Rate of Flow, (GPM)</u>	<u>Weight</u>
Average Hour	1.00	8,333	0.2958
Maximum Hour Extra Capacity	<u>1.66</u>	<u>13,837</u>	<u>0.4912</u>
Subtotal	<u>2.66</u>	22,170	0.7870
Fire Protection		<u>6,000</u>	<u>0.2130</u>
Total		<u>28,170</u>	<u>1.0000</u>

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

Customer Classification	Average Hourly Consumption Thousand Gal.	Maximum Hour Extra Capacity		
		Factor*	1,000 Gallons Per Hour	Allocation Factor
(1)	(2)	(3)	(4)=(2)x(3)	(5)
Residential	160.6	3.5	562.1	0.5110
Commercial	111.4	2.5	278.4	0.2531
Industrial	92.1	1.2	110.5	0.1005
Other Public Authority	13.0	2.5	32.5	0.0296
Sales for Resale	<u>36.4</u>	3.2	<u>116.4</u>	<u>0.1058</u>
Total	<u>413.5</u>		<u>1,100.0</u>	<u>1.0000</u>

* 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).

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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.

Customer Classification (1)	Average Hourly Consumption			Maximum Hour Extra Capacity		Fire Protection		Allocation Factor (9)=(4)+(6)+(8)
	Thousand Gallons (2)	Allocation Factor (3)	Weighted Factor (4)=(3) X 0.2857	Allocation Factor (5)	Weighted Factor (6)=(5) X 0.4743	Allocation Factor (7)	Weighted Factor (8)=(7) X 0.2400	
Residential	160.6	0.3113	0.0889	0.4615	0.2189			0.3078
Commercial	111.4	0.2159	0.0617	0.2286	0.1084			0.1701
Industrial	190.4	0.3692	0.1055	0.1876	0.0890			0.1945
Other Public Authority	13.0	0.0252	0.0072	0.0267	0.0127			0.0199
Sales for Resale	36.4	0.0705	0.0201	0.0956	0.0453			0.0654
Private Fire Protection	0.9	0.0017	0.0005			0.2172	0.0521	0.0526
Public Fire Protection	3.2	0.0062	0.0018			0.7828	0.1879	0.1897
Total	515.9	1.0000	0.2857	1.0000	0.4743	1.0000	0.2400	1.0000

The weighting of the factors is based on the ratio of the capacity required for a 3 hour demand of fire flow, as related to total storage capacity. The calculation is shown on the following page.

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

FACTOR 5. Continued

ALLOCATION OF COSTS ASSOCIATED WITH STORAGE FACILITIES, cont.

The weighting of the factors is based on the ratio of the capacity required for a 3 hour demand of fire flow, as related to total storage capacity.

$$\text{Fire Protection Weight} = \frac{6,000 \text{ GPM} \times 60 \text{ Min.} \times 3 \text{ Hrs.}}{4,500,000 \text{ Gallons}} = 0.2400$$

$$\text{General Service Weight} = 1.0000 - 0.2400 = 0.7600$$

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	37.59	0.2857
Extra Capacity Maximum Hour	1.66	62.41	0.4743
Total	2.66	100.00	0.7600

Customer Classification	Average Hourly Consumption Thousand Gal. (2)	Maximum Hour Extra Capacity		
		Factor*	1,000 Gallons Per Hour (4)=(2)x(3)	Allocation Factor (5)
(1)	(2)	(3)	(4)	(5)
Residential	160.6	3.5	562.1	0.4615
Commercial	111.4	2.5	278.4	0.2286
Industrial	190.4	1.2	228.5	0.1876
Other Public Authority	13.0	2.5	32.5	0.0267
Sales for Resale	36.4	3.2	116.4	0.0956
Total	511.8		1,218.0	1.0000

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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:

