RESERVE FOR DEPRECIATION OF ELECTRIC PLANT (Account 250)

Report below the information called for concerning the reserve for depreciation of electric plant. Show separately interest credits under a sinking fund or similar method of depreciation accounting.

1. Explain any important adjustments during year.
4. In section B show the reserve amounts applicable to prescribed functional classifications.

A. Reserve Balances and Changes During Year

Line No.	Item (a)	Total (b)	Electric plant in service (c)	Electric plant leased to others (d)	Electric plant held for future use (e)	In process of reclassification (f)
		$ c.	$ c.	$ c.	$ c.	$ c.
1	Balance beginning of year	39 048 051	39 048 051			
2	Depreciation accruals for year, charged to:	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
3	(503) Depreciation	6 046 910	6 046 910	xxxxxxx	xxxxxxx	
4	(508) Income from electric plant leased to others	xxxxxxx	xxxxxxx		xxxxxxx	
5	(503) Transportation expenses-clearing	200 000	200 000	xxxxxxx	xxxxxxx	
6	Other accounts (specify):	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
7	Depreciation on General Plant charged to					
8	Steam Heating Department	3 632	3 632			
11	TOTAL DEPRECIATION ACCRUALS FOR YEAR	6 250 542	6 250 542			
12	Net charges for plant retired:	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
13	Book cost of plant retired	2 694 209	2 694 209			
14	Cost of removal	480 450	480 450			
15	Salvage (credit)	884 897	884 897			
16	NET CHARGES FOR PLANT RETIRED	2 289 762	2 289 762			
17	Other debit or credit items (describe):	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
18	Damage Credits	82 342	82 342			
19	Amount received in respect of retirement of					
20	temporary connections	69 727	69 727			
21	Accrued depreciation on equipment acquired					
22	from affiliated companies	116 810	116 810			
23	Depreciation applicable to property acquir-					
24	ed from non-affiliated companies	1 508	1 508			
25						
26	BALANCE END OF YEAR	43 279 218	43 279 218			

B. Classification of Reserve at End of Year According to Functional Classifications

41	Steam production	3 452 111	3 452 111			
42	Hydraulic production	6 175 884	6 175 884			
43	Internal combustion engine production					
44	Transmission	6 689 456	6 689 456			
45	Distribution	24 028 191	24 028 191			
46	General	2 933 576	2 933 576			
47						
48	TOTAL	43 279 218	43 279 218			

DEPRECIATION AND AMORTIZATION OF ELECTRIC PLANT (Accounts 403, 404)
(Except Amortization of Acquisition Adjustments)

1. Report in section A the amounts of depreciation (account 403) and amortization of limited-term electric investments (account 404) for the year, classified according to plant functional classifications.

2. In section B state the rules by which the respondent determined the amounts of charges for depreciation and amortization of electric plant. Show the rates used in computing the depreciation and amortization charges for the year, and state if any change has been made in the rates used or methods of determining depreciation and amortization charges from those used for the preceding year.

A. Summary of Depreciation and Amortization Charges

Line No.	Functional classification (a)	Depreciation (account 403) (b)	Amortization of limited-term electric investments (account 404) (c)	Total depreciation and amortization (d)
		$ c.	$ c.	$ c.
1	Steam production plant	1 214 123		1 214 123
2	Hydraulic production plant	405 817		405 817
3	Internal combustion engine production plant			
4	Transmission plant	699 056		699 056
5	Distribution plant	3 284 799	1 686	3 286 485
6	General plant	443 115	134 205	577 320
7				
8				
9				
10	TOTAL	6 046 910	135 891	6 182 801

B. Method of Determination of Depreciation and Amortization Charges

Depreciation Charges

The provision for depreciation was based upon lump sum allowances made by the Missouri Public Service Commission in report and order issued February 20, 1937, in Cases 5905 and 7593; plus additional provisions from income for the year 1954 amounting to $287,736. The allowances by the Missouri Public Service Commission amounted to $1,975,000 per annum as of April 30, 1935, plus 5% per annum of net additions of plant subsequent to April 30, 1935. The depreciation provisions for the year 1954 amounted to the following percentages of the average investment in depreciable plant:

Osage Hydro-Electric Project	1.37%
All Other Property	2.94%

The additional provisions of $287,736 referred to above were made to provide (a) depreciation in the amount of $129,270 at the rate of 1% per annum on portions of Accounts 320 and 340 and on Account 341, such portions of Accounts 320 and 340 representing all expenditures recorded in such accounts except expenditures for lands held under unrestricted fee title; (b) for deficiency of $159,500 in estimated depreciation reserve applicable to the South Wing of the 12th St. Office Building which was sold; and (c) additional depreciation in the amount of $18,966 with respect to the investment in Osage Licensed Project #459 exclusive of Accounts 320, 340 and 341. Such additional depreciation for Osage Licensed Project #459 was determined by subtracting the lump sum allowance for such property which was made by the Missouri Public Service Commission from a computed total provision which was based on application of depreciation rates to individual plant accounts, as follows:

(Continued on Page 88A)

Schedule 5-47

Name of UNION ELECTRIC COMPANY Year ended December 31, 19 56

STATEMENT A — COMPARATIVE BALANCE SHEET
Assets and Other Debits

Line No.	Title of Account (a)	Sch. Page No. (b)	Balance Beginning of Year (c)	Balance End of Year (d)	Increase or Decrease (e)
1	UTILITY PLANT				
2	(101) Utility Plant	16	$ 488 806 065 c.	$ 526 897 727 c.	$ 38 011 662 c.
3	(108) Less Reserves for Depreciation, Depletion, Amortization, Accts. 250, 251, 252	16			
4	Utility Plant Less Reserves	16			
5	(107) Utility Plant Adjustments (less reserve				
6	included in Acct. 258, $)				
7	INVESTMENT AND FUND ACCOUNTS				
8	(110) Other Physical Property (less reserve	22-			
9	for depreciation, Acct. 259, $)	46	309 603	309 603	
9	(111) Invest. in Assoc. Companies (less reserve	23-			
10	included in Acct. 258, $)	48	20 060 081	16 655 062	(3 405 019)
10	(112) Other Investments (less reserve included	23-			
11	in Acct. 258, $)	48	7 618 353	2 605 709	(5 012 644)
11	(113) Sinking Funds	24			
12	(114) Miscellaneous Special Funds	24			
13	Net Investment and Fund Accounts		27 988 037	19 570 374	(8 417 663)
14	CURRENT AND ACCRUED ASSETS				
15	(120) Cash	-	3 868 187	3 699 470	(168 717)
16	(121) Special Deposits	25	728 984	1 829 012	1 100 028
17	(122) Working Funds	-	100 675	98 175	(2 500)
18	(123) Temporary Cash Investments	25		5 158 868	5 138 868
19	(124) Notes Receivable	26	87 821	94 454	6 633
20	(125) Accounts Receivable	27	7 926 698	8 210 659	283 961
21	(126) Receivables from Associated Companies	28	126 397	361 105	234 708
22	(127) Subscriptions to Capital Stock	-			
23	(128) Interest and Dividends Receivable	-	1 305	23 230	21 925
24	(129) Rents Receivable	-	4 202	3 461	(741)
25	(130) Accrued Utility Revenues				
26	Total Receivables		8 146 423	8 692 909	546 486
27	Less Reserve for Uncol. Accts. Acct. 254	47	146 422	145 620	802
28	Net Receivables		8 000 001	8 547 289	547 288
29	(131) Materials and Supplies	29	7 207 724	8 529 711	1 321 987
30	(132) Prepayments	31	130 901	140 905	10 004
31	(135) Other Current and Accrued Assets	31			
32	(136) Gas Stored Underground	30A			
33	Total Current and Accrued Assets		20 036 472	27 983 430	7 946 958
34	DEFERRED DEBITS				
35	(140) Unamortized Debt Discount and Expense	32	40 382	36 050	(4 332)
36	(141) Extraordinary Property Losses	31			
37	(142) Preliminary Survey and Investig. Chgs.	33			
38	(143) Clearing Accounts	34	14 891	13 909	(982)
39	(144) Retirement Work in Progress	-			
40	(145) Other Work in Progress	-	33 438	5 021	(28 417)
41	(146) Other Deferred Debits	35	153 185	280 442	127 257
42	Total Deferred Debits		241 876	335 402	93 526
43	CAPITAL STOCK DISCOUNT AND EXPENSE				
44	(150) Discount on Capital Stock	36			
45	(151) Capital Stock Expense	36	370 839	370 839	
46	Total Cap. Stock Discount and Expense		370 839	370 839	
47	REACQUIRED SECURITIES				
48	(152) Reacquired Capital Stock	37	302 560	302 560	
49	(153) Reacquired Long-Term Debt	39			
50	Total Assets and Other Debits		537 825 849	575 460 332	37 634 483

Schedule 5-48

COMPARATIVE BALANCE SHEET

Liabilities and Other Credits

STATEMENT A

Line No.	Title of Account (a)	Sch. Page No. (b)	Balance Beginning of Year (c)	Balance End of Year (d)	Increase or (Decrease) (e)
			$ c.	$ c.	$
1	CAPITAL STOCK AND SURPLUS				
2	(200) Common Capital Stock	37	103 871 430	103 871 430	
3	(201) Preferred Capital Stock	37	53 359 500	53 359 500	
4	(202) Stock Liability for Conversion	38			
5	(203) Premiums and Assessments on Capital Stock	38	2 603 340	2 603 340	
6	(204) Capital Stock Subscribed	38			
7	(205) Installments Received on Capital Stock	38			
8	Total Capital Stock		159 834 270	159 834 270	
9	(270) Capital Surplus	49	4 637 929	2 200 851	(2 437 078)
10	(271) Earned Surplus	21	32 946 524	35 701 188	2 754 664
11	Total Surplus		37 584 453	37 902 039	317 586
12	Total Capital Stock and Surplus		197 418 723	197 736 309	317 586
13	LONG-TERM DEBT				
14	(210) Bonds	39	180 500 000	219 875 000	39 375 000
15	(211) Receivers' Certificates	39			
16	(212) Advances from Associated Companies	39			
17	(213) Miscellaneous Long-Term Debt	39			
18	Total Long-Term Debt	39	180 500 000	219 875 000	39 375 000
19	CURRENT AND ACCRUED LIABILITIES				
20	(220) Notes Payable	41	10 600 000		(10 600 000)
21	(221) Notes Receivable Discounted	-			
22	(222) Accounts Payable	-	2 149 279	3 926 026	1 776 747
23	(223) Payables to Associated Companies	42	444 955	538 059	93 104
24	(224) Dividends Declared	20	541 044	541 044	
25	(225) Matured Long-Term Debt	-	13 934	13 934	
26	(226) Matured Interest	-	41 287	43 925	2 638
27	(227) Customers' Deposits	-	437 288	595 160	157 872
28	(228) Taxes Accrued	43	15 519 962	12 841 120	(2 678 842)
29	(229) Interest Accrued	-	980 209	1 737 501	757 292
30	(230) Other Current and Accrued Liabilities	44	2 739 787	3 059 273	319 486
31	Total Current and Accrued Liabilities		33 467 745	23 296 042	(10 171 703)
32	DEFERRED CREDITS				
33	(240) Unamortized Premium on Debt	32	3 163 940	3 444 514	280 574
34	(241) Customers' Advances for Construction	44	273 313	284 602	11 289
35	(242) Other Deferred Credits	45			
36	Total Deferred Credits		3 437 253	3 729 116	291 863
37	RESERVES				
38	(255) Insurance Reserve	48			
39	(256) Injuries and Damages Reserve	48	312 271	259 850	(52 421)
40	(257) Employees' Provident Reserve	48	229 279	211 421	(17 858)
41	(258) Other Reserves (except reserves deducted contra) (1)	48	120 677 208	128 402 817	7 725 609
42	Total Reserves		121 218 758	128 874 038	7 655 330
43	CONTRIBUTIONS IN AID OF CONSTRUCTION				
44	(265) Contributions in Aid of Construction	49	1 783 370	1 949 777	166 407
45	Total Liabilities and Other Credits		537 825 849	575 460 332	37 634 483

