

***Expert Witness Testimony of Thomas J. Sullivan***

- Peoples Natural Gas Company of South Carolina, South Carolina Public Service Commission Docket No. 88-52-G (1988). Natural gas utility revenue requirements and rate design.
- Peoples Natural Gas (UtiliCorp United, Inc.), Iowa Utilities Board Docket No. RPU-92-6 (1992). Natural gas utility class cost of service study and peak day demand requirements.
- Peoples Natural Gas (UtiliCorp United, Inc.), Kansas Corporation Commission Docket No. 193,787-U (1996). Natural gas utility class cost of service study, rate design, and peak day demand requirements.
- Southern Union Gas Company, Railroad Commission of Texas Gas Utilities Docket No. 8878 (1998). Natural gas utility depreciation rates.
- Southern Union Gas Company, City of El Paso (1999). Natural Gas utility depreciation rates.
- UtiliCorp United, Inc., Kansas Corporation Commission Docket No. 00-UTCG-336-RTS (1999). Natural gas utility weather normalization, class cost of service, and rate design.
- Philadelphia Gas Works, Pennsylvania Public Utility Commission Docket No. R-00006042 (2001). Natural gas utility revenue requirements.
- Missouri Gas Energy, Missouri Public Service Commission Docket No. GR-2001-292 (2001). Natural gas utility depreciation rates.
- Aquila Networks, Iowa Utilities Board Docket No. RPU-02-5 (2002). Natural gas utility class cost of service study, rate design, and weather normalization adjustment.
- Aquila Networks, Michigan Gas Utilities, Michigan Public Service Commission Case No. U-13470 (2002). Natural gas utility class cost of service study, rate design, and weather normalization adjustment.
- Aquila Networks, Nebraska Public Service Commission Docket No. NG-0001, NG0002, NG0003 (2003). Natural gas utility weather normalization adjustment.
- Aquila Networks, Missouri Public Service Commission Docket No. GR-2003 (2003). Natural gas utility class cost of service study, rate design, annualization adjustment, and weather normalization adjustment.
- North Carolina Natural Gas, North Carolina Utilities Commission Docket No. G-21-Sub 442 (2003). Filed intervenor testimony on behalf of the municipal customers regarding natural gas cost of service and rates related to intrastate transmission service.
- Texas Gas Service Company, Division of ONEOK, Railroad Commission of Texas Gas Utilities Docket No. 9465 (2004). Natural gas utility depreciation rates.

- Missouri Gas Energy, Missouri Public Service Commission Docket No. GR-2004-0209 (2004). Natural gas utility depreciation rates.
- Aquila Networks, Kansas Corporation Commission Docket No. 05-AQLG-367-RTS (2004). Natural gas utility class cost of service study, rate design, and weather normalization adjustment.
- Aquila Networks, Iowa Utilities Board Docket No. RPU-05-02 (2005). Natural gas utility class cost of service study, rate design, grain drying adjustment and weather normalization adjustment.
- PJM Interconnection, LLC, Federal Energy Regulatory Commission Docket No. ER05-1181 (2005). Operating cash reserve requirements.
- Kinder Morgan, Inc., Wyoming Public Service Commission Docket No. 30022-GR-6-73 (2006). Natural gas utility weather normalization adjustment, development of load factors, billing cycle adjustment, determination of test year billing units and revenue, and depreciation rates.
- Missouri Gas Energy, Missouri Public Service Commission Docket No. GR-2006-0422 (2006). Natural gas utility depreciation rates.
- Kinder Morgan, Inc., Nebraska Public Service Commission Docket No. NG-0036 (2006). Natural gas utility weather normalization adjustment, test year billing determinants and revenue under existing rates, customer and usage trends, and rate design.
- Aquila Networks, Kansas Corporation Commission Docket No. 07-AQLG-431-RTS (2006). Natural gas utility class cost of service study, rate design, irrigation adjustment, and weather normalization adjustment.
- Aquila Networks, Nebraska Public Service Commission Docket No. NG-0041 (2006). Natural gas utility jurisdictional class cost of service study, rate design, and synchronization adjustment.

**Table 3-4**  
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**Missouri Gas Energy**  
**Summary of Regional Gas Depreciation Rate Survey**

[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]	[L]	[M]	[N]	[O]
Account Description	FERC Account	MidAmerican Energy							KS Gas Svc		Ameren (Union Electric)			
		Iowa							Kansas		Missouri		Illinois	
		Estimated Average Service Life	Net Salvage	Applied Depreciation Rate %	Mortality Curve Type	Avg Remaining Life (Years)	Type of Analysis	Life Basis	Estimated Average Service Life	Applied Depreciation Rate %	Estimated Average Service Life	Applied Depreciation Rate %	Estimated Average Service Life	Applied Depreciation Rate %
<b>Distribution</b>														
Land and Land Rights	374	50.00	0.00	2.04%	R3	35.29	SPB	Remaining Life	69	1.44%				
Structures and Improvements	375	50.00	(5.00)	1.82%	R2	27.81	SPB	Remaining Life	21	4.66%	51	1.98%	50	2.00%
Mains	376	50.00	(25.00)	2.45%	R3	33.75	SPB	Remaining Life	41	2.42%	42	2.40%	46	2.18%
Measuring and Regulating Equip	378	35.00	(35.00)	3.75%	R1	24.38	SPB	Remaining Life	44	2.27%	42	2.38%	31	3.26%
Meas & Reg Equip - City Gate	379	36.00	(40.00)	4.09%	R3	21.35	SPB	Remaining Life	49	2.06%	44	2.27%	31	3.26%
Services	380	40.00	(55.00)	3.68%	R3	25.75	SPB	Remaining Life	22	4.53%	36	2.79%	34	2.90%
Meters	381	35.00	0.00	3.03%	S1	24.13	SPB	Remaining Life	32	3.13%	52	1.91%	40	2.50%
Meter Installations	382								31	3.23%				
House Regulators	383	50.00	0.00	1.91%	S3	34.93	SPB	Remaining Life	46	2.17%	45	2.21%	43	2.32%
Industrial Meas and Reg Equipment	385	25.00	0.00	3.81%	S1	12.86	SPB	Remaining Life			41	2.45%	35	2.86%
Other Equipment	387								10	10.20%	30	3.36%		
<b>General</b>														
Land and Land Rights	389	50.00	0.00	1.92%	R3	39.51	SPB	Remaining Life						
Structures and Improvements	390	45.00	0.00	2.24%	R2	30.93	SPB	Remaining Life	32	3.09%	79	1.27%		
Office Furn and Equipment	391	15.00	5.00	7.54%	SQ	6.50	SPB	Remaining Life	30	3.38%	13	7.75%	5	20.00%
Computers	391.1	5.00	0.00	11.82%	SL	3.69	SPB	Remaining Life	5	18.30%	9	11.11%	5	20.00%
Transportation Equipment	392								10	9.56%	14	7.28%		
Stores Equipment	393	20.00	5.00	7.47%	SQ	5.43	SPB	Remaining Life	66	1.52%	15	6.67%		
Tool, Shop, and Garage Equipment	394	25.00	5.00	4.00%	SQ	14.63	SPB	Remaining Life	42	2.38%	19	5.18%	10	10.00%
Lab Equipment	395	25.00	0.00	4.32%	SQ	12.57	SPB	Remaining Life	44	2.27%	20	4.90%	15	6.67%
Power Operated Equipment	396								9	11.72%	21	4.78%		
Communication Equipment	397	15.00	0.00	7.43%	SQ	6.34	SPB	Remaining Life	23	4.29%	17	6.06%	10	10.00%
Miscellaneous Equipment	398	15.00	0.00	8.58%	SQ	2.46	SPB	Remaining Life	21	4.72%				

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**Missouri Gas Energy**  
**Summary of Regional Gas Depreciation Rate Survey**