Customer Classification	Maximum Daily Consumption		Maximum Daily w/fire Consumption		Maximum Hourly Consumption		Allocation
	Allocation Factor 2	Weighted Factor	Allocation Factor 3	Weighted Factor	Allocation Factor 4	Weighted Factor	
(1)	(2)	(3)=(2)X 0.9159	(4)	(5)=(4)X 0.0385	(6)	(7)=(6)X 0.0456	(8)=(3)+ (5)+(7)
Residential	0.3500	0.3206	0.3310	0.0127	0.3647	0.0166	0.3499
Commercial	0.2169	0.1987	0.2050	0.0079	0.2032	0.0093	0.2159
Industrial	0.3267	0.2992	0.3086	0.0119	0.1147	0.0052	0.3163
Other Public Authority	0.0254	0.0233	0.0240	0.0009	0.0237	0.0011	0.0253
Sales for Resale	0.0759	0.0695	0.0717	0.0028	0.0778	0.0035	0.0758
Private Fire Protection	0.0011	0.0010	0.0129	0.0005	0.0469	0.0021	0.0036
Public Fire Protection	0.0040	0.0037	0.0468	0.0018	0.1690	0.0077	0.0132
Total	<u>1.0000</u>	<u>0.9160</u>	<u>1.0000</u>	<u>0.0385</u>	<u>1.0000</u>	<u>0.0455</u>	<u>1.0000</u>

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

	<u>Horsepower of Pumps</u>	<u>Weight</u>
Associated with Maximum Day	3,215	0.9159
Associated with Maximum Day and Fire	135	0.0385
Associated with Maximum Hour	<u>160</u>	<u>0.0456</u>
Total	<u>3,510</u>	<u>1.0000</u>

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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 5, for each customer classification, as follows:

Customer Classification	Maximum Daily Consumption		Maximum Hourly Consumption		Allocation
	Allocation Factor 3	Weighted Factor	Allocation Factor 4	Weighted Factor	
(1)	(2)	(3)=(2)X 0.0000	(4)	(5)=(4)X 1.0000	(6)=(3)+(5)
Residential	0.3310	0.0000	0.3647	0.3647	0.3647
Commercial	0.2050	0.0000	0.2032	0.2032	0.2032
Industrial	0.3086	0.0000	0.1147	0.1147	0.1147
Other Public Authority	0.0240	0.0000	0.0237	0.0237	0.0237
Sales for Resale	0.0717	0.0000	0.0778	0.0778	0.0778
Private Fire Protection	0.0129	0.0000	0.0469	0.0469	0.0469
Public Fire Protection	0.0468	0.0000	0.1690	0.1690	0.1690
Total	<u>1.0000</u>	<u>0.0000</u>	<u>1.0000</u>	<u>1.0000</u>	<u>1.0000</u>

	Total Footage of Mains	Weight
Transmission Mains	325,873	0.0000
Distribution Mains	<u>1,607,496</u>	<u>1.0000</u>
Total	<u>1,933,369</u>	1.0000

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

FACTOR 8.

ALLOCATION OF COSTS ASSOCIATED WITH FIRE HYDRANTS.

Costs are assigned directly to Public Fire Protection.

Customer Classification <u> </u> (1)	Allocation Factor <u> </u> (3)
Public Fire Protection	<u>1.0000</u>
Total	<u><u>1.0000</u></u>

FACTOR 9.

ALLOCATION OF COSTS ASSOCIATED WITH METERS.

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

Customer Classification <u> </u> (1)	5/8" Dollar Equivalents <u> </u> (2)	Allocation Factor <u> </u> (3)
Residential	20,844	0.7442
Commercial	4,792	0.1711
Industrial	1,095	0.0391
Other Public Authority	919	0.0328
Sales for Resale	358	0.0128
Private Fire	<u>0</u>	<u>0.0000</u>
Total	<u><u>28,008</u></u>	<u><u>1.0000</u></u>

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

FACTOR 10.

ALLOCATION OF COSTS ASSOCIATED WITH SERVICES.

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

<u>Customer Classification</u> (1)	<u>3/4" Dollar Equivalents</u> (2)	<u>Allocation Factor</u> (3)
Residential	19,744	0.7867
Commercial	3,349	0.1335
Industrial	186	0.0074
Other Public Authority	243	0.0097
Sales for Resale	45	0.0018
Private Fire Protection	<u>1,528</u>	<u>0.0609</u>
Total	<u><u>25,095</u></u>	<u><u>1.0000</u></u>

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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	\$ 140,003	0.5714
Commercial	44,885	0.1832
Industrial	17,767	0.0725
Other Public Authority	6,630	0.0271
Sales for Resale	10,285	0.0420
Private Fire Protection	6,287	0.0257
Public Fire Protection	19,143	0.0781
Total	<u>245,000</u>	<u>1.0000</u>

FACTOR 12.