(1) Utility Plt. reserves for depr. & amort. accts. 250, 251, 252 — 109 853 373 — 118 774 669 — 8 921 296
Other physical property reserve for depreciation acct. 253 — 149 282 — 158 148 — 8 866
Miscellaneous Reserve - Acct. 258.2
Other investments — 4 624 543 — — (4 624 543)
Deferred income tax — 6 050 000 — 9 470 000 — 3 420 000
120 677 208 — 128 402 817 — 7 725 609

Schedule 5-49

DEPRECIATION AND AMORTIZATION OF ELECTRIC PLANT (Accounts 403, 404)

(Except Amortization of Acquisition Adjustments)

1. Report in Section A the amounts of depreciation (account 403) and amortization of limited-term electric investments (account 404) for the year, classified according to plant functional classifications.

2. Section B states the rates by which the respondent determines the amounts of charges for depreciation and amortization of electric plant. Show the rates used in computing the depreciation and amortization charges for the year, and state if a rate change has been made in the rates used or methods of determining depreciation and amortization charges from those used for the preceding year.

A. Summary of Depreciation and Amortization Charges

Line No.	Functional classification (a)	Depreciation (account 403) (b)	Amortization of limited-term electric investments (account 404) (c)	Total depreciation and amortization (d)
		$ c.	$ c.	$ c.
1	Steam production plant	4 615 009		4 615 009
2	Hydraulic production plant	658 855		658 855
3	Internal combustion engine production plant			
4	Transmission plant	1 399 748		1 399 748
5	Distribution plant	4 911 986		4 911 986
6	General plant	524 880		524 880
7				
8				
9				
10	TOTAL	12 110 478	-	12 110 478

B. Method of Determination of Depreciation and Amortization Charges

Depreciation Charges

Missouri Properties

The provision for depreciation was based upon lump sum allowances made by the Missouri Public Service Commission in report and order issued February 20, 1937 in Cases 5905 and 7593; plus an additional provision from income for the year 1956 amounting to $129,286. The allowances by the Missouri Public Service Commission amounted to $1,975,000 per annum as of April 30, 1935, plus 3% per annum of net additions of plant subsequent to April 30, 1935. The depreciation provisions for the year 1956 amounted to the following percentages of the average investment in depreciable plant:

Osage Hydro-Electric Project	1.33%
All Other Property	3.88%

The additional provision of $129,286 referred to above was made to provide depreciation at the rate of 1% per annum on portions of Accounts 320 and 340 and on Account 341, such portions of Accounts 320 and 340 representing all expenditures recorded in such accounts except expenditures for lands held under unrestricted fee title.

Illinois - Iowa Properties

Depreciation for the year 1956 was charged at the overall rate of 2.8% per annum of the total average depreciable plant investment, exclusive of the investment in the Keokuk Hydro-Electric Plant and substation. Depreciation for the Keokuk Hydro-Electric Plant and substation was charged at the following annual rates:

(Continued on Page 68A)

Schedule 5-50

UNION ELECTRIC COMPANY OF MISSOURI — Year ended December 31, 19 56

SCHEDULE A

COMPARATIVE BALANCE SHEET
Assets and Other Debits

Line No.	Title of Account (a)	Sch Page No (b)	Balance Beginning of Year (c)	Balance End of Year (d)	Increase or Decrease (e)
	UTILITY PLANT		$ ¢	$ ¢	$ ¢
	Utility Plant	16	276 450 687	488 886 065	212 435 378
	Less Reserves for Depreciation, Depletion, Amortization (Accts. 250, 251, 252	16			
	Utility Plant Loss Reserves	16			
	Utility Plant Adjustments (less reserve included in Acct. 258, $)				
	INVESTMENT AND FUND ACCOUNTS				
	Other Physical Property (less reserve for depreciation, Acct. 253, $)	22 46	191 152	309 604	118 452
	Invest. in Assoc. Companies (less reserve included in Acct. 258, $)	23 48	151 869 915	20 060 081	(131 809 834)
	Other Investments (less reserve included in Acct. 258, $)	23 48	2 493 601	7 618 353	5 124 752
	Sinking Funds	24			
	Miscellaneous Special Funds	24			
	Total Investment and Fund Accounts		154 554 668	27 989 038	(126 566 630)
	CURRENT AND ACCRUED ASSETS				
	Cash		3 850 250	3 868 187	17 937
	Special Deposits	25	1 039 048	728 984	(310 064)
	Working Funds		76 725	100 675	23 950
	Temporary Cash Investments	23	2 995 223	-	(2 995 223)
	Receivables:				
	Notes Receivable	26	65 943	87 821	23 878
	Accounts Receivable	27	5 793 806	7 926 698	2 132 890
	Receivables from Associated Companies	28	92 964	126 397	33 433
	Subscriptions to Capital Stock	-			
	Interest and Dividends Receivable	-	1 317	1 305	(12)
	Rents Receivable	-	5 059	4 202	(857)
	Accrued Utility Revenues				
	Total Receivables		5 957 091	8 146 423	2 189 332
	Less Reserve for Uncol. Accts. Acct. 254	47	77 780	146 422	68 642
	Net Receivables		5 879 311	8 000 001	2 120 690
	Materials and Supplies	29	4 619 660	7 207 724	2 588 064
	Prepayments	31	77 049	130 901	53 852
	Other Current and Accrued Assets	31			
	Gas Stored Underground	30A			
	Total Current and Accrued Assets		18 557 266	20 036 472	1 499 206
	DEFERRED DEBITS				
	Unamortized Debt Discount and Expense	32	46 687	40 562	(6 125)
	Extraordinary Property Losses	31			
	Preliminary Survey and Investig. Chgs	33			
	Clearing Accounts	34	18 445	14 891	(3 554)
	Retirement Work in Progress	-			
	Other Work in Progress	-	9 446	33 438	23 992
	Other Deferred Debits	35	26 131	153 185	127 054
	Total Deferred Debits		100 509	241 876	141 367
	CAPITAL STOCK DISCOUNT AND EXPENSE				
	Discount on Capital Stock	36			
	Capital Stock Expense	36	370 839	370 839	-
	Total Cap. Stock Discount and Expense		370 839	370 839	-
	REACQUIRED SECURITIES				
	Reacquired Capital Stock	37	-	302 560	302 560
	Reacquired Long-Term Debt	39			
	Total Assets and Other Debits		450 013 969	537 625 850	87 611 881

Schedule 5-51

Annual report of ...TION ELECTRIC COMPANY OF MISSOURI ... STATEMENT A

COMPARATIVE BALANCE SHEET

Liabilities and Other Credits

Line No.	Title of Account (a)	Sch. Page No. (b)	Balance Beginning of Year (c)	Balance End of Year (d)	Increase or Decrease (e)
1	CAPITAL STOCK AND SURPLUS		$	$	$
2	(200) Common Capital Stock	37	103 871 430	103 871 430	-
3	(201) Preferred Capital Stock	37	53 359 500	53 359 500	-
4	(202) Stock Liability for Conversion	38			
5	(203) Premiums and Assessments on Capital Stock	38	2 603 340	2 603 340	-
6	(204) Capital Stock Subscribed	38			
7	(205) Installments Received on Capital Stock	38			
8	Total Capital Stock		159 834 270	159 834 270	-
9	(270) Capital Surplus	49	1 393 963	4 637 929	3 243 966
10	(271) Earned Surplus	21	31 711 427	32 946 524	1 235 097
11	Total Surplus		33 105 390	37 584 453	4 479 063
12	Total Capital Stock and Surplus		192 939 660	197 418 723	4 479 063
13	LONG-TERM DEBT				
14	(210) Bonds	39	181 750 000	180 500 000	(1 250 000)
15	(211) Receivers' Certificates	39			
16	(212) Advances from Associated Companies	39			
17	(213) Miscellaneous Long-Term Debt	39			
18	Total Long-Term Debt	39	181 750 000	180 500 000	(1 250 000)
19	CURRENT AND ACCRUED LIABILITIES				
20	(220) Notes Payable	41	5 000 000	10 600 000	5 600 000
21	(221) Notes Receivable Discounted				
22	(222) Accounts Payable		1 245 334	2 149 279	903 945
23	(223) Payables to Associated Companies	42	1 792 487	444 955	(1 347 532)
24	(224) Dividends Declared	20	541 044	541 044	-
25	(225) Matured Long-Term Debt	-	8 833	13 934	5 101
26	(226) Matured Interest	-	27 025	41 287	14 262
27	(227) Customers' Deposits	-	265 781	437 288	171 507
28	(228) Taxes Accrued	43	7 497 081	15 519 962	8 022 881
29	(229) Interest Accrued		968 238	980 205	13 967
30	(230) Other Current and Accrued Liabilities	44	1 783 504	2 739 787	956 283
31	Total Current and Accrued Liabilities		19 127 327	33 467 745	14 340 418
32	DEFERRED CREDITS				
33	(240) Unamortized Premium on Debt	32	3 355 895	3 163 940	(191 955)
34	(241) Customers' Advances for Construction	44	263 287	273 313	10 026
35	(242) Other Deferred Credits	45	579	-	(579)
36	Total Deferred Credits		3 619 761	3 437 253	(182 508)
37	RESERVES				
38	(735) Insurance Reserve	48	-	-	-
39	(966) Injuries and Damages Reserve	48	47 841	312 271	264 430
40	(967) Employees' Pensions Reserve	48	244 380	229 379	(15 001)
41	(968) Other Reserves (except Reserve for Depreciation) (1)	48	51 039 306	120 677 209	69 637 903
42	Total Reserves		51 331 206	121 218 759	69 887 553
43	CONTRIBUTIONS IN AID OF CONSTRUCTION				
44	(265) Contributions in Aid of Construction	49	1 246 015	1 783 370	537 355
45	Total Liabilities and Other Credits		450 013 969	537 825 050	87 811 881
(1)	Utility Plt. Reserves for Depr. & Amort., Accts. 250, 251, 253		48 183 810	109 853 373	61 669 563
	Other Physical Property Reserve for Depreciation Acct. 253		70 496	149 293	78 797
	Miscellaneous Reserve - Acct. 250.2				
	Other Investments		-	4 624 543	4 624 543
	Deferred Income Tax		2 785 000	8 050 000	5 265 000
		18	51 039 306	120 677 209	69 637 804

RESERVE FOR DEPRECIATION OF ELECTRIC PLANT (Account 250)

1. ... for depreciation of electric ... end of year and changes during year.
2. Explain any important adjustments during year.
3. Show separately interest credits under a sinking fund or similar method of depreciation reserve accounting.
4. In section B show the reserve amounts applicable to prescribed functional classifications.