[A]	[B]	[P]	[Q]	[R]	[S]	[T]	[U]	[V]	[W]	[X]	[Y]	[Z]	[AA]	[AB]	[AC]
		Aquila											LaCiede		
Account Description	FERC Account	Missouri Public Service			NMU - Minnesota			Peoples Natural Gas - Iowa					Missouri		
		Estimated Average Service Life	Applied Depreciation Rate %	Iowa Curve Type	Estimated Average Service Life	Net Salvage %	Applied Depreciation Rate %	Estimated Average Service Life	Net Salvage %	Applied Depreciation Rate %	Curve Type	Average Remaining Life	Estimated Average Service Life	Applied Depreciation Rate %	Mortality Curve Type
Distribution															
Land and Land Rights	374														
Structures and Improvements	375	45	2.22%	R 4				45	0.0%	3.48%	S 4	26.55	61	1.64%	
Mains	376	45	2.22%	R 1, R 4	50	-35.00%	2.73%	40	-70.0%	3.48%	R 4	26.55	79	1.27%	
Measuring and Regulating Equip	378	44	2.27%	R 1.5	33	-5.00%	3.23%	27	-5.0%	3.48%	R 2	26.55	45	2.22%	
Meas & Reg Equip - City Gate	379	44	2.27%	R 1.5	28	-5.00%	3.08%						45	2.20%	
Services	380	45	2.22%	R 3, R 4	35	-60.00%	4.60%	38	-125.0%	3.48%	S 2	26.55	44	2.27%	
Meters	381	40	2.50%	S 0.5	38	5.00%	2.52%	35	5.0%	3.48%	S 4	26.55	38	2.63%	
Meter Installations	382				41	-60.00%	3.94%	38	-30.0%	3.48%	R 2	26.55			
House Regulators	383	40	2.50%	S 2	35	-15.00%	3.14%	29	0.0%	3.48%	S 3	26.55	47	2.13%	
Industrial Meas and Reg Equipment	385	44	2.27%	R 1.5				30	15.0%	3.48%	R 2	26.55	40	2.50%	
Other Equipment	387							12	-20.0%	3.48%	R 1	26.55	32	3.13%	
General															
Land and Land Rights	389														
Structures and Improvements	390	45	2.22%	R 1.5				29		3.48%			40	2.50%	
Office Furn and Equipment	391	22	4.55%	L 4	20	5.00%	6.31%	29		3.44%			37	2.70%	
Computers	391.1	7	14.29%	S 2	8		18.98%	8		12.30%			5	20.00%	
Transportation Equipment	392	12	8.33%	S 5	7	30.00%	94.80%						12	8.33%	
Stores Equipment	393	27	3.70%	L 1									45	2.22%	
Tool, Shop, and Garage Equipment	394	27	3.70%	L 0	23		5.00%	31		3.20%			38	2.63%	
Lab Equipment	395	29	3.45%	R 2.5				31		3.20%			28	3.57%	
Power Operated Equipment	396	16	6.25%	S 6	13	25.00%	1.47%						14	7.14%	
Communication Equipment	397	29	3.45%	S 2	18		2.15%	29		3.48%			18	5.56%	
Miscellaneous Equipment	398	23	4.35%	L 4	20		5.00%						29	3.45%	

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**Missouri Gas Energy**  
**Summary of Regional Gas Depreciation Rate Survey**

[A]	[B]	[AD]	[AE]	[AF]	[AG]	[AH]	[AI]	[AJ]	[AK]	[AL]	[AM]	[AN]	[AO]	[AP]	[AQ]
Account Description	FERC Account	Atmos Energy			Kinder Morgan			Regional Range				Regional Average		MGE Existing Rates	
		Estimated Average Service Life	Applied Depreciation Rate %	Type of Analysis	Estimated Average Service Life	Applied Depreciation Rate %	Net Salvage	Service Life		Depreciation Rate		Estimated Average Service Life	Applied Depreciation Rate %	Estimated Average Service Life	Applied Depreciation Rate %
								Low	High	Low	High				
Distribution															
Land and Land Rights	374							50	69	1.44%	2.04%	60	1.74%	48	2.09%
Structures and Improvements	375	38	2.64%	actuarial	33	3.00%		21	61	1.64%	4.66%	46	2.54%	61	1.65%
Mains	376		2.64%	actuarial	33	3.00%		33	79	1.27%	3.48%	49	2.39%	44	2.27%
Measuring and Regulating Equip	378	38	2.64%	actuarial	33	3.00%		27	45	2.22%	3.75%	38	2.86%	35	2.86%
Meas & Reg Equip - City Gate	379	38	2.64%	actuarial	33	3.00%		28	49	2.06%	4.09%	40	2.75%	47	2.13%
Services	380	38	2.64%	actuarial	33	3.00%		22	45	2.22%	4.60%	37	3.31%	37	2.70%
Meters	381	38	2.64%	actuarial	33	3.00%		32	52	1.91%	3.48%	39	2.71%	35	2.86%
Meter Installations	382	38	2.64%	actuarial	33	3.00%		31	41	2.64%	3.94%	37	3.55%	35	2.86%
House Regulators	383	38	2.64%	actuarial	33	3.00%		29	50	1.91%	3.48%	42	2.48%	41	2.44%
Industrial Meas and Reg Equipment	385	38	2.64%	actuarial	33	3.00%		25	44	2.27%	3.81%	36	2.90%	30	3.33%
Other Equipment	387	38	2.64%	actuarial	33	3.00%		10	38	2.64%	10.20%	21	5.04%	16	6.33%
General															
Land and Land Rights	389							50	50	1.92%	1.92%	50	1.92%		
Structures and Improvements	390				40	2.50%		8	79	1.27%	12.12%	44	2.47%	50	2.00%
Office Furn and Equipment	391	8	12.12%	actuarial	13	7.50%		5	37	2.70%	20.00%	20	7.02%	12	8.06%
Computers	391.1	8	12.12%	actuarial	13	7.50%		5	13	7.50%	20.00%	7	14.92%	12	8.06%
Transportation Equipment	392	8	12.12%	actuarial	10	10.00%	20%	7	14	7.28%	94.80%	11	23.05%	11	8.70%
Stores Equipment	393	8	12.12%	actuarial	13	7.50%		8	66	1.52%	12.12%	31	4.85%	37	2.70%
Tool, Shop, and Garage Equipment	394	8	12.12%	actuarial	13	7.50%		8	42	2.38%	12.12%	25	4.84%	19	5.30%
Lab Equipment	395	8	12.12%	actuarial	13	7.50%		8	44	2.27%	12.12%	26	4.49%		
Power Operated Equipment	396	8	12.12%	actuarial	10	10.00%	10%	8	21	1.47%	12.12%	14	6.89%	12	8.33%
Communication Equipment	397	8	12.12%	actuarial	13	7.50%		8	29	2.15%	12.12%	19	5.55%	16	6.25%
Miscellaneous Equipment	398	8	12.12%	actuarial	13	7.50%		8	29	3.45%	12.12%	20	5.60%	26	3.85%

**REVISED**  
**Table 3-5**  
**Missouri Gas Energy**  
**Recommended Average Service Lives**

[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]
Acct. No.	Account	Existing Average Service Life	Existing Annual Accrual Rate	Depreciable Plant 12/31/2004	Existing Annual Depreciation Expense	Recommended Average Service Life	Indicated Accrual Rate	Indicated Depreciation Expense
		Years	%	\$	\$	Years	%	\$
	<b>Distribution Plant</b>							
3742	Land Rights	48	2.09%	1,568,071	32,773	50	2.00%	31,361
3751	Structures	61	1.65%	5,303,297	87,610	45	2.22%	117,733
3760	Mains	44	2.27%	317,114,685	7,201,675	44	2.27%	7,198,503
3780	Measuring & Regulating Stations	35	2.86%	11,340,602	324,341	35	2.86%	324,341
3790	City Gate Stations	47	2.13%	3,225,472	68,670	40	2.50%	80,637
3800	Services	37	2.70%	284,133,633	7,671,608	32	3.13%	8,893,383
3810	Meters	35	2.86%	30,234,961	864,720	35	2.86%	864,720
3820	Meter/Regulator Installations	35	2.86%	63,517,434	1,816,599	35	2.86%	1,816,599
3830	Regulators	41	2.44%	10,874,553	265,339	42	2.38%	258,814
3850	EGM-Meas/Reg Equip	30	3.33%	349,644	11,643	30	3.33%	11,643
3870	Other Equipment	16	6.33%	0	0	16	6.25%	-
	<b>Total Distribution Plant</b>		2.52%	727,662,351	18,344,978		2.69%	19,597,735
	<b>General Plant</b>							
3901	Structures & Improvements	50	2.00%	1,999,518	39,990	45	2.22%	44,389
3910	Furniture & Equipment	12	8.06%	5,958,115	480,224	11	9.09%	541,593
3920	Transportation Equipment	11	8.70%	5,105,489	444,178	11	9.09%	464,089
3930	Stores Equipment	37	2.70%	507,444	13,701	30	3.33%	16,898
3940	Tools	19	5.30%	4,883,622	258,832	20	5.00%	244,181
3960	Power Operated Equipment	12	8.33%	243,807	20,309	15	6.67%	16,262
3970	Communication Equipment	16	6.25%	3,016,045	188,503	16	6.25%	188,503
3971	Electronic Reading-ERT	20	5.00%	35,104,368	1,755,218	20	5.00%	1,755,218
3980	Miscellaneous Equipment	26	3.85%	416,204	16,024	20	5.00%	20,810
	<b>Total General Plant</b>		5.62%	57,234,611	3,216,979		5.75%	3,291,943
	<b>Total Depreciable Plant</b>		2.75%	784,896,963	21,561,957		2.92%	22,889,678

(1) \$/year salvage allowance.