**ALLOCATION OF TRANS. DISTRIB. MAINTENANCE SUPERVISION
AND ENGINEERING, STRUCTURES AND IMPROVE., 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	\$ 55,928	0.4154
Commercial	24,880	0.1848
Industrial	12,605	0.0936
Other Public Authority	2,997	0.0223
Sales for Resale	8,346	0.0620
Private Fire Protection	5,581	0.0414
Public Fire Protection	24,314	0.1806
Total	<u>\$134,650</u>	<u>1.0000</u>

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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.

<u>Customer Classification</u> (1)	<u>Operation & Maintenance Expenses</u> (2)	<u>Allocation Factor</u> (3)
Residential	\$915,334	0.5773
Commercial	277,127	0.1748
Industrial	199,994	0.1261
Other Public Authority	30,021	0.0189
Sales for Resale	64,915	0.0409
Private Fire Protection	25,484	0.0161
Public Fire Protection	72,637	0.0458
Total	<u>\$1,585,511</u>	<u>1.0000</u>

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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 <u>(1)</u>	Direct Labor Expense <u>(2)</u>	Allocation Factor <u>(3)</u>
Residential	\$672,123	0.5270
Commercial	233,764	0.1833
Industrial	189,352	0.1485
Other Public Authority	27,324	0.0214
Sales for Resale	61,348	0.0481
Private Fire Protection	20,881	0.0164
Public Fire Protection	<u>70,620</u>	<u>0.0554</u>
Total	<u><u>\$1,275,411</u></u>	<u><u>1.0000</u></u>

FACTOR 17.

**ALLOCATION OF ORGANIZATION, FRANCHISES AND CONSENTS,
MISC. 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 <u>(1)</u>	Original Cost Less Depreciation <u>(2)</u>	Allocation Factor <u>(3)</u>
Residential	\$13,141,348	0.4391
Commercial	5,607,474	0.1874
Industrial	5,341,286	0.1785
Other Public Authority	655,013	0.0219
Sales for Resale	1,716,318	0.0574
Private Fire Protection	862,359	0.0288
Public Fire Protection	<u>2,601,462</u>	<u>0.0869</u>
Total	<u><u>\$29,925,260</u></u>	<u><u>1.0000</u></u>

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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	\$8,793,760	0.4400
Commercial	3,743,329	0.1873
Industrial	3,560,981	0.1782
Other Public Authority	436,914	0.0219
Sales for Resale	1,143,859	0.0572
Private Fire Protection	574,988	0.0288
Public Fire Protection	1,733,453	0.0867
Total	<u>\$19,987,285</u>	<u>1.0000</u>

FACTOR 19.

**ALLOCATION OF REG. 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	\$3,474,919	0.5076
Commercial	1,247,987	0.1823
Industrial	1,133,002	0.1655
Other Public Authority	139,667	0.0204
Sales for Resale	334,112	0.0488
Private Fire Protection	133,599	0.0195
Public Fire Protection	382,413	0.0559
Total	<u>\$6,845,698</u>	<u>1.0000</u>

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BASIS FOR ALLOCATING METER COSTS TO CUSTOMER CLASSIFICATIONS

Meter Size (1)	5/8" Dollar Equivalent (2)	Residential		Commercial		Industrial		Other Public Authority		Sales for Resale		Total	
		Number of Meters (3)	Weighting (4)=(2)X(3)	Number of Meters (5)	Weighting (6)=(2)X(5)	Number of Meters (7)	Weighting (8)=(2)X(7)	Number of Meters (9)	Weighting (10)=(2)X(9)	Number of Meters (11)	Weighting (12)=(2)X(11)	Number of Meters (13)	Weighting (14)
5/8	1.0	17,357.17	17,357.17	2,110.50	2,110.50	9.00	9.00	37.08	37.08	0.00	0.00	19,513.75	19,513.75
3/4	1.3	16.42	21.34	13.08	17.01	2.00	2.60	2.83	3.68	0.00	0.00	34.33	44.63
1	1.7	1,998.42	3,397.31	502.33	853.97	16.83	28.62	46.58	79.19	1.08	1.84	2,565.25	4,360.93
1-1/2	3.5	1.42	4.96	16.92	59.21	2.00	7.00	3.00	10.50	0.00	0.00	23.33	81.67
2	4.3	14.67	63.07	274.17	1,178.92	35.58	153.01	51.00	219.30	10.75	46.23	386.17	1,660.52
3	19.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	29.3	0.00	0.00	9.17	268.58	16.00	468.80	4.00	117.20	0.17	4.88	29.33	859.47
6	48.4	0.00	0.00	5.50	266.20	6.08	294.43	0.00	0.00	1.83	88.73	13.42	649.37
8	112.9	0.00	0.00	0.33	37.63	1.17	131.72	4.00	451.60	1.92	216.39	7.42	837.34
Total		<u>19,388.08</u>	<u>20,843.84</u>	<u>2,932.00</u>	<u>4,792.02</u>	<u>88.67</u>	<u>1,095.18</u>	<u>148.50</u>	<u>918.56</u>	<u>15.75</u>	<u>358.08</u>	<u>22,573.00</u>	<u>28,007.67</u>