A. Reserve Balances and Changes During Year

Line No.	Item (a)	Total (b)	Electric plant in service (c)	Electric plant leased to others (d)	Electric plant held for future use (e)	In process of reclassification (f)
		$ c.	$ c.	$ c.	$ c.	$ c.
1	Balance beginning of year	43 279 218	43 279 218			
2	Depreciation accruals for year charged to	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
3	(503) Depreciation	8 277 704	8 277 704	xxxxxxx	xxxxxxx	
4	(508) Income from electric plant leased to others		xxxxxxx		xxxxxxx	
5	(903) Transportation expenses-clearing	219 998	219 998	xxxxxxx	xxxxxxx	
6	Other accounts (specify)	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
7	Depreciation on General Plant charged to					
8	Steam Heating Department	3 630	3 630			
11	TOTAL DEPRECIATION ACCRUALS FOR YEAR	8 501 330	8 501 330			
12	Net charges for plant retired	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
13	Book cost of plant retired	3 353 237	3 353 237			
14	Cost of removal	842 811	842 811			
15	Salvage (credit)	1 056 537	1 056 537			
16	NET CHARGES FOR PLANT RETIRED	3 139 511	3 139 511			
17	Other debit or credit items (describe)	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
18	Damage Credits	49 173	49 173			
19	Amount received in respect of retirement					
20	of temporary connections	77 444	77 444			
21	Depr. appl. to misc. facilities acq. from					
22	Affiliated Companies	84 879	84 879			
23	Non-affiliated Companies	20 445	20 445			
24	Depr. appl. to prop. acq. from U.E. Pr. Co.	55 105 757	55 105 757			
25	Depr. appl. to prop. acq. from M.P.& Lt.Co.	9 482	9 482			
26	BALANCE END OF YEAR	103 988 217	103 988 217			

B. Classification of Reserve at End of Year According to Functional Classifications

Line No.	Item (a)	Total (b)	Electric plant in service (c)	Electric plant leased to others (d)	Electric plant held for future use (e)	In process of reclassification (f)
41	Steam production	45 322 440	45 322 440			
42	Hydraulic production	11 639 338	11 639 338			
43	Internal combustion engine production					
44	Transmission	13 324 383	13 324 383			
45	Distribution	29 768 090	29 768 090			
46	General	3 933 966	3 933 966			
47						
48	TOTAL	103 988 217	103 988 217			

DEPRECIATION AND AMORTIZATION OF ELECTRIC PLANT (Accounts 501, 504)

(Except Amortization of Acquisition Adjustments)

[illegible] amounts of depreciation [illegible] amortization of limited term [illegible] investments [illegible] for the year classified according to plant functional classifications.

[illegible] B state the rules by which the [illegible] determined amounts of charges for depreciation [illegible] amortization of electric plant. Show the rates used in computing the depreciation and amortization charges for the year, and state if any change has been made in the rates used or methods of determining depreciation and amortization charges from those used for the preceding year.

A. Summary of Depreciation and Amortization Charges

Functional classification (a)	Depreciation (Account 503) (b)	Amortization of limited term electric investments (Account 504) (c)	Total depreciation and amortization (d)
[illegible] production plant	2 584 740		2 584 740
[illegible] production plant	496 580		496 580
[illegible] combustion engine production plant			
[illegible] transmission plant	952 237		952 237
[illegible] distribution plant	3 904 076		3 904 076
[illegible] plant	340 071		340 071
TOTAL	[illegible] 277 704		[illegible] 277 704

B. Method of Determination of Depreciation and Amortization Charges

Depreciation Charges

Missouri Properties

The provision for depreciation was based upon lump sum allowances made by the Missouri Public Service Commission in report and order issued February 20, 1937, [illegible] 6905 and 7593; plus additional provisions from income for the year amounting to $146,834. The allowances by the Missouri Public Service Commission amounted to $1,975,000 per annum as of April 30, 1935, plus 3% per annum of net additions of plant subsequent to April 30, 1935. The depreciation provisions for the year 1955 amounted to the following percentages of average investment in depreciable plant:

Osage Hydro-Electric Project	1.37%
All Other Property	2.90%

[illegible] additional provisions of $146,834 referred to above were made to provide [illegible] depreciation in the amount of $129,300 at the rate of 1% per annum on [illegible] of Accounts 320 and 340 and on Account 341, such portions of Accounts [illegible] 340 representing all expenditures recorded in such accounts except [illegible] for lands held under unrestricted fee title; and (b) additional [illegible] in the amount of $17,534 applicable to the investment in Osage [illegible] Project #459 exclusive of Accounts 320, 340 and 341. Such additional depreciation for Osage Licensed Project #459 was determined by sub[illegible] the lump sum allowance for such property which was made by the [illegible] Public Service Commission from a computed total provision which was [illegible] application of depreciation rates to individual plant accounts, as

(Continued on Page 89A)

Schedule 5-54

STATEMENT A

COMPARATIVE BALANCE SHEET
Assets and Other Debits

Title of Account (a)	Sch. Page No. (b)	Balance Beginning of Year (c)	Balance End of Year (d)	Increase or Decrease (e)
		$ c.	$ c.	$ c.
UTILITY PLANT				
(100) Utility Plant	16	526 897 727	577 060 996	50 163 269
~~Less Reserves for Depreciation, Depletion, Amortization—Accts. 250, 251, 252~~	16			
~~Utility Plant Less Reserves~~	16			
(107) Utility Plant Adjustments ~~(less reserve included in Acct. 258, $ ....)~~				
INVESTMENT AND FUND ACCOUNTS				
(110) Other Physical Property ~~(less reserve for depreciation, Acct. 251 $ ....)~~	22-46	309 603	606 705	297 102
(111) Invest. in Assoc. Companies ~~(less reserve included in Acct. 258, $ ....)~~	23-46	16 655 062	14 847 987	(1 807 075)
(112) Other Investments (less reserve included in Acct. 258, $ ....)	23-48	2 605 709	2 605 710	1
(113) Sinking Funds	24			
(114) Miscellaneous Special Funds	24			
Net Investment and Fund Accounts		19 570 374	18 060 402	(1 509 972)
CURRENT AND ACCRUED ASSETS				
(120) Cash	-	3 699 470	4 837 444	1 137 974
(121) Special Deposits	25	1 829 012	1 787 710	(41 302)
(122) Working Funds	-	98 175	97 750	(425)
(123) Temporary Cash Investments	23	5 138 868		(5 138 868)
Receivables:				
(124) Notes Receivable	26	94 454	221 934	127 480
(125) Accounts Receivable	27	8 210 659	9 210 210	999 551
(126) Receivables from Associated Companies	28	361 105	405 526	44 421
(127) Subscriptions to Capital Stock	-			
(128) Interest and Dividends Receivable	-	23 230	607	(22 623)
(129) Rents Receivable	-	3 461	2 445	(1 016)
(130) Accrued Utility Revenues				
Total Receivables		8 692 909	9 840 722	1 147 813
Less Reserve for Uncol. Accts. Acct. 254	47	145 620	122 040	(23 580)
Net Receivables		8 547 289	9 718 682	1 171 393
(131) Materials and Supplies	29	8 529 711	8 221 345	(308 366)
(132) Prepayments	31	140 905	144 755	3 850
(133) Other Current and Accrued Assets	31			
([illegible]) Gas Stored Underground	30A			
Total Current and Accrued Assets		27 933 430	24 807 686	(3 125 744)
DEFERRED DEBITS				
(140) Unamortized Debt Discount and Expense	32	36 030	31 927	(4 103)
(141) Extraordinary Property Losses	31			
(142) Preliminary Survey and Investig. Chgs.	33			
(143) Clearing Accounts	34	13 909	15 420	1 511
(144) Retirement Work in Progress	-			
(145) Other Work in Progress	-	5 021	1 455	(3 566)
(146) Other Deferred Debits	35	280 442	117 233	(163 209)
Total Deferred Debits		335 402	166 035	(169 367)
CAPITAL STOCK DISCOUNT AND EXPENSE				
(150) Discount on Capital Stock	36			
(151) Capital Stock Expense	36	370 839	370 839	
Total Cap. Stock Discount and Expense		370 839	370 839	
REACQUIRED SECURITIES				
(152) Reacquired Capital Stock	37	302 560	302 560	
(153) Reacquired Long-Term Debt	39			
Total Assets and Other Debits		575 460 332	620 768 518	45 308 186