(2) Recommended service life of 11 years for Account 391 is based on service life determined in weighting study for Acct. 391, Table 3-6.

**REVISED**  
**Table 4-1**  
**Missouri Gas Energy**  
**Analysis of Accumulated Depreciation Reserve**

[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]
Acct. No.	Account	Existing Annual Accrual Rate	Depreciable Plant 12/31/2004	Existing Annual Depreciation Expense	Accumulated Depreciation Reserve	Reserve Ratio	Net Salvage Allowance	Recommended Average Service Life	Indicated Accrual Rate	Indicated Depreciation Expense
		%	\$	\$	\$	%	\$	Years	%	\$
				[C] * [D]		[F] / [D]			(1 / [I]) - ([H] / [D])	[D] * [J]
	<b>Distribution Plant</b>									
3742	Land Rights	2.09%	1,568,071	32,773	342,553	21.85%		50	2.00%	31,361
3751	Structures	1.65%	5,303,297	87,610	309,222	5.83%		45	2.22%	117,733
3760	Mains	2.27%	317,114,685	7,201,675	97,058,811	30.61%		44	2.27%	7,198,503
3780	Measuring & Regulating Stations	2.86%	11,340,602	324,341	3,187,532	28.11%		35	2.86%	324,341
3790	City Gate Stations	2.13%	3,225,472	68,670	723,671	22.44%		40	2.50%	80,637
3800	Services	2.70%	284,133,633	7,671,608	124,691,479	43.88%	(800,000)	32	3.41%	9,688,957
3810	Meters	2.86%	30,234,961	864,720	2,876,110	9.51%		35	2.86%	864,720
3820	Meter/Regulator Installations	2.86%	63,517,434	1,816,599	12,039,627	18.95%		35	2.86%	1,816,599
3830	Regulators	2.44%	10,874,553	265,339	1,819,229	16.73%		42	2.38%	258,814
3850	EGM-Meas/Reg Equip	3.33%	349,644	11,643	86,249	24.67%		30	3.33%	11,643
3870	Other Equipment	6.33%	0	0	0	0.00%		16	6.25%	0
	<b>Total Distribution Plant</b>	2.52%	727,662,351	18,344,978	243,134,483	33.41%	(800,000)		2.80%	20,393,309
	<b>General Plant</b>									
3901	Structures & Improvements	2.00%	1,999,518	39,990	123,618	6.18%	40%	45	1.33%	26,660
3910	Furniture & Equipment	8.06%	5,958,115	480,224	329,059	5.52%	0%	11	9.09%	541,647
3920	Transportation Equipment	8.70%	5,105,489	444,178	2,022,624	39.62%	10%	11	8.18%	417,722
3930	Stores Equipment	2.70%	507,444	13,701	149,136	29.39%	0%	30	3.33%	16,915
3940	Tools	5.30%	4,883,622	258,832	646,342	13.23%	0%	20	5.00%	244,181
3960	Power Operated Equipment	8.33%	243,807	20,309	(452,017)	-185.40%	20%	15	5.33%	13,003
3970	Communication Equipment	6.25%	3,016,045	188,503	(1,800,321)	-59.69%	0%	16	6.25%	188,503
3971	Electronic Reading-ERT	5.00%	35,104,368	1,755,218	10,892,791	31.03%	0%	20	5.00%	1,755,218
3980	Miscellaneous Equipment	3.85%	416,204	16,024	262,651	63.11%	0%	20	5.00%	20,810
	<b>Total General Plant</b>	5.62%	57,234,611	3,216,979	12,173,883	21.27%			5.63%	3,224,659
	<b>Total Depreciable Plant</b>	2.75%	784,896,963	21,561,957	255,308,366	32.53%			3.01%	23,617,968

[A]	[B]	[L]	[M]	[N]	[O]	[P]	[Q]	[R]	[S]	[T]	[U]
Acct. No.	Account	Weighted Age	Calculated Reserve Ratio Based On Weighted Age	Calculated Depreciation Reserve	Reserve Deficiency	Redistribute Major Reserve Deficiency	Restated Reserve Deficiency	Average Remaining Life	Annual \$ To Amortize over Remaining Life	Change in Accrual Rate	Recommended Accrual Rate
		Years	%	\$	\$	\$	\$	Years	\$	%	%
			[L] / [I]	[M] * [D]	[N] - [F]		[O] + [P]	[I] - [L]	[Q] / [R]	[S] / [D]	[J] + [T]
	<b>Distribution Plant</b>										
3742	Land Rights	12.86	25.72%	403,308	60,755		60,755	37.14	1,636	0.10%	2.10%
3751	Structures	10.60	23.56%	1,249,221	939,999	(1,000,000)	(60,001)	34.40	(1,744)	-0.03%	2.19%
3760	Mains	15.92	36.18%	114,737,859	17,679,048	(3,400,000)	14,279,048	28.08	508,513	0.16%	2.43%
3780	Measuring & Regulating Stations	13.12	37.49%	4,251,106	1,063,573	(1,000,000)	63,573	21.88	2,906	0.03%	2.89%
3790	City Gate Stations	10.59	26.48%	853,944	130,273		130,273	29.41	4,430	0.14%	2.64%
3800	Services	10.75	33.59%	95,451,142	(29,240,337)	29,000,000	(240,337)	21.25	(11,310)	0.00%	3.41%
3810	Meters	14.77	42.20%	12,759,154	9,883,043	(9,245,000)	638,043	20.23	31,539	0.10%	2.96%
3820	Meter/Regulator Installations	9.42	26.91%	17,095,264	5,055,637	(4,000,000)	1,055,637	25.58	41,268	0.06%	2.92%
3830	Regulators	10.32	24.57%	2,672,033	852,804	(1,000,000)	(147,196)	31.68	(4,646)	-0.04%	2.34%
3850	EGM-Meas/Reg Equip	6.27	20.90%	73,076	(13,174)	10,000	(3,174)	23.73	(134)	-0.04%	3.29%
3870	Other Equipment		0.00%	0	0		0	16.00	0	0.00%	6.25%
	<b>Total Distribution Plant</b>			249,546,105	6,411,622	9,365,000	15,776,622				
	<b>General Plant</b>										
3901	Structures & Improvements	17.90	39.78%	795,364	671,746	(740,000)	(68,254)	27.10	(2,519)	-0.13%	1.21%
3910	Furniture & Equipment	7.22	65.64%	3,910,690	3,581,631	(3,580,000)	1,631	3.78	432	0.01%	9.10%
3920	Transportation Equipment	4.75	43.18%	2,204,643	182,019	(180,000)	2,019	6.25	323	0.01%	8.19%
3930	Stores Equipment	13.63	45.43%	230,549	81,413	(80,000)	1,413	16.37	86	0.02%	3.35%
3940	Tools	9.99	49.95%	2,439,369	1,793,028	(1,790,000)	3,028	10.01	302	0.01%	5.01%
3960	Power Operated Equipment	11.27	75.13%	183,180	635,197	(635,000)	197	3.73	53	0.02%	5.36%
3970	Communication Equipment	3.96	24.75%	746,471	2,546,792	(2,540,000)	6,792	12.04	564	0.02%	6.27%
3971	Electronic Reading-ERT	6.17	30.85%	10,829,697	(63,094)	60,000	(3,094)	13.83	(224)	0.00%	5.00%
3980	Miscellaneous Equipment	6.67	33.35%	138,804	(123,847)	120,000	(3,847)	13.33	(289)	-0.07%	4.93%
	<b>Total General Plant</b>			21,478,767	9,304,885	(9,365,000)	(60,115)				
	<b>Total Depreciable Plant</b>			271,024,873	15,716,506	0	15,716,506				