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BASIS FOR ALLOCATING SERVICE COSTS TO CUSTOMER CLASSIFICATIONS**

Service Size (1)	3/4" Dollar Equivalent (2)	Residential		Commercial		Industrial		Other Public Authority		Sales for Resale		Private Fire Protection		Total	
		Number of Services (3)	Weighting (4)=(2)X(3)	Number of Services (5)	Weighting (6)=(2)X(5)	Number of Services (7)	Weighting (8)=(2)X(7)	Number of Services (9)	Weighting (10)=(2)X(9)	Number of Services (11)	Weighting (12)=(2)X(11)	Number of Services (13)	Weighting (14)=(2)X(13)	Number of Services (15)	Weighting (16)
3/4	1.00	17,373.58	17,373.58	2,123.58	2,123.58	11.00	11.00	39.92	39.92	0.00	0.00	0.00	0.00	19,548.08	19,548.08
1	1.17	1,998.42	2,338.15	502.33	587.73	16.83	19.70	46.58	54.50	1.08	1.27	0.00	0.00	2,565.25	3,001.34
1-1/2	1.58	1.42	2.24	16.92	26.73	2.00	3.16	3.00	4.74	0.00	0.00	0.00	0.00	23.33	36.87
2	2.04	14.67	29.92	274.17	559.30	35.58	72.59	51.00	104.04	10.75	21.93	5.00	10.20	391.17	797.98
3	2.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	2.73	1.00	2.73
4	2.88	0.00	0.00	9.17	26.40	16.00	46.08	4.00	11.52	0.17	0.48	28.00	80.64	57.33	165.12
6	4.24	0.00	0.00	5.50	23.32	6.08	25.79	0.00	0.00	1.83	7.77	157.00	665.68	170.42	722.57
8	6.98	0.00	0.00	0.33	2.33	1.17	8.14	4.00	27.92	1.92	13.38	102.00	711.96	109.42	763.73
10	9.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.00	57.00	6.00	57.00
12	12.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		<u>19,388.08</u>	<u>19,743.89</u>	<u>2,932.00</u>	<u>3,349.39</u>	<u>88.67</u>	<u>186.46</u>	<u>148.50</u>	<u>242.64</u>	<u>15.75</u>	<u>44.83</u>	<u>299.00</u>	<u>1,528.21</u>	<u>22,872.00</u>	<u>25,095.42</u>

MISSOURI-AMERICAN WATER COMPANY
JOPLIN DISTRICT

PSC STAFF STUDY

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

Description (1)	Restrictive Diameters Squared (2)	Quantity (3)	Relative Demand (4)=(2)x(3)	Allocation Factor (5)
<u>PRIVATE FIRE PROTECTION</u>				
Fire Lines				
2 -inch	4.00	5	20	
3 -inch	9.00	0	0	
4 -inch	16.00	28	448	
6 -inch	36.00	157	5,652	
8 -inch	64.00	102	6,528	
10 -inch	100.00	6	600	
12 -inch	144.00	0	0	
Private Hydrants	32.75	3	98	
Total Private Fire Protection		301	13,346	0.2172
<u>PUBLIC FIRE PROTECTION</u>				
Hydrant	Nozzle Sizes			
6" Valve	2- 2-1/2" & 1- 4.5"	32.75	1,469	48,110
6" Valve	2- 2-1/2" & 1- 4"	28.50	0	0
Total Public Fire Protection		1,469	48,110	0.7828
Total Fire Protection		1,770	61,456	1.0000