COMPARATIVE BALANCE SHEET — STATEM

Liabilities and Other Credits

Line No.	Title of Account (a)	Sch. Page No (b)	Balance Beginning of Year (c)	Balance End of Year (d)	Increase or Decrease (e)
			$ c.	$ c.	$
1	CAPITAL STOCK AND SURPLUS				
2	(200) Common Capital Stock	37	209 871 430	103 871 430	
3	(201) Preferred Capital Stock	37	53 359 500	53 359 500	
4	(202) Stock Liability for Conversion	38			
5	(203) Premiums and Assessments on Capital Stock	38	2 603 340	2 603 340	
6	(204) Capital Stock Subscribed	38			
7	(205) Installments Received on Capital Stock	38			
8	Total Capital Stock		113 834 270	154 834 270	
9	(270) Capital Surplus	40	2 200 851	2 200 851	
10	(271) Earned Surplus (See (1) Page 14)	21	83 701 188	40 832 094	5 130 906
11	Total Surplus		7 900 039	43 032 945	5 130 906
12	Total Capital Stock and Surplus		97 734 309	202 867 215	5 130 906
13	LONG-TERM DEBT				
14	(210) Bonds	39	213 875 000	219 250 000	(625 000)
15	(211) Receivers' Certificates	39			
16	(212) Advances from Associated Companies	39			
17	(213) Miscellaneous Long-Term Debt	39			
18	Total Long-Term Debt	39	213 875 000	219 250 000	(625 000)
19	CURRENT AND ACCRUED LIABILITIES				
20	(220) Notes Payable	41		24 000 000	24 000 000
21	(221) Notes Receivable Discounted				
22	(222) Accounts Payable		3 926 028	3 657 378	(268 650)
23	(223) Payables to Associated Companies	42	538 059	280 343	(257 716)
24	(224) Dividends Declared	20	541 044	541 045	1
25	(225) Matured Long-Term Debt		13 934	13 934	
26	(226) Matured Interest		43 925	44 747	822
27	(227) Customers' Deposits		595 160	758 892	163 732
28	(228) Taxes Accrued	43	12 841 120	16 471 557	3 630 437
29	(229) Interest Accrued		1 737 501	1 802 345	64 844
30	(230) Other Current and Accrued Liabilities	44	3 058 273	3 891 914	832 641
31	Total Current and Accrued Liabilities		23 298 042	51 262 153	27 868 111
32	DEFERRED CREDITS				
33	(240) Unamortized Premium on Debt	32	3 444 514	3 240 628	(203 886)
34	(241) Customers' Advances for Construction	44	284 602	272 072	(12 530)
35	(242) Other Deferred Credits	45			
36	Total Deferred Credits		3 729 116	3 512 700	(216 416)
37	RESERVES				
38	(250) Insurance Reserve	48			
39	(251) Injuries and Damages Reserve	48	259 850	311 935	52 085
40	(252) Employees' Provident Reserve	48	211 421	182 770	(28 651)
41	(253) Other Reserves				
42		48	128 402 817	141 331 828	12 929 011
43	Total Reserves		128 874 088	141 826 533	12 952 445
44	CONTRIBUTIONS IN AID OF CONSTRUCTION				
45	Total Contributions in Aid of Construction	49	1 849 777	1 939 917	90 140
46	Total Liabilities and Other Credits		475 460 532	820 788 512	45 308 134
	Utility Plt. Reserves for Depr. & Amort. Accts. 250, 251, 252		118 774 819	127 668 578	8 893 908
	Other Physical Property Reserve for Depreciation Acct. 253		158 148	288 250	130 102
	Miscellaneous Reserves Acct. 258.2				
	Deferred Income Tax (See (2) Page 14)		9 470 000	13 386 000	3 916 000
			128 402 817	141 331 828	12 929 011

DEPRECIATION AND AMORTIZATION OF ELECTRIC PLANT (Accounts 503, 504)

(Except Amortization of Acquisition Adjustments)

1. Report in section A the amounts of depreciation (account 503) and amortization of limited-term electric investments (account 504) for the year, classified according to plant functional classifications.
2. In section B state the rules by which the respondent determined the amounts of charges for depreciation and amortization of electric plant. Show the rates used in computing the depreciation and amortization charges for the year, and state if any change has been made in the rates used or methods of determining depreciation and amortization charges from those used for the preceding year.

A. Summary of Depreciation and Amortization Charges

Line No.	Functional classification (a)	Depreciation (account 503) (b)	Amortization of limited-term electric investments (account 504) (c)	Total depreciation and amortization (d)
		$ c.	$ c.	$ c.
1	Intangible plant		2 631	2 631
2	Steam production plant	4 613 557		4 613 557
3	Hydraulic production plant	661 924		661 924
4	Internal combustion engine production plant			
5	Transmission plant	1 585 916		1 585 916
6	Distribution plant	5 564 483		5 564 483
7	General plant	447 042		447 042
8	Sub Total	12 872 922	2 631	12 875 553
9	Allocated portion of common plant depreciation to electric department	338 491		338 491
10	TOTAL	13 211 413	2 631	13 214 044

B. Method of Determination of Depreciation and Amortization Charges

Depreciation Charges

Missouri Properties

The provision for depreciation was based upon lump sum allowances made by the Missouri Public Service Commission in report and order issued February 20, 1957, in Cases 5905 and 7593; plus an additional provision from income for the year 1957 amounting to $130,971. The allowances by the Missouri Public Service Commission amounted to $1,375,000 per annum as of April 30, 1935, plus 3% per annum of net additions of plant subsequent to April 30, 1935. The depreciation provisions for the year 1957 amounted to the following percentages of the average investment in depreciable plant:

Osage Hydro-Electric Project	1.33%
All Other Property	2.92%

The additional provision of $130,971 referred to above was made to provide depreciation at the rate of 1% per annum on portions of Accounts 320 and 340 and on Account 341, such portions of Accounts 320 and 340 representing all expenditures recorded in such accounts except expenditures for lands held [illegible] unrestricted fee title.

Illinois - Iowa Properties

Depreciation for the year 1957 was charged at the overall rate of 2.3% per annum of the total average depreciable plant investment, exclusive of the investment in the Keokuk Hydro-Electric Plant and substation. Depreciation on the Keokuk Hydro-Electric Plant and substation was charged at the following annual rates:

(Continued on Page 89A)

Annual report of UNION ELECTRIC COMPANY Year ended December 31, 1958

STATEMENT A. COMPARATIVE BALANCE SHEET Assets and Other Debits

Line No.	Title of Account (a)	Sch. Page No. (b)	Balance Beginning of Year (c)	Balance End of Year (d)	Increase or Decrease (e)
1	UTILITY PLANT				
2	(101) Utility Plant	15	$ 577 060 996	$ 609 778 847	$ 32 717 851
3	(108, 111, 115) Less Reserves for Depreciation, Depletion, Amortization, Accts. 250, 251, 252	15	127 668 578	136 513 668	8 845 090
4	Utility Plant Less Reserves	15	449 392 418	473 265 179	23 872 761
5	(107) Utility Plant Adjustments (less reserve included in Acct. 258, $.....)	14 43			
6	INVESTMENT AND FUND ACCOUNTS				
7	(110) Other Physical Property (less reserve for Depreciation, Acct. 253, $ 310,748.)	21 42	318 455	241 692	(76 763)
8	(111) Investm. in Assoc. Companies (less reserve included in Acct. 258, $.....)	22 43	14 847 987	14 850 503	2 516
9	(112) Other Investments (less reserve included in Acct. 258, $.....)	22 43	2 805 710	2 605 710	
10	(113) Sinking Funds	23			
11	(114) Miscellaneous Special Funds	23			
12	Net Investment and Fund Accounts		17 772 152	17 657 905	(74 247)
13	CURRENT AND ACCRUED ASSETS				
14	(120) Cash	—	4 837 444	4 432 110	(405 334)
15	(121) Special Deposits	23	1 787 710	1 564 394	(223 316)
16	(122) Working Funds	—	97 750	98 750	1 000
17	(123) Temporary Cash Investments	22			
18	Receivables				
19	(124) Notes Receivable	24	221 934	174 524	(47 410)
20	(125) Accounts Receivable	24	9 210 210	9 875 158	664 948
21	(126) Receivables from Associated Companies	25	405 526	465 865	60 339
22	(127) Subscriptions to Capital Stock	—			
23	(128) Interest and Dividends Receivable	—	607	871	264
24	(129) Rents Receivable (See (B) Page 18)	—	2 445	8 299	5 854
25	(130) Accrued Utility Revenues	—		5 350 000	5 350 000
26	Total Receivables		9 840 722	15 874 717	6 033 995
27	Less Reserve for Uncol. Accts. Acct. 254	42	122 040	113 473	(8 567)
28	Net Receivables		9 718 682	15 761 244	6 042 562
29	(131) Materials and Supplies	26	8 221 345	7 384 590	(836 755)
30	(132) Prepayments	28	144 755	204 422	59 667
31	(133) Other Current and Accrued Assets	28			
32	(134) Less Reserve Underground	26A			
33	Total Current and Accrued Assets		24 807 686	29 445 510	4 637 824
34	DEFERRED DEBITS				
35	(135) Unamortized Debt Discount and Expense	29	31 927	27 992	(3 935)
36	(136) Extraordinary Property Losses	28			
37	(137) Preliminary Survey and Investig. Chgs.	30			
38	(138) Clearing Accounts	31	15 420	24 791	9 371
39	(139) Reinvestment Work in Progress	—			
40	(140) Other Work in Progress	—	1 455	14 118	12 663
41	(141) Other Deferred Debits	32	117 233	167 263	50 030
42	Total Deferred Debits		166 035	234 164	68 129
43	CAPITAL STOCK DISCOUNT AND EXPENSE				
44	(142) Discount on Capital Stock	33			
45	(143) Capital Stock Expense	33	370 839	370 839	
46	Total Cap. Stock Discount and Expense		370 839	370 839	
47	REACQUIRED SECURITIES				
48	(144) Reacquired Capital Stock	34	302 560	211 230	(91 330)
49	(145) Reacquired Long-Term Debt	36			
50	Total Reacquired Securities		302 560	211 230	(91 330)
51	Total Assets and Other Debits		492 811 690	521 224 827	28 413 137