**REVISED**  
**Table 4-2**  
**Missouri Gas Energy**  
**Summary of Recommended Depreciation Accrual Rates**

[illegible]



**Comparison of Macias' and Company Proposed Rates  
Using Schedule GEM-4**

Rebuttal Schedule TJS-1

GR-2006-0422

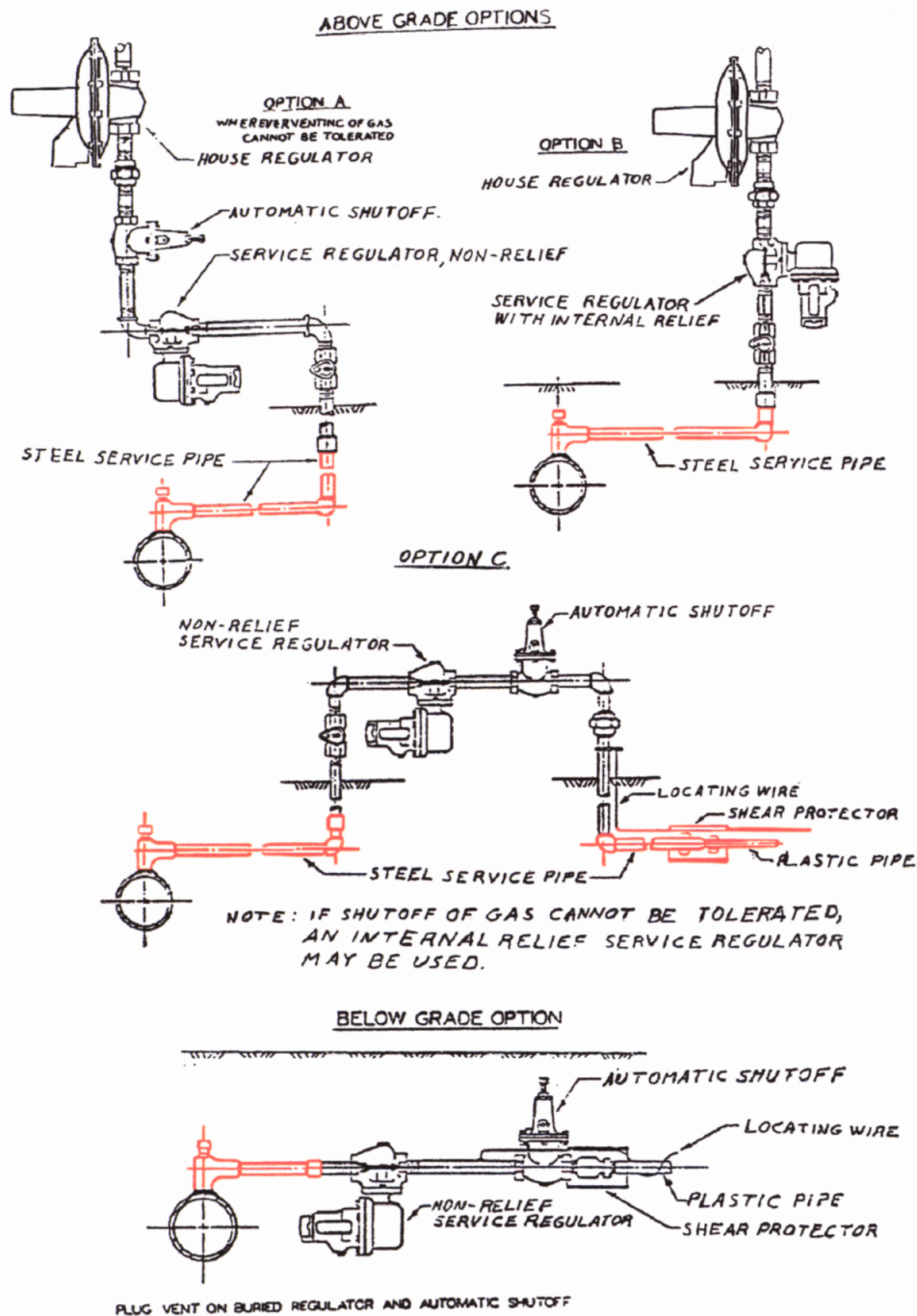
Missouri Gas Energy

**SCHEDULE 4. Depreciation Rate Determination and Corresponding Annual Accrual**

		Existing Ordered					Staff Proposal					Company Proposal					Difference
Account Number		Original Cost 6/30/2006	ASL (Years)	Net Salvage	Depreciation Rate	Annual Accrual	ASL (Years)	Net Salvage	Depreciation Rate	Annual Accrual	Difference Compared to Existing	ASL (Years)	Net Salvage	Depreciation Rate	Annual Accrual	Difference Compared to Existing	Between Macias and Company Proposed
DISTRIBUTION																	
375.00	Structures and Improvements	5,584,958	61	0%	1.65%	92,152	45	10%	2.00%	111,699	19,547	45	-	2.19%	122,311	30,159	10,611
376.00	Mains	339,884,706	44	0%	2.27%	7,715,383	45	5%	2.11%	7,171,567	(543,816)	44	-	2.43%	8,259,198	543,815	1,087,631
378.00	Measuring and Regulating Equip.	11,634,249	35	0%	2.86%	332,740	41	0%	2.44%	283,876	(48,864)	35	-	2.89%	336,230	3,490	52,354
379.00	Meas & Reg Equip - City Gate	3,058,251	47	0%	2.13%	65,141	41	0%	2.44%	74,621	9,480	40	-	2.64%	80,738	15,597	6,117
380.00	Services	294,362,067	37	0%	2.70%	7,947,776	42	-28%	3.05%	8,978,043	1,030,267	32	(800,000)	3.41%	10,037,746	2,089,970	1,059,703
381.00	Meters	31,036,775	35	0%	2.86%	887,652	41	-1%	2.46%	763,505	(124,147)	35	-	2.96%	918,689	31,037	155,184
382.00	Meter Installations	68,835,673	35	0%	2.86%	1,968,700	41	0%	2.44%	1,679,590	(289,110)	35	-	2.92%	2,010,002	41,302	330,411
383.00	House Regulators	11,558,045	41	0%	2.44%	282,016	45	0%	2.22%	256,589	(25,427)	42	-	2.34%	270,458	(11,558)	13,870
385.00	Industrial Meas and Reg Equipment	372,505	30	0%	3.33%	12,404	43	0%	2.33%	8,679	(3,725)	30	-	3.29%	12,255	(149)	3,576
	TOTAL DISTRIBUTION	766,327,228				19,303,964				19,328,170	24,206				22,047,627	2,743,663	2,719,457
GENERAL																	
390.00	Structures and Improvements	661,193	50	0%	2.00%	13,224	41	0%	2.44%	16,133	2,909	45	40.00%	1.21%	8,000	(5,224)	(8,133)
391.00	Office Furniture and Equipment	6,970,421	12	0%	8.06%	561,816	11	0%	9.09%	633,611	71,795	11	0.00%	9.10%	634,308	72,492	697
392.00	Transportation Equipment	5,043,979	11	0%	8.70%	438,826	12	10%	7.50%	378,298	(60,528)	11	10.00%	8.19%	413,102	(25,724)	34,803
393.00	Stores Equipment	538,350	37	0%	2.70%	14,535	32	0%	3.13%	16,850	2,315	30	0.00%	3.35%	18,035	3,500	1,184
394.00	Tool, Shop, and Garage Equipment	5,154,470	19	0%	5.30%	273,187	27	0%	3.70%	190,715	(82,472)	20	0.00%	5.01%	258,239	(14,948)	67,524
396.00	Power Operated Equipment	243,807	12	0%	8.33%	20,309	17	25%	4.41%	10,752	(9,557)	15	20.00%	5.36%	13,068	(7,241)	2,316
397.10	Electronic Reading - ERT	36,324,861	20	0%	5.00%	1,816,243	20	0%	5.00%	1,816,243	0	20	0.00%	5.00%	1,816,243	0	-
397.20	Communication Equipment	3,289,347	16	0%	6.25%	205,584	21	0%	4.76%	156,573	(49,011)	16	0.00%	6.27%	206,242	658	49,669
398.00	Miscellaneous Equipment	431,485	26	0%	3.85%	16,612	26	0%	3.85%	16,612	0	20	0.00%	4.93%	21,272	4,660	4,660
	TOTAL GENERAL	58,657,913				3,360,336				3,235,789	(124,547)				3,388,510	28,174	152,721
GRAND TOTAL		824,985,141			2.75%	22,664,300			2.74%	22,563,958	(100,342)			3.08%	25,436,137	2,771,837	2,872,178

## INSTALLATION OF SERVICES

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**Figure 37. Typical small-volume high-pressure service installations**

Source American Gas Association, Gas Engineering and Operating Practices Series, Volume III Distribution, Book D-2, Mains and Services, Operating Considerations, Copyright 1986.

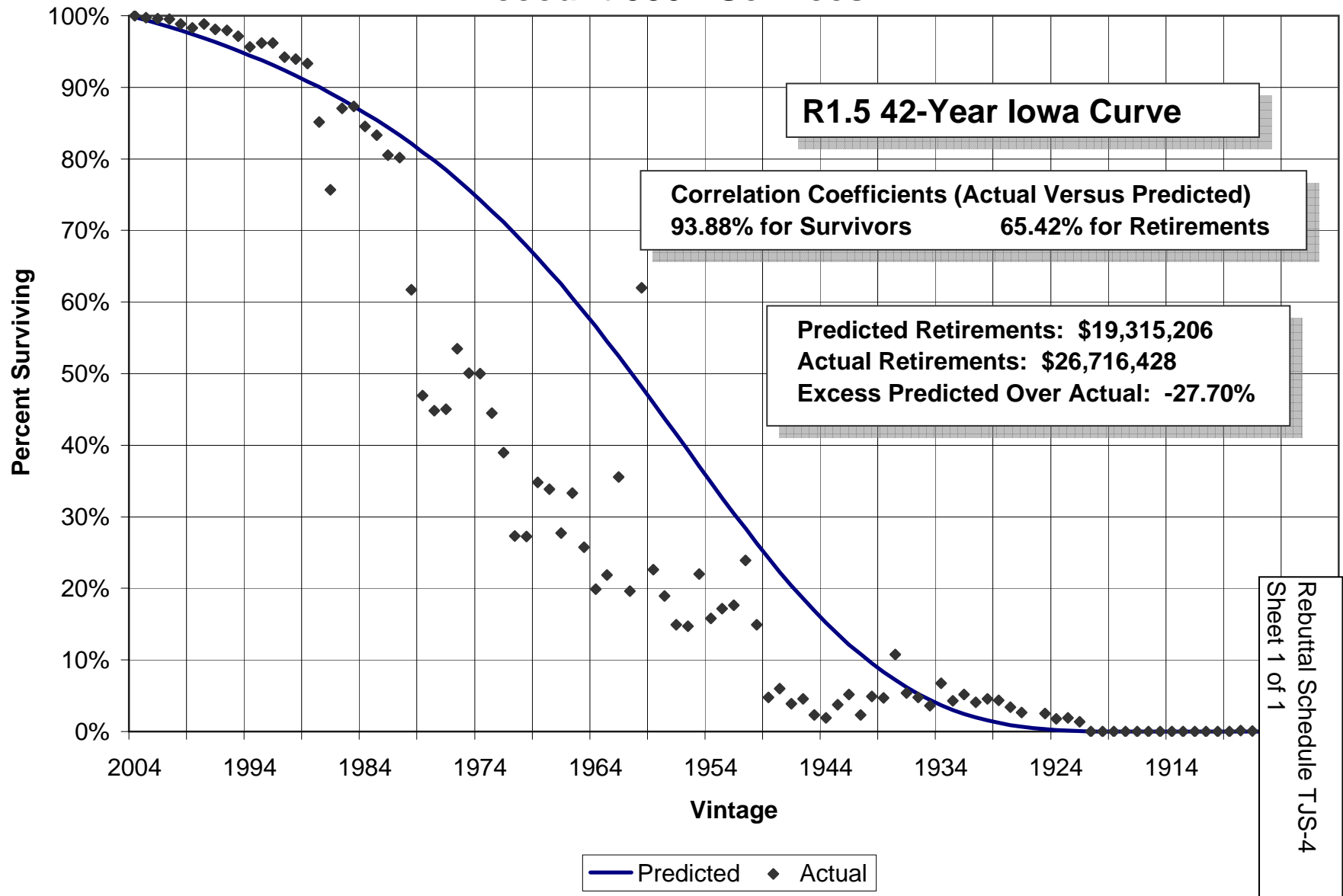
**Missouri Gas Energy**  
**Comparison of MGE's Account 380 Investment to**  
**Laclede Gas Company, Ameren UE, and Aquila-MPS**

Line No.	Year	Beginning Balance	Additions	Retirements	Transfers/ Adjustments	Ending Balance	Laclede	AmerenUE	Aquila-MPS
		\$	\$	\$	\$	\$	\$	\$	\$
1	1987	71,233,796	5,232,196	1,082,965	(2,412)	75,380,615			
2	1988	75,380,615	5,974,783	224,688	(18,639)	81,112,071			
3	1989	81,112,071	19,552,514	3,109,855	(34,589)	97,520,141	161,871,193	32,709,051	13,795,492
4	1990	97,520,141	16,471,586	1,918,419	(541,803)	111,531,505			
5	1991	111,531,505	17,312,702	2,247,798	(758,768)	125,837,641			
6	1992	125,837,641	15,531,128	1,799,170	(27,963)	139,541,636			
7	1993	139,541,636	17,318,472	1,141,206	(238,083)	155,480,819			
8	1994	155,480,819	18,214,631	2,064,532	(1,509,987)	170,120,931			
9	1995	170,120,931	16,487,207	3,098,103	501	183,510,535			
10	1996	183,510,535	16,767,115	5,666,727	(56,492)	194,554,431			
11	1997	194,554,431	19,921,220	3,696,469	(18,926)	210,760,256			
12	1998	210,760,256	16,123,650	3,867,327	551	223,017,129			
13	1999	223,017,129	16,262,389	4,494,754	(24,901)	234,759,863			
14	2000	234,759,863	14,664,704	401,272	16,594	249,039,889			
15	2001	249,039,889	8,199,829	970,691	31,737	256,300,764			
16	2002	256,300,764	9,110,139	1,183,034	21,158	264,249,027			
17	2003	264,249,027	9,783,163	1,090,504	1,198	272,942,884			
18	2004	272,942,884	10,083,909	954,810	(11,196)	282,060,787	375,026,399	86,223,000	21,473,457
19	Total Since 1988		241,804,357	37,704,671	(3,150,969)				
20	Percent of 1988 Ending Balance		298%	46%	-4%				
21	Percent Change in Plant Balance from 1989 to 2004					189%	132%	164%	56%