Schedule 5-58

COMPARATIVE BALANCE SHEET Liabilities and Other Credits — STATEMENT A

Line No.	Title of Account (a)	Sch. Page No. (b)	Balance Beginning of Year (c)	Balance End of Year (d)	Increase or Decrease during Year (e)
			$ c.	$ c.	$ c.
1	CAPITAL STOCK AND SURPLUS				
2	(200) Common Capital Stock	34	103 871 430	103 871 430	
3	(201) Preferred Capital Stock	34	55 359 500	55 359 500	
4	(202) Stock Liability for Conversion	35			
5	(203) Premiums and Assessments on Capital Stock	35	2 603 340	2 603 340	
6	(204) Capital Stock Subscribed	35			
7	(205) Installments Received on Capital Stock	35			
8	Total Capital Stock		159 834 270	159 834 270	
9	(270) Capital Surplus	20	2 200 851	4 053 397	1 852 546
10	(271) Earned Surplus..(See (A) Page 14)	19	40 832 094	45 736 293	4 904 199
11	Total Surplus		43 032 945	49 788 690	6 755 745
12	Total Capital Stock and Surplus		202 867 215	209 623 960	6 755 745
13	LONG-TERM DEBT				
14	(210) Bonds	36	219 250 000	253 625 000	34 375 000
15	(211) Receivers' Certificates	36			
16	(212) Advances from Associated Companies	36			
17	(213) Miscellaneous Long-Term Debt	36			
18	Total Long-Term Debt		219 250 000	253 625 000	34 375 000
19	CURRENT AND ACCRUED LIABILITIES				
20	(220) Notes Payable	38	24 000 000	1 000 000	(12 000 000)
21	(221) Notes Receivable Discounted	—			
22	(222) Accounts Payable	—	3 657 378	3 209 212	(448 166)
23	(223) Payables to Associated Companies	38	280 343		(280 343)
24	(224) Dividends Declared	—	541 045	541 045	
25	(225) Matured Long-Term Debt	—	13 934	13 934	
26	(226) Matured Interest	—	44 747	39 132	(5 615)
27	(227) Customers' Deposits	—	758 892	1 002 268	243 376
28	(228) Taxes Accrued (See (B) Page 18)	39	16 471 557	13 708 192	(2 763 365)
29	(229) Interest Accrued	—	1 802 345	2 282 856	480 511
30	(230) Other Current and Accrued Liabilities	40	3 691 914	3 421 539	(270 375)
31	Total Current and Accrued Liabilities		51 282 153	36 218 178	(15 063 975)
32	DEFERRED CREDITS				
33	(240) Unamortized Premium on Debt	29	3 240 628	3 477 303	236 675
34	(241) Customers' Advances for Construction	40	272 072	139 120	(132 952)
35	(242) Other Deferred Credits	41		1 546	1 546
36	Total Deferred Credits		3 512 700	3 617 969	105 269
37	RESERVES				
38	(255) Insurance Reserve	43			
39	(256) Injuries and Damages Reserve	43	311 935	327 483	15 548
40	(257) Employees' Provident Reserve	43	182 770	163 292	(19 478)
41	(258) Other Reserves (except reserves deducted contra)	43			
42	Total Reserves		494 705	490 775	(3 930)
43	CONTRIBUTIONS IN AID OF CONSTRUCTION				
44	(265) Contributions in Aid of Construction	43	2 039 917	2 292 945	253 028
45	ACCUMULATED DEFERRED TAXES ON INCOME				
46	(280) Accumulated Deferred Taxes on Income	44	13 385 000	15 366 000	1 981 000
47	Total Liabilities and Other Credits		492 811 690	521 224 827	28 413 137

Schedule 5-59

DEPRECIATION AND AMORTIZATION OF ELECTRIC PLANT (Accounts 403, 404)
(Except Amortization of Acquisition Adjustments)

1. Report in section A the amounts of depreciation (account 403) and amortization of limited-term electric investments (account 404) for the year, classified according to plant functional classifications.
2. In section B state the rules by which the respondent determined the amounts of charges for depreciation and amortization of electric plant. Show the rates used in computing the depreciation and amortization charges for the year and explain any change has been made in the rates used or methods of determining depreciation and amortization charges from those used for the preceding year.

A. Summary of Depreciation and Amortization Charges

Line No.	Functional classification (a)	Depreciation (Account 403) (b)	Amortization of limited-term electric investments (Account 404) (c)	Total depreciation and amortization (d)
		$ ¢	$ ¢	$
1	Steam production plant	4 639 284		4 639 284
2	Hydraulic production plant	659 205		659 205
3	Internal combustion engine production plant			
4	Transmission plant	1 745 195		1 745 195
5	Distribution plant	6 008 715		6 008 715
6	General plant	515 216		515 216
7	Sub Total	13 567 615		13 567 615
8	Allocated portion of common plant			
9	depreciation to electric department	337 435		337 435
10	TOTAL	13 905 050		13 905 050

B. Method of Determination of Depreciation and Amortization Charges

Depreciation Charges

Missouri Properties

The provision for depreciation was based upon lump sum allowances made by the Missouri Public Service Commission in report and order issued February 20, 1957 in Cases 5905 and 7593; plus an additional provision from income for the year 1958 amounting to $149,071. The allowances by the Missouri Public Service Commission amounted to $1,975,000 per annum as of April 30, 1935, plus 3% per annum of net additions of plant subsequent to April 30, 1935. The depreciation provisions for the year 1958 amounted to the following percentages of the average investment in depreciable plant:

Osage Hydro-Electric Project	1.33%
All Other Property	2.91%

The additional provision of $149,071 referred to above was made to provide depreciation at the rate of 1% per annum on portions of Accounts 320 and 340 and on Account 341, such portions of Accounts 320 and 340 representing all expenditures recorded in such accounts except expenditures for lands held under unrestricted fee title.

Illinois - Iowa Properties

Depreciation for the year 1958 was charged at the overall rate of 2.8% per annum of the total average depreciable plant investment, exclusive of the investment in the Keokuk Hydro-Electric Plant and substation. Depreciation for the Keokuk Hydro-Electric Plant and substation was charged at the following annual rates:

(Continued on Page 83A)

Schedule 5-60

JSH

STATE OF MISSOURI
PUBLIC SERVICE COMMISSION

At a Session of the Public Service Commission held at its office in Jefferson City on the 19th day of January, 1978.

CASE NO. ER-77-154

In the matter of UNION ELECTRIC COMPANY of St. Louis, Missouri, for authority to file revised tariffs reflecting increased rates for electric service provided to customers in the Missouri service area of the Company.

ORDER SUSTAINING BENCH RULING

On October 12, 1977, the Commission Chairman received a letter from the Chairman of the Energy Committee for the Coalition for the Environment requesting clarification of a ruling of the presiding officer in the local hearing held in this matter at Clayton, Missouri, on the evening of September 27, 1977. Upon review of that letter the Commission Chairman notified the writer and all parties of record that letter would be treated by the Commission as a motion to reconsider the ruling of the bench regarding the admissibility of the evidence in question. An opportunity was provided whereby copies of the subject testimony was to be submitted to the Commission with copies to all parties of record. All parties would be given five days following the filing of the report to file written objections with the Commission to its admissibility at their option. In addition, all parties were to indicate by letter whether or not they desired to cross-examine the witness concerning this report. If the Commission ruled the report should be received into evidence and copied into the record as if read, a subsequent hearing would then be scheduled should any party request the right to cross-examine the witness. If no party requested the opportunity to cross-examine the witness, the same would be deemed waived.

Thereafter on December 15, 1977, the Commission received the copies of the testimony referred to above. On December 19, 1977, Union Electric Company filed its Objections to Admission of Evidence and on December 23, 1977, the Office of Public Counsel filed a Memorandum in Opposition to Union Electric's Objections to Admission of Evidence.

The Commission, considering all of the foregoing, as well as the transcript made of the September 27, 1977, hearing, is of the opinion the ruling

of the bench here in question should be sustained for the following reasons. The subject matter of the document, the cost of nuclear fuel, is not relevant to this proceeding. Costs of the proposed nuclear plant are not included in the test year of this case. From a procedural standpoint, the referred to ruling sustained an objection regarding the question of having all written statements made a part of the record as if they were made in oral fashion and did not sustain an objection made because the statements involved were related to the proposed Callaway Plant. The record reflects the objection sustained by the ruling was made because such a procedure would be to allow a party to supplement his testimony after the right of cross-examination had passed.

It is, therefore,

ORDERED: 1. That the ruling of the bench made at the local hearing in this matter on September 27, 1977, in Clayton, Missouri regarding the admissibility of the specified written evidence as outlined herein is sustained for the reasons stated.

ORDERED: 2. That this Order shall become effective on the 2nd day of February, 1978.

BY THE COMMISSION

R. Michael Jenkins
Acting Secretary

(S E A L)

Fraas, Acting Chm., Sprague, Jones and McCartney, CC., Concur.
Slavin, C., Abstain.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

CASE NO. ER-77-154

In the matter of UNION ELECTRIC COMPANY of St. Louis, Missouri, for authority to file revised tariffs reflecting increased rates for electric service provided to customers in the Missouri service area of the Company.

APPEARANCES: Stewart W. Smith, Jr., Attorney at Law, William E. Jaudes, Attorney at Law, and Paul W. Agathen, Attorney at Law, 1901 Gratiot Street, P. O. Box 149, St. Louis, Missouri 63166, for Union Electric Company.

Robert C. Johnson, Attorney at Law, 314 North Broadway, St. Louis, Missouri 63102, for Industrial Intervenors, ACF Industries, Inc.; Anheuser-Busch, Inc.; Emerson Electric Company; McDonnell-Douglas Corporation; Meramec Mining Company; Missouri Portland Cement Company; PPG Industries, Inc.; St. Joe Lead Company; General Motors Corporation; Monsanto Company.

David F. Crossen, Attorney at Law, and Thomas E. Allen, Attorney at Law, 7912 Bonhomme, Suite 304, Clayton, Missouri 63105, for Industrial Intervenors, Abex Corporation and Mallinckrodt, Inc.

Robert C. McNicholas, Associate City Counselor, for Jack L. Koehr, City Counselor, 314 City Hall, St. Louis, Missouri 63103, for The City of St. Louis, Missouri.

William M. Barvick, Public Counsel, Kent M. Ragsdale, Assistant Public Counsel, and James M. Fischer, Assistant Public Counsel, P. O. Box 1216, Jefferson City, Missouri 65101, for the Public.

Michael J. Hoare, Attorney at Law, 314 North Broadway, St. Louis, Missouri 63102, for Missouri Association of Community Organizations for Reform Now.

Patricia E. Rousseau, Attorney at Law, Legal Aid Society, 607 North Grand, St. Louis, Missouri 63103, for Union-Sarah Community Corporation.

Thomas W. Wehrle, County Counselor, and Herman Barken, Associate County Counselor, 7900 Forsyth, Clayton, Missouri 63105, for St. Louis County, Missouri.

Samuel H. Liberman, Attorney at Law, Washington University School of Law, St. Louis, Missouri 63130, for Utility Consumers Council of Missouri, Inc.

Thomas A. Hughes, General Counsel, W. R. England, III, Counsel, James S. Haines, Jr., Counsel, L. Russell Mitten, II, Counsel, Missouri Public Service Commission, P. O. Box 360, Jefferson City, Missouri 65101, for the Staff of the Missouri Public Service Commission.

Schedule 6-3

REPORT AND ORDER

Introduction

On March 4, 1977, Union Electric Company of St. Louis, Missouri, submitted to this Commission revised tariffs reflecting increased rates for electric service provided to customers in the Missouri service area of the Company. The proposed revised rates are designed to increase electric revenues by approximately $65,400,000 annually. The proposed tariffs had a requested effective date of April 4, 1977.

On March 17, 1977, the Commission issued its Suspension Order suspending these proposed tariffs for a period of one hundred twenty (120) days beyond April 4, 1977, the requested effective date, to August 2, 1977, unless otherwise ordered by the Commission. On April 29, 1977, the Commission issued its Order and Notice of Hearing wherein it further suspended the proposed tariffs for an additional period of six (6) months beyond August 2, 1977, to February 2, 1978, unless otherwise ordered by the Commission.

The Commission also adopted a schedule of proceedings that required all parties desiring to intervene and participate to file their applications on or before May 27, 1977. Applications to intervene were filed by St. Louis County, Missouri; the City of St. Louis, Missouri; Utility Consumers' Council of Missouri, Inc.; Union-Sarah Community Corporation; the Missouri Affiliate of the Association of Community Organizations for Reform Now (MoACORN); and the following industrial corporations: Abex Corporation, Mallinckrodt, Inc., Monsanto Company, General Motors Corporation, ACF Industries, Inc., Anheuser-Busch, Inc., Emerson Electric Company, McDonnell-Douglas Corporation, Meramec Mining Company, Missouri Portland Cement Company, PPG Industries, Inc., and St. Joseph Lead Company. The Commission granted the status of intervenors to all of the foregoing.

The Commission scheduled local hearings in the Company's service area for the purpose of receiving testimony from customers of the Company concerning the proposed increases. These local hearings were held on September 26, 1977, in the City of St. Louis, on September 27, 1977, in the City of Clayton, and on September 28, 1977, in the City of St. Charles, Missouri.

The schedule of proceedings adopted by the Commission for this case called for a prehearing conference to begin on October 12, 1977. Cross-examination of all parties was to begin before the Commission on October 24, 1977. On

September 13, 1977, the Commission issued its Order and scheduled an additional prehearing conference to deal with questions regarding interrogatories and other matters of discovery. This additional prehearing conference was held on September 16, 1977. The scheduled prehearing conference began on October 12, 1977, and was concluded prior to the start of the hearing on October 24, 1977. This prehearing conference resulted in the production of a Hearing Memorandum which was marked as Joint Exhibit No. 1 and introduced into this record.

Cross-examination of all witnesses began on October 24, 1977, and continued variously from day to day until its conclusion on November 10, 1977.

The following briefing schedule was adopted for purposes of this case. Company's brief was scheduled to be due on or before December 1, 1977. Staff, Intervenors and Public Counsel were to file their briefs on or before December 15, 1977, and the Company was to file its reply brief on or before December 22, 1977. All parties desiring to file briefs did so pursuant to that schedule.

Local Hearings. The local hearings were held as outlined above. Though many more people attended, 37 testified at the St. Louis hearings, 44 at the Clayton hearings and 11 at the hearing held at St. Charles. The vast majority of witnesses that did testify opposed the granting of the rate increase. In some instances, witnesses stated utility costs would approximate one-third of their income. The witnesses strongly urged the Commission to scrutinize the costs of the Company, especially as to advertizing and the effects of Proposition No. 1 on the Callaway Plant now under construction. The Commission was also urged to consider and adopt certain rate design changes that would include provisions for some sort of life line rate and a review of residential and commercial rates so that the cost per kilowatt hour would be the same for all customers. The Commission was also urged to consider time of day pricing for setting rates.

The Commission has given careful consideration to all the Company costs included in the test year used for purposes of this case in reaching its decision. Since the Commission has presently in progress a separate case inquiring into the cost of providing service by this Company, Case No. 18,177, the Commission is of the opinion it would not be appropriate at this time to make major rate design changes in this case. The Commission is of the opinion the cost of service case referred to would be the appropriate case for considering rate design changes since consideration is being given in that case to many of the suggestions received at the local hearings.

At the Clayton hearing ruling on the receipt of the Public Counsel's Exhibits 1 and 2 was deferred. The Commission hereby receives these two exhibits All other objections not heretofore ruled on are hereby overruled and all such motions are hereby denied.

Findings of Fact

The Missouri Public Service Commission, having considered all the competent and substantial evidence upon the whole record, makes the following findings of fact:

Fuel Inventories

Company maintains an inventory of fuel (coal, oil and propane) which, in effect, represents a permanent investment of funds upon which Company's investors require a return. The issue in the instant case is which level of fuel inventories accurately reflects a permanent investment when the actual level is constantly changing. Staff's approach was to take the inventory level for the month prior to the beginning of the test year and for each month of the test year, then calculate a thirteen-month average. This calculation yielded an average coal pile, systemwide, of 2,250,000 tons.

Company determined the proper fuel inventory level by taking the systemwide coal pile at the end of the test year (June 30, 1977) or 3,088,000 tons with an overall difference in cost of $8,893,000. Company witness testified that during the Spring of 1977, Company management revised its coal purchasing policy. Previously, Company attempted to maintain at least a 60-day supply of coal on a systemwide basis at all times. Company witness explained that because of work stoppage at the coal mines, mining equipment breakdowns, transportation bottlenecks and delays and the ever present possibility of another oil embargo, Company's supply of coal is no longer as reliable as it once was and Company decided to maintain a 90-day coal supply on a systemwide basis. As a result, he maintained the coal pile on the ground as of June 30, 1977, more accurately reflects the coal pile which Company will have on the ground in the months to come than a hypothetical coal pile determined by taking averages of coal piles in past months when the 90-day supply policy was not in effect.

The Commission notes that Company has made a major policy change with regard to fuel inventory levels when it raised its target level from a 60 to a 90-day supply. Company witness was not able to point out any specific events or incident which triggered Company's change of policy other than to suggest that

the overall reliability of coal mining, coal transportation and coal delivery has been steadily declining over the past several years and that Company's decision in the Spring of 1977 was a belated response to this decline in reliability.

However, the Commission does not intend to substitute its uninformed judgment as to the proper coal pile Company should maintain for Company's informed judgment on the same matter other than to point out that a 90-day coal supply is not an unreasonable Company objective. Indeed, this Commission based its determination of a proper fuel inventory for Kansas City Power and Light Company in Case No. ER-77-118 upon the premise of a 90-day coal supply. Further, the Commission's goal in this issue is to select that level of coal inventory which will reflect actual amounts of coal Company will have on the ground during the months beyond the test year. Company witness testified that approximately 3,000,000 tons of coal represents a 90-day supply for Company on a systemwide basis which is very close to the test year end amount of 3,088,000 used by Company to calculate its number for coal inventories.

This does not mean the Company will maintain a coal pile of 3,000,000 tons every month of the year because Company's load is far from uniform, meaning that a 90-day coal supply for three summer months of high electrical consumption would be significantly higher than a 90-day supply for three autumn months when consumption falls off. In fact, Company witness testified that as of October 14th, Company's coal pile was only 2,685,000 tons. The Commission finds that the October 14th coal pile of 2,685,000 tons and the test year end amount of 3,088,000 tons provide the parameters for deciding what level of coal inventory Company will actually maintain. In that the October level represents a period of low electrical demand and the June level a period of high demand, the Commission finds that in the instant case, an average of the two is a reasonable method of determining Company's coal inventory level or 2,887,000 tons. No evidence was offered as to what price either Staff or Company used to arrive at a dollar calculation of coal inventory. The Commission can only assume that since Staff and Company differ by 838,000 tons and $8,893,000, the price which both parties used can be determined by dividing $8,893,000 by the 838,000 tons or a price of $10.612 per ton. Given an inventory level of 2,887,000 tons, Staff's calculation of coal inventory should be increased by $6,759,844 instead of the $8,893,000 proposed by Company.

Schedule 6-7

Working Capital

Company and Staff differed as to the proper calculation of cash working capital requirements. Company developed a working capital requirement which was $3,973,000 higher than Staff's comparable number because Company computed operations and maintenance (O&M) expense by using the wage and salary level which became effective July 1, 1977 (accounting for $1,116,000 of the difference) and by adding its proceeds from interchange sales back to O&M expenses. This latter issue, involving the remaining $2,857,000, is complex because of the manner in which Company accounts for its purchased power and interchange sales. The basic purpose of including any amount for cash working capital in rate base is to reflect the fact that there is a lag between the time Company pays for an expense and the time those dollars are recovered through Company's billing cycle. Since this is a continual and ongoing process, as long as Company remains in business, a certain level of funds are permanently tied up in paying expenses before the associated revenues are collected and including this level in rate base permits Company to earn a return on funds so committed.

However, the calculation, for rate-making purposes of cash working capital, is based upon taking an appropriate percentage (reflecting the lag time) of Company's operating and maintenance (O&M) expenses, which are the actual cash expenses that Company must pay in the course of business. A problem develops when it becomes necessary to select an appropriate level of O&M expenses upon which to base the cash working capital calculation because Company decreases O&M expenses by the amount of its sales of power to other utilities and increases O&M expenses by the cost of power purchased from other utilities. At the end of the year, Company nets the difference so if purchases exceed sales, the result is an increase in O&M expenses and, if sales exceed purchases, the result is a reduction of O&M expenses.

The question becomes, should these increases or reductions to O&M expenses be included in the calculation of cash working capital? The Commission finds that Company's policy of increasing O&M expenses by the cost of purchased power is acceptable because Company presumably only purchases power when it would be more costly for Company to generate that power itself and, hence, O&M expenses would have been higher still had Company selected the self-generation option. (This policy of course would not apply to utilities which purchase all or almost all of their power.) Likewise, the Commission accepts Company's policy of reducing O&M expenses by the revenues received from power sales because Company

is presumably selling this power at a price greater than the direct costs of generating the power.

By applying the entire proceeds from power sales to offset O&M expenses, Company is, in effect, paying back the direct costs of those sales (fuel plus incremental maintenance) plus any other costs associated with those sales such as the costs of collecting the revenues from the purchasing utilities. Hence, cash working capital should be calculated by using an O&M expense figure which includes either the net proceeds or net losses from Company's interchange activities. The situation is complicated, however, by the fact that in Company's prior case before this Commission, Company was a net purchaser of power and the Commission accepted Staff's recommendation to reduce O&M expenses by the amount of the net deficit in Company's interchange transactions. In this case, Company is a net seller of power and on the basis that turn about is fair play, maintains that its O&M expenses, exclusive of net purchased power, should not be reduced by the net proceeds from its interchange activity.

The Commission finds that the proper treatment of interchange and purchased power is to add the net losses of interchange transactions to O&M expenses, exclusive of net purchased power, in years when Company buys more power than it sells and subtract the net proceeds from O&M expenses in years when Company sells more power than it buys. In so doing, the Commission recognizes that it is reversing its position in Company's prior case on the basis that two wrongs do not make a right and, hence, the Commission accepts Staff's calculation of the interchange portion of Company's cash working capital requirement. However, since Staff has accepted Company's wage and salary adjustment to operating expenses, the Commission finds that Staff's original calculation of the cash working capital component of rate base should include the $1,116,000 adjustment for the July 1, 1977 wage and salary level.

Weather-Related Labor Expenses

Staff eliminated $1,199,000 in labor expenses at the Labadie plant for the test year months of December 1976, January 1977 and February 1977. The genesis of this adjustment was a comparison of test year labor expenses of $38,670,000 with labor expenses for the prior corresponding twelve-month period of $30,488,000. Staff decided that part of the increase was attributable to a wage increase effective July 1, 1976 and part of the increase could be explained by abnormally low expenses during the prior twelve months because of a

prolonged strike. However, the balance of the increase was attributed to the abnormally high labor expenses which occurred at the Labadie plant during the months of December 1976, January 1977, and February 1977 of $4,267,000 compared to labor expenses of $2,317,000 for the same three months a year earlier. Staff then adjusted the $2,317,000 labor expense for the ensuing wage increase effective July 1, 1977 resulting in a revised labor expense of $2,498,000 or a difference of $1,769,000 between the three test year months and the three months a year earlier ($4,267,000 less $2,498,000). The Missouri portion of this total Company difference was calculated to be $1,152,000 and to this was added the Missouri portion of the cost of blasting Company's frozen fuel supplies to arrive at a total adjustment of $1,199,000.

In essence, Staff's position was that these higher labor expenses during the test year were due to the abnormally cold winter of 1976-77 and, hence, can be characterized as nonreoccurring. Given a normal winter, Company's labor expenses for those three months should not be as great as they were during the winter of 1976-77. One of the purposes of setting a test year is to attempt to capture a normal "level of expenses" which Company can reasonably be expected to foresee beyond the test year in the period when new rates are in effect. Staff's adjustment in the instant issue was an attempt to approximate a normal level for Company's labor expense.

However, the Commission finds that the purpose of setting a test year goes beyond the effort to capture a normal expense level for Company as the test year must also capture a "normal" revenue level at the same time. In other words, it is necessary for the Commission to assess the impact of the abnormally cold weather of the winter of 1976-77 on both Company's revenues and expenses because it is the difference between the two which is the primary determinant of Company's revenue deficiency. If the winter of 1976-77 caused revenues to increase and expenses to increase by an identical amount, then the resulting net operating income would be "normal" and there would be no need to adjust the test year for abnormality. Indeed, Company witness contends that the winter of 1976-77 caused Company's revenues to increase by $3,479,000 and its expenses (both fuel and labor) to increase by $2,574,000 resulting in an increase of $905,000 in net operating income. Put another way, given a normal winter, Company's net operating income would <u>decrease</u> by $905,000 adding a corresponding amount to Company's revenue deficiency prior to any tax consideration.

The Commission is unwilling to add $905,000 to Company's revenue deficiency prior to tax considerations because of the inexact nature of Company's data concerning the impact of the winter of 1976-77 on both revenues and expenses. However, the Commission is also unwilling to make a weather-related adjustment to Company's expenses without making a similar adjustment to Company's revenues and disallows Staff's adjustment for that reason.

Replacement of Sioux Plant Boiler Floor

Staff eliminated $1,591,000 in expenses for the replacement of the boiler floor at Sioux Unit No. 2. Both Sioux units are cyclone fired boilers where the crushed coal is introduced into drums on the side of the boiler and burned. The heat from this combustion process plus the noncombustible elements in the coal enter the boiler and the latter, containing considerable heat, fall to the floor of the boiler. In an effort to capture the heat in the noncombustible ash and metal, the boiler floor is lined with water pipes upon which this slag falls. The heat is then transferred to the water in the pipes in order to eventually convert the water to steam. The problem with this process is that the hot slag over a period of approximately ten years will eat away the pipes until they become too thin to withstand the pressures of the water in those pipes. At that point, the pipes must be replaced.

During the test year Company had to spend $1,591,000 to replace the pipes on the floor of Sioux Unit No. 2 and Staff maintains that this expense should be removed from test year maintenance expenses because replacing boiler floors is not an annually reoccurring event. Company, on the other hand, held the position that every five years the floor of one of the two boilers at Sioux Station will have to be replaced so that the cost of the test year floor replacement should be amortized over five years and the unamortized portion included in rate base. This would result in test year Missouri maintenance expenses being first reduced by $1,591,000, then twenty percent of the amount (corresponding to a five-year amortization period) or $318,000 being added back to these expenses for the test year and every succeeding year.

Under Company's proposal, not only would Company eventually recover all of the funds it expended in replacing the pipes, but every year Company's investors would receive a return on the unamortized balance on the theory that, until the pipe replacement expenditure is fully recovered, Company's investors have funds tied up in this maintenance project similar to all other funds invested in Company upon which they are entitled to a return.

The Commission accepts Company's proposal to amortize the expense of replacing the pipes of Unit No. 2 over five years, but will not permit the unamortized balance in Company's rate base. The unamortized balance is, in effect, a deferred debit which Company is entitled to recover in its entirety through its rates. However, the Commission is not willing at this time to permit Company investors a return on the uncollected portion of what is, in fact, an expense item when Company's investors are allowed (by federal mandate) a return on part of Company's investment tax credit even though those investors did not supply the funds involved.

Electric Power Research Institute Assessment

Staff included $2,485,200 in Company's total operating expense which is the amount Company will pay to the Electric Power Research Institute (EPRI) for 1977. This amount was determined by a formula which looks to 1975 revenues and kilowatt-hour sales as the basis for the charge. Since the purpose of annualization is to set revenues and expenses at test year-end levels and because this test year rests equally in 1976 and 1977, Staff decided that in order to annualize this expense, Company's 1977 assessment would be appropriate as the test year-end level even though calendar year 1977 extends six months beyond the test year.

Company argued that rates set in this case will be in effect not during 1977 but during 1978 and beyond, that Company's 1978 EPRI dues are known and measurable at this time because they are based on 1976 revenues and kilowatt-hour sales, and that in order to avoid earnings dilution, the Commission should use Company's 1978 dues of $2,613,183 rather than the 1977 dues of $2,485,260. This would add approximately $128,000 to Company's operating expenses and $93,000 to the Missouri portion thereof.

The Commission finds that Company's 1977 dues represent the proper amount to be included in operating expenses. Though the Commission has, in the past, included known and measurable changes in expense levels which occur well beyond the termination of the test year, in those cases, it has also made a pro forma adjustment to revenues so that revenues and expenses would remain in balance. In this case, no such revenue adjustment for 1978 has been made.

Schedule 6-12

Rate of Return

A. Return on Equity. Company recommended a return on equity of 16.09 percent while Staff recommended a range of 11.94 percent to 12.94 percent with 12.44 percent being the midpoint. Each party used a different method to arrive at a final conclusion and each method will be discussed in turn.

Company witness actually performed three separate procedures to arrive at his final recommendation of 16.09 percent. The first procedure was to select a group of companies which this witness considered comparable to Company in terms of their risk-return relationship. This was accomplished by the use of Second Degree Stochastic Dominance (SSD). This technique, he explained, is based upon the premise that, given the option of a certain return of fifty cents or a fifty-fifty chance of earning either $1.00 or nothing, a risk averting investor will always select the certain return.

An example would be helpful at this point to facilitate a discussion of stochastic dominance. Given two companies, A and B, it is possible to go back over the last 101 months and calculate 100 market returns which are defined as market price at end of month minus market price at beginning of month, plus any dividend earned during the month, divided by market price at beginning of month. In other words, if a stock's price increased from $20 to $21 during the course of a month, and paid $1.00 in dividends, the increase in price of the stock of one dollar would be added to the dividend of one dollar, and the result divided by the market price at beginning of month of $20 to yield a ten percent return. If the results of these calculations show that company A earned six percent 20 times, eight percent 30 times, ten percent 30 times, and twelve percent 20 times, and company B earned five percent 25 times, six percent 40 times, seven percent 25 times, and thirteen percent 10 times, their frequency distribution would be as follows:

Company A		Company B	
Return	Probability	Return	Probability
.06	20%	.05	25%
.08	30%	.06	40%
.10	30%	.07	25%
.12	20%	.13	10%
	100%		100%

If all of these returns were ranked in ascending order and their cumulative probability calculated, the results would be as follows:

Returns	Company A	Company B
.05	00%	25%
.06	20%	65%
.07	20%	90%
.08	50%	90%
.10	80%	90%
.12	100%	90%
.13	100%	100%

Since we are dealing with cumulative probabilities, it is possible to select any rate of return and ascertain the probability of earning that return or less.

For instance, the probability of earning eight percent or less for company A is 50 percent and for company B ninety percent, and given an investor who prefers more wealth to less wealth, that investor will select company A because the probability of earning eight percent or more is greater. Comparing company A with company B, this is true for every rate of return up to and including ten percent at which point the advantage shifts to Company B and, hence, under First Degree Stochastic Dominance, the two companies would be neutral to each other with A dominating up to a point, then B dominating.

The purpose of Second Degree Stochastic Dominance is to protect the risk averting investor from selecting company B because of the higher probability of earning twelve percent. The risk averting investor by definition prefers the highest return, with the least risk which company A offers up to and including ten percent. In effect, SSD employs a more complicated mathematical formula which more narrowly measures cumulative probability and results in company A dominating company B as far as a risk averting investor is concerned. Company witness looked at 1195 companies for which data was available as far back as 1966 and calculated 119 market returns for each of these companies over the ensuing 120-month period. As in the example above, a frequency distribution for each company was calculated and a cumulative probability also calculated using the SSD formula. Any company which dominated Union Electric was eliminated as was any company which was dominated by Union Electric. The residual companies were, in effect, neutral to Union Electric in that no clear pattern of dominance by either Union Electric or by the company with which it was being compared could be established even using SSD calculations. Finally, the residual or neutral companies were compared with each other and where one company dominated another, the dominated company was discarded. This enabled Company witness to narrow his "comparable" companies down to 54 companies other than Union Electric which he referred to as his efficient set.

Staff's principal objection to this procedure went to the underlying assumption of taking 119 market returns over a ten-year period. While Company witness maintained that the longer the time period and, hence, the more returns calculated, the more valid his procedure would be, Staff witness suggested that the use of such a long time period might lead to invalid results. The basis of this position was that during the time period 1966 through 1975, major shifts have occurred in the national economy and the possibility exists that the series of market returns from a company over this ten-year period may not be drawn from the same probability distribution. Staff Exhibits 10 and 13 were introduced to indicate that 54 "comparable" companies were not comparable at all at least in terms of dividend growth and market-to-book ratios.

The Commission finds some merit in Staff's position because major realignments have occurred in the economic environment since 1966 which very well could alter the relationship of all companies to this environment and the relationship of companies with each other so that, in effect, the coin we started flipping in 1966 is not the same coin we are flipping today. However, recognizing the possibility that the market returns used by Company witness in the instant case may not totally reflect current underlying reality is not tantamount to rejecting the method as an unworkable approach to the problem of determining an equity return. The Commission is willing to accept Company's 54 companies as comparable to Union Electric in their risk-return relationship even though it may have some doubts as to whether the entire investment community can be characterized as risk averse or whether the principles of SSD even after they have been around for several years will have any impact on investor behavior.

The next step taken by Company witness was to compute equity returns for each of his 54 "comparable" companies using the discounted cash flow method (DCF). An investor in a share of common stock will receive a return on that investment not only through current dividend payment but also through future dividend payments. However, a dividend received next year is not as valuable as a dividend received this year because the investor could reinvest this year's dividend and, by the end of next year, receive, in effect, a dividend on the dividend. In order to compare a dividend received this year with a dividend received next year, it is necessary to discount next year's dividend by the amount of interest (or dividend) the investor would receive if he invested this year's dividend for one year. Herein lies the essence of DCF theory. If it is possible to determine what discount rate the investor is using to compare a

dollar received next year with a current dollar, then it is also possible to approximate what return this investor is seeking in the market place.

Here again, an example would be helpful. A company has a year-end book value of $15,46 per share, earnings per share of $1.86 and dividends of $1.34. This would yield a book equity return of 12 percent ($15.46 divided by $1.86) and a payout ratio of 72 percent ($1.34 divided by $1.86). If an investor perceives that this return and this payout ratio will be reasonably stable over the coming years, it is possible to project dividends and book values into the future in the following manner:

	Book Value		Earnings Per Share		Dividends Per Share
Beginning of Year One	$15.46	x 12%	$1.86	x 72%	$1.34
	.52	($1.86 - $1.34)			
End of Year One	$15.98		$1.92		$1.38
	.54				
End of Year Two	$16.52		$1.98		$1.43
	.55				
End of Year Three	$17.07		$2.05		$1.48
	.57				
End of Year Four	$17.64		$2.12		$1.53
	.59				
End of Year Five	$18.23				

This example demonstrates how dividends grow over the five-year projection period because each year not all of company's earnings are paid out in dividends. Part of company's earnings are being reinvested back in the company and, if the book equity return remains reasonably constant, company's retained earnings will compound over time. In this example, an investor who paid book value ($15.46) for the stock would have a yield of 8.7 percent ($1.34 divided by $15.46) and the value of the investment will grow from $15.46 to $18.23 over five years which represents a compound growth rate of 3.3 percent. The yield of 8.7 percent and the growth of 3.3 percent add up to the 12 percent return on equity which company is actually earning.

This, of course, implies that the investor is seeking 12 percent and since company is actually earning 12 percent, this investor will pay the book value of $15.46 per share. If, however, the investor is only paying $15.00 per share for company's stock, this indicates that the investor is requiring a higher return than 12 percent. In fact, by using the appropriate discount rate, it can be demonstrated that the investor is really seeking 12.8 percent. In other words, if each dividend for each year is discounted back to present value at the rate of 12.8 percent and the final book value of $18.23 is also discounted back to present value at 12.8 percent, the result is $15.00. A $15.00 market price means a yield of 8.9 percent and the growth of the investment from $15.00 to $18.23

over five years indicates a compound growth rate of 3.9 percent for a total of 12.8 percent.

In essence, Company witness took his 54 comparable companies (Company Exhibit C-4) and for each company calculated a compound growth rate in dividends from 1966 through 1975. Then, for each company an annual yield was calculated by dividing the annual dividend by beginning year book value for each year from 1967 through 1975 and the nine yields averaged. Combining the growth and yield factors resulted in a DCF return for each company and these were averaged to arrive at a mean DCF return of 14.8 percent. Staff criticized Company witness for selecting an average DCF return as the recommended equity return for Company when 54 "comparable" companies exhibit an extensive range of DCF returns--from 2.5 percent for U. S. Steel up to 30.4 percent for Lucky Stores. Staff further maintained that Company had the seventh lowest DCF return of the 55 companies (the other 54 and Union Electric) and a 14.8 percent return would allow Union Electric to rank 28 out of 55 companies (Staff Exhibit 14). Company responded that U. E. was indeed at the bottom of this comparable set and if U. E. did not earn the average return for the set, it would be in danger of slipping into a lower set where investors would require higher returns for the same risk.

The Commission agrees with Staff that having selected 54 "comparable" companies, Company witness has not demonstrated why Company must earn a 14.8 percent return, the average for the set, in order to remain in that set. All he has demonstrated is that U. E. with a DCF return of 10.3 percent over the same period is at the bottom of the range of returns earned by the 54 companies and if Company continues to perform in a similar manner in the future, it could well slip into a set of companies with a poorer risk-return relationship. On the other hand, the Commission cannot reject, out of hand, the possibility that Company's investors are seeking a 14.8 percent return on equity at which return they will pay book value for Company's stock.

Staff was also critical of Company witness developing the yield portion of his DCF return by using book values instead of market values. Company responded that book values are, in essence, a composite of all the market prices which Company's investors have paid over the years when they paid prices below book value, at book value or above book value. Hence, book yields represent the embedded investment which Company's investors have in Company's stock and if the Commission is to award these past investors a fair return, then book yields are appropriate.

The Commission finds that using book values for the purpose of developing the yield portion of a DCF return on equity, in the context of a rate case, is unacceptable. The Commission is attempting to select a return which will permit Company to market its stock at a price sufficiently above book value so that equity dilution will not occur. In the example above, where the actions of a prospective investor are being examined, the use of book value to determine a book yield would lead to this investor seeking a return exactly equal to what the company is actually earning on book equity. Clearly this is unacceptable for selecting a prospective return on equity when the method used leads to the conclusion that what investors are seeking at any given time is what Company is earning.

Company witness admitted that his method was not intended for prospective investors but for existing investors. However, the Commission is of the opinion that a return on equity which will enable Company to sell its stock above book value will be a fair return for Company's existing investors. Further, the very real possibility exists that if the Commission did grant and Company did earn an equity return of 14.8 percent, its stock may also sell at the average market to book ratio of the 54 companies of 1.96 as shown on Staff Exhibit 10. The Commission has no objection to Company's stock selling at twice book value if this market to book ratio is achieved outside the context of a rate case.

By substituting market prices as of December 31, 1975 (Staff Exhibit 12), Company's recommendation of 14.8 percent is reduced to 12.89 percent.

Company witness made one final adjustment to his DCF rate of return. As mentioned earlier, a DCF return only indicates what return would induce an investor to pay book value. Company witness pointed out that a stock must sell for more than book value if Company's net proceeds are to be at least equal to book value when a new issue of common stock is marketed. This, he maintained, is because of floatation costs (underwriter costs, legal fees, printing costs, etc.) and market pressure (when the market place is required to absorb a new block of stocks, the price of that stock may be depressed). Because of studies done by Irving Trust, Company witness recommended that Company stock be allowed to sell at 1.10 times book value. Therefore, he adjusted only the yield portion of his DCF return because that is the one portion of the rate which is market sensitive i.e. can change with changing market prices. This he accomplished by taking Company's average payout ratio over the period 1967 through 1976 (78 percent) and determined the yield/growth breakdown of his DCF return

(78 percent x 14.8 percent = 11.54 percent yield and 22 percent x 14.8 percent = 3.26 percent).

The yield portion he increased by 110 percent (11.54 percent divided by 90) to arrive at 12.83 percent and to that he added the growth portion 3.26 percent to reach his final conclusion of 16.09 percent.

Staff agreed with Company witness that Company's stock should be permitted to sell at a price above book value but not 1.10 times book value. Staff Exhibit 2, Schedule 10, indicates that Company's actual out-of-pocket costs for marketing new issues of stock since 1970 have averaged 4.49 percent of book value for each of the five issues of new stock included in this time period. These costs represent basically what Company witness referred to at floatation costs as Staff included no additional adjustment for market pressures. It was Staff's position that Company is continually marketing new issues of common stock and, hence, these downward market pressures are continually reflected in Company's stock price. This would indicate that when Company markets a new issue the market price will not be noticeably depressed.

The Commission finds that Company's stock should sell at a minimum market to book ratio of 1.04 which is essentially Staff's recommendation, rounded downward. Staff witness testified that the Irving Trust studies relied upon by Company concerned rights offerings and neither party offered evidence as to the movement of Company's stock price before, during and after a public offering. Without such evidence indicating first the presence of market pressure during a new offering and secondly the impact on the stock price of such pressure, this Commission cannot accept a market pressure adjustment as proper.

A market/book ratio of 1.04 will have implications for Staff's recommended return on equity and it also has implications for Company's recommended return. If Company's return is adjusted first by using market values as mentioned above and a market/book ratio of 1.04 is used, then the DCF return of 12.89 percent would be adjusted upward to 13.4 percent using a 78 percent dividend payout ratio (78 percent x 12.89 percent = 10.05 percent ÷ 95 = 10.47 percent + the "g" of 2.84 percent = 13.31 percent).

Company's second witness on this issue began with the premise that a regulated utility must earn a rate of return equal to its cost of capital. Comparing a utility with a non-regulated manufacturing firm, he pointed out that the utility must invest more dollars of capital for every dollar of revenue

compared to a manufacturer, that the utility must continually raise additional capital if the needs of its customers continue to grow compared to a manufacturer who has no obligation to provide service and can decide to raise additional capital only when conditions are favorable and that a manufacturing firm generally generates most of its capital needs internally compared to a utility which generates less than half of its capital needs internally. As a result, the utility is far more dependent on the external capital markets than other firms and how the utility is received in those markets will determine whether it can continue to provide service to its customers and will also determine the cost of that service.

Hence, he continued, a utility which does not earn its cost of capital will not be able to sell its common or preferred stock to institutional investors at any price, its common stock will sell to other investors at a price below book value, coverage will decline, ratings will be lowered and, overall, the cost of capital will increase and the utility's access to the capital markets will be endangered. In other words, a utility with financial difficulties may end up costing its customers more money than a financially healthy utility and may also be unable to meet its customers' growing demand for service. The Commission is in complete agreement with this Company's witness and will make every effort to determine what Company's cost of capital is so Company will be given a reasonable opportunity to earn that cost of capital. Unfortunately, nothing in this witness' testimony can assist the Commission in its quest for Company's cost of capital as he only endorsed the recommendation made by Company's prior witness on the subject.

Staff witness developed his recommended return on equity by utilizing a different approach to the problem. He began with the goal of selecting a rate of return which would permit Company to market its stock at 1.04 times book value based upon Staff Exhibit 1, Schedule 10 which was discussed above. He then undertook a statistical analysis of 95 electric utilities for a 12-month period ended December 31, 1976, in order to determine what variables would "explain" the market-to-book (M/B) ratios of those companies. He started with 11 possible variables which might impact on M/B ratios and they were:

1. Equity ratios
2. Return on common equity
3. The percent of AFFUDC in income for common stocks
4. Dividend payout ratio
5. Times interest charges earned
6. Size of firm
7. Historic growth rate in earnings per share
8. The ranking of this Commission
9. Bond rating
10. Cash-flow coverage of common dividends
11. Book yield (dividends