# Missouri Gas Energy

## Comparison of Predicted and Actual Survivor Curves

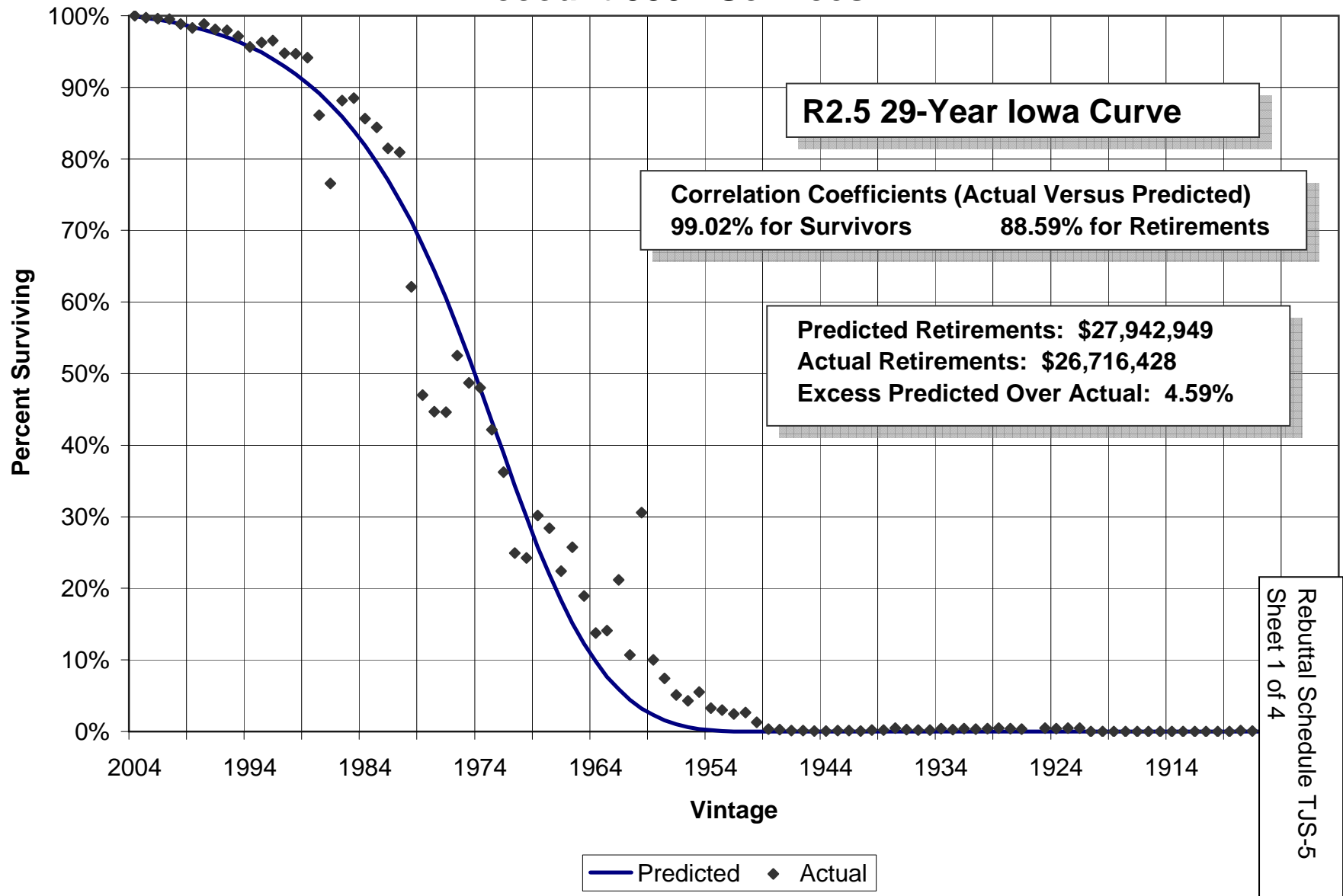
### Account 380 - Services



# Missouri Gas Energy

## Comparison of Predicted and Actual Survivor Curves

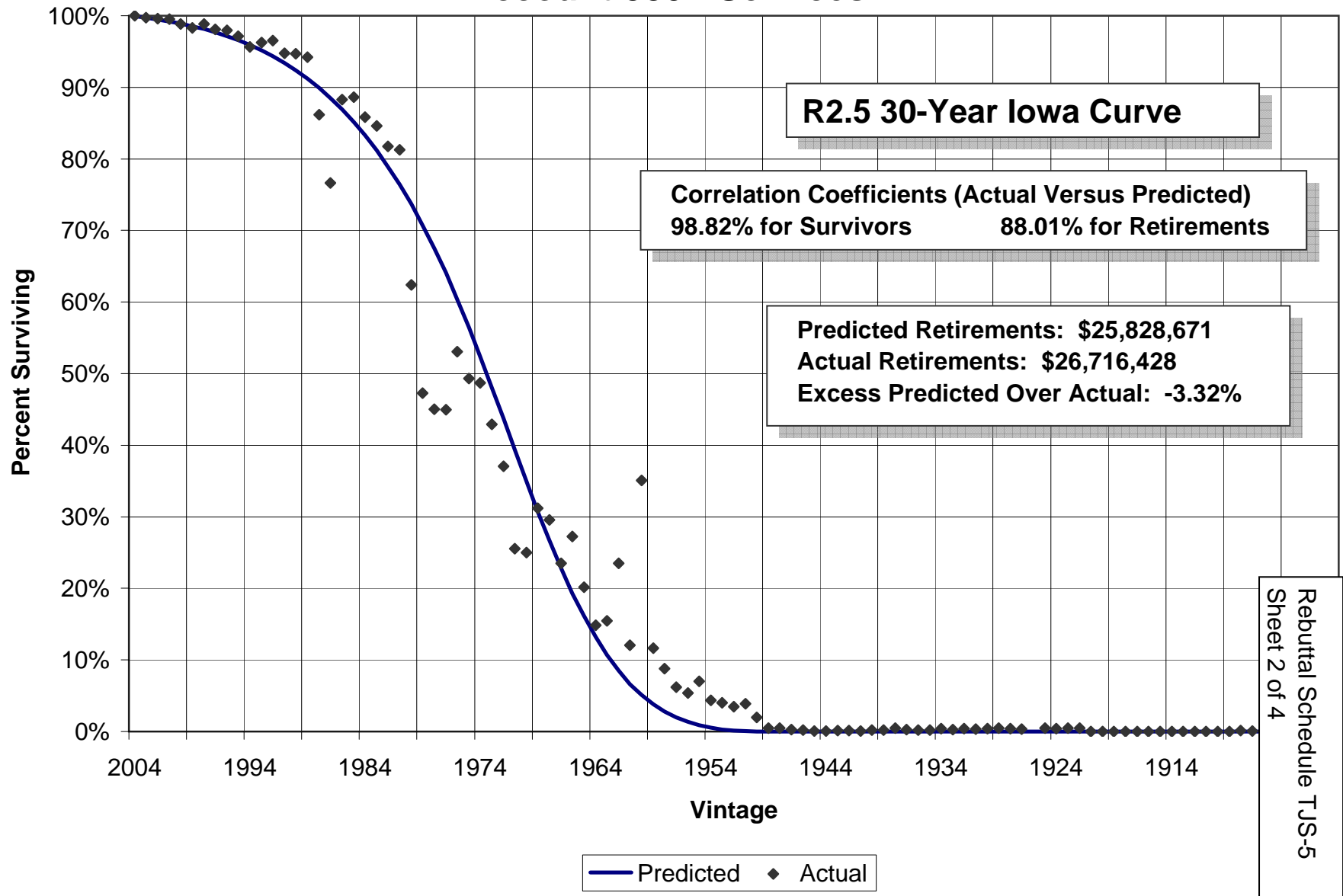
### Account 380 - Services



# Missouri Gas Energy

## Comparison of Predicted and Actual Survivor Curves

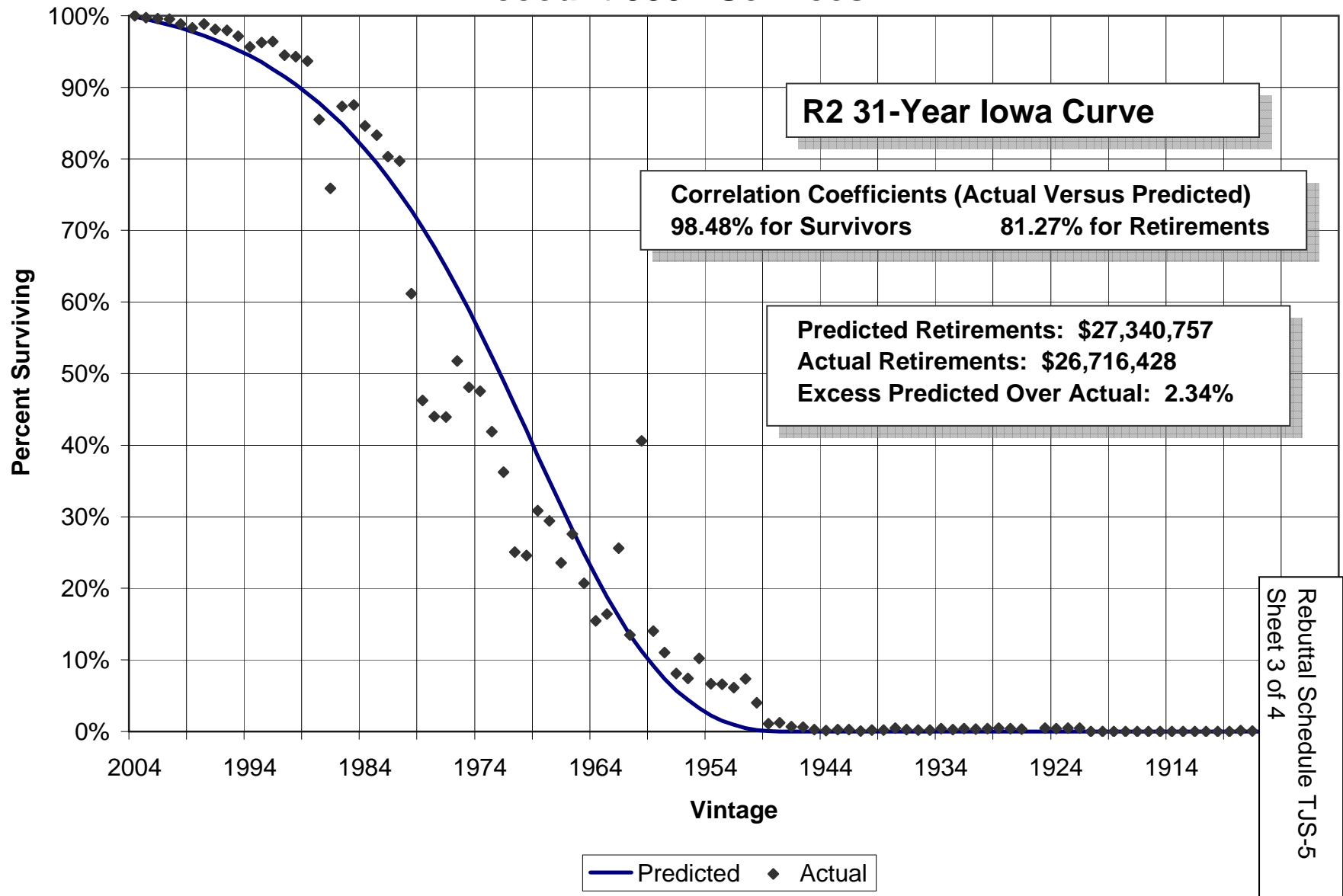
### Account 380 - Services



# Missouri Gas Energy

## Comparison of Predicted and Actual Survivor Curves

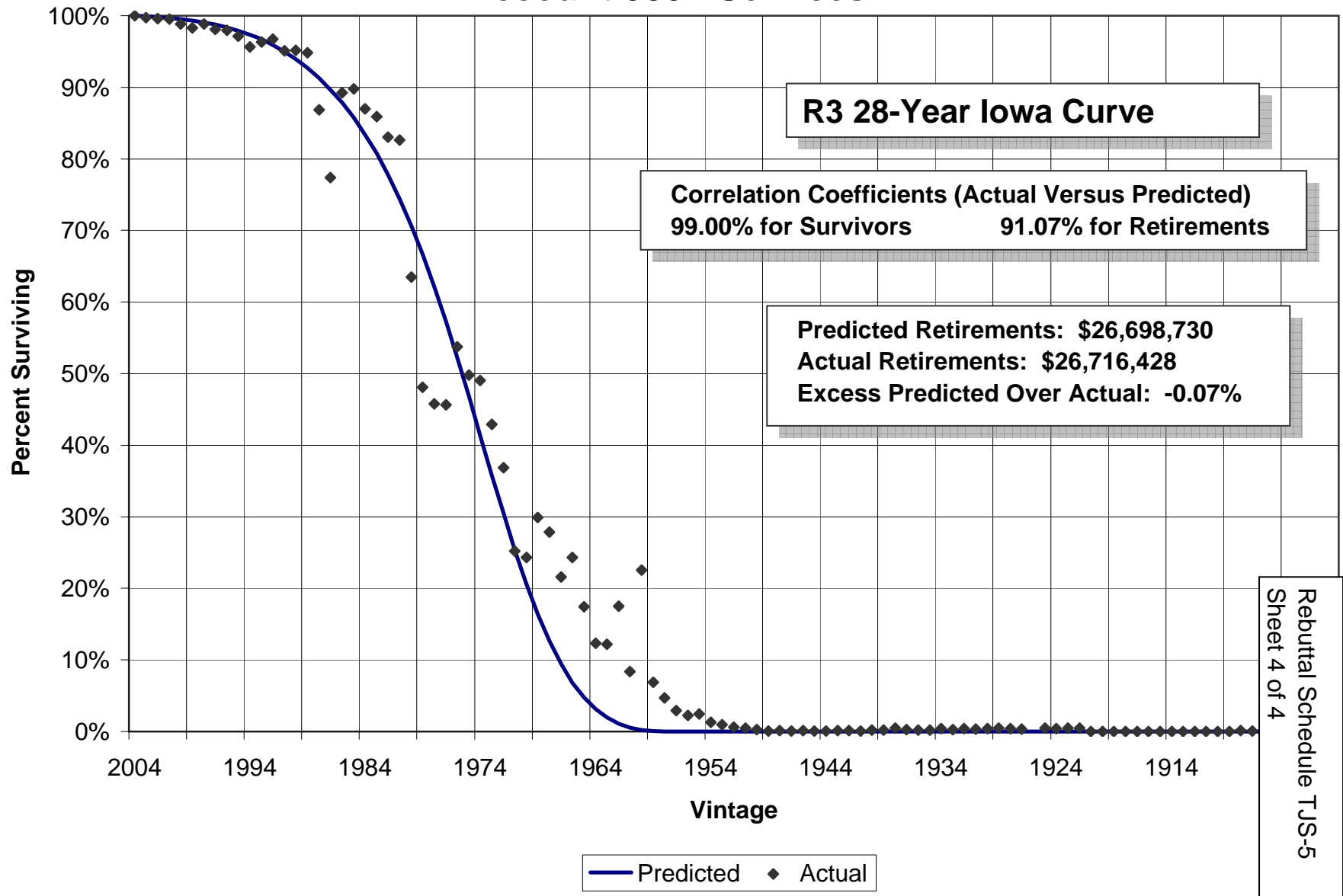
### Account 380 - Services



# Missouri Gas Energy

## Comparison of Predicted and Actual Survivor Curves

### Account 380 - Services





**Missouri Gas Energy**  
**Comparison of Depreciation Rates**  
**of Comparable Companies Used in Staff's Recommended ROE**

Reference	Company Name	Location	12 Months Ended	Property/Plant/ Equipment and Intangibles \$ million	Depreciation/ Amortization Expense \$ million	Indicated Depreciation Rate
(1)	AGL Resources	Tennessee, Georgia, Virginia	12/31/2005	3,271.00	133.00	4.07%
(1)	New Jersey Resources Corp.	Gulf Coast to New England	9/30/2005	905.13	35.23	3.89%
(1)	Northwest Natural Gas	Washington and Oregon	12/31/2005	1,373.42	61.65	4.49%
(1)	Piedmont Natural Gas Co.	North and South Carolina, Tennessee	10/31/2005	1,939.81	91.14	4.70%
(1)	South Jersey Industries	New Jersey	12/31/2005	877.35	26.84	3.06%
(1)	WGL Holdings	Washington, D.C., Virginia, Maryland	9/30/2005	1,969.68	93.73	4.76%
	Average					4.16%
Missouri Gas Energy						
(2)	Existing Rates	Missouri	6/30/2006	824.99	22.66	2.75%
(2), (3)	Staff Recommendation	Missouri	6/30/2006	824.99	22.56	2.74%
(2)	B&V Recommendation	Missouri	6/30/2006	824.99	25.44	3.08%

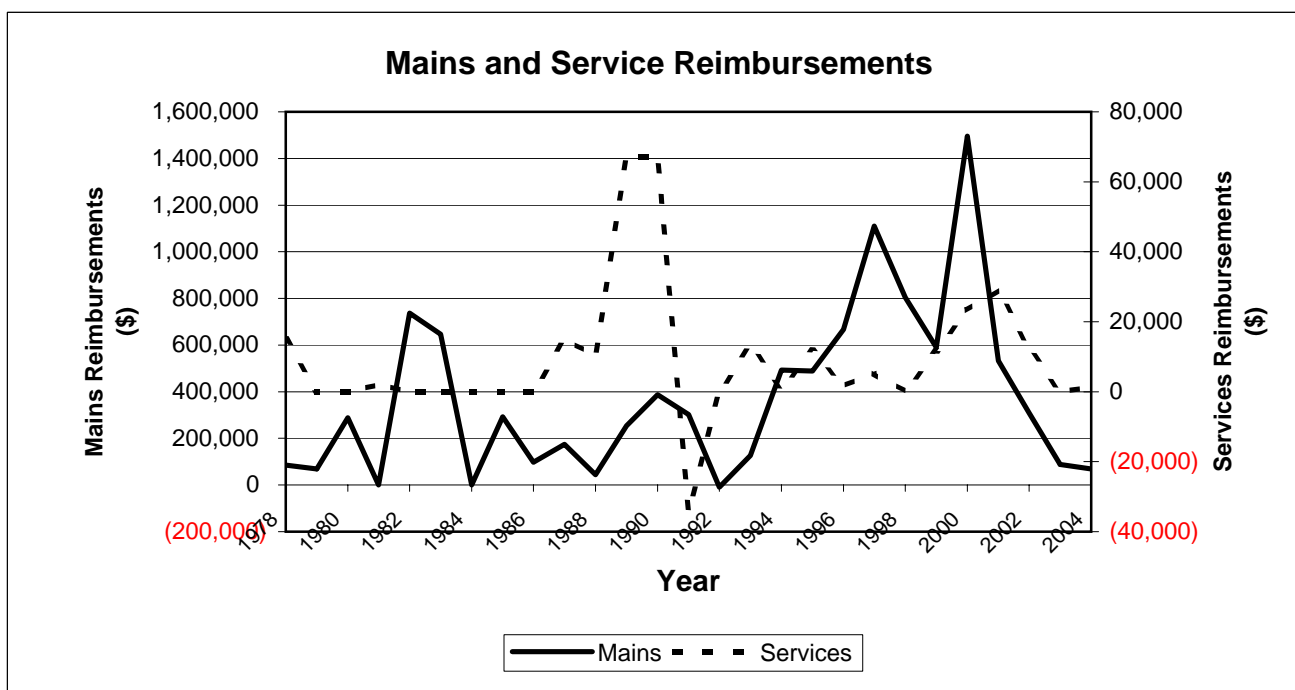
(1) Source: finance.yahoo.com

(2) Rebuttal Schedule TJS-1

(3) Schedule GEM 4, GR-2006-0422



**Missouri Gas Energy**  
**Comparison of Mains and Services Historical Reimbursements and**  
**Effect on Recommended Net Salvage Allowance**



Net Salvage Allowance						
	Macia's Analysis-Including Reimbursements			Excluding Reimbursements		
	1995-2004	2000-2004	Recommended	1995-2004	2000-2004	Recommended
	10 Year Avg.	5 Year Avg.		10 Year Avg.	5 Year Avg.	
Account 376	19.52%	6.22%	5.00%	-14.83%	-18.58%	-15.00%
Account 380	-27.86%	-70.63%	-28.00%	-28.24%	-72.05%	-28.00%

GR-2006-0422

Missouri Gas Energy

## SCHEDULE 4. Depreciation Rate Determination and Corresponding Annual Accrual

Missouri Gas Energy															Difference Between Corrected Macias and Company Proposed	
SCHEDULE 4. Depreciation Rate Determination and Corresponding Annual Accrual																
Account Number	Description	Original Cost 6/30/2006	Existing Ordered				Corrected Staff Proposal				Company Proposal					
			ASL (Years)	Net Salvage	Depreciation Rate	Annual Accrual	ASL (Years)	Net Salvage	Depreciation Rate	Annual Accrual	ASL (Years)	Net Salvage	Depreciation Rate	Annual Accrual		
DISTRIBUTION																
375.00	Structures and Improvements	5,584,958	61	0%	1.65%	92,152	45	10%	2.00%	111,699	45	-	2.19%	122,311	10,611	
376.00	Mains	339,884,706	44	0%	2.27%	7,715,383	45	-15%	2.56%	8,701,048	44	-	2.43%	8,259,198	(441,850)	
378.00	Measuring and Regulating Equip.	11,634,249	35	0%	2.86%	332,740	41	0%	2.44%	283,876	35	-	2.89%	336,230	52,354	
379.00	Meas & Reg Equip - City Gate	3,058,251	47	0%	2.13%	65,141	41	0%	2.44%	74,621	40	-	2.64%	80,738	6,117	
380.00	Services	294,362,067	37	0%	2.70%	7,947,776	32	-28%	4.00%	11,774,483	32	(800,000)	3.41%	10,037,746	(1,736,736)	
381.00	Meters	31,036,775	35	0%	2.86%	887,652	41	-1%	2.46%	763,505	35	-	2.96%	918,689	155,184	
382.00	Meter Installations	68,835,673	35	0%	2.86%	1,968,700	41	0%	2.44%	1,679,590	35	-	2.92%	2,010,002	330,411	
383.00	House Regulators	11,558,045	41	0%	2.44%	282,016	45	0%	2.22%	256,589	42	-	2.34%	270,458	13,870	
385.00	Industrial Meas and Reg Equipment	372,505	30	0%	3.33%	12,404	43	0%	2.33%	8,679	30	-	3.29%	12,255	3,576	
TOTAL DISTRIBUTION		766,327,228				19,303,964				23,654,090				22,047,627	(1,606,463)	
GENERAL																
390.00	Structures and Improvements	661,193	50	0%	2.00%	13,224	41	0%	2.44%	16,133	45	40.00%	1.21%	8,000	(8,133)	
391.00	Office Furniture and Equipment	6,970,421	12	0%	8.06%	561,816	11	0%	9.09%	633,611	11	0.00%	9.10%	634,308	697	
392.00	Transportation Equipment	5,043,979	11	0%	8.70%	438,826	12	10%	7.50%	378,298	11	10.00%	8.19%	413,102	34,803	
393.00	Stores Equipment	538,350	37	0%	2.70%	14,535	32	0%	3.13%	16,850	30	0.00%	3.35%	18,035	1,184	
394.00	Tool, Shop, and Garage Equipment	5,154,470	19	0%	5.30%	273,187	27	0%	3.70%	190,715	20	0.00%	5.01%	258,239	67,524	
396.00	Power Operated Equipment	243,807	12	0%	8.33%	20,309	17	25%	4.41%	10,752	15	20.00%	5.36%	13,068	2,316	
397.10	Electronic Reading - ERT	36,324,861	20	0%	5.00%	1,816,243	20	0%	5.00%	1,816,243	20	0.00%	5.00%	1,816,243	-	
397.20	Communication Equipment	3,289,347	16	0%	6.25%	205,584	21	0%	4.76%	156,573	16	0.00%	6.27%	206,242	49,669	
398.00	Miscellaneous Equipment	431,485	26	0%	3.85%	16,612	26	0%	3.85%	16,612	20	0.00%	4.93%	21,272	4,660	
TOTAL GENERAL		58,657,913				3,360,336				3,235,789				3,388,510	152,721	
GRAND TOTAL		824,985,141			2.75%	22,664,300			3.26%	26,889,879			3.08%	25,436,137	(1,453,742)	
SCHEDULE GEM-4										22,563,958					25,436,137	2,872,179
DIFFERENCE ATTRIBUTABLE TO MAINS SALVAGE										1,529,482						
DIFFERENCE ATTRIBUTABLE TO SERVICES ASL										2,796,440						
TOTAL DIFFERENCE BETWEEN COMPANY PROPOSED AND MACIAS AFTER CORRECTION OF MAINS SALVAGE AND SERVICES ASL										4,325,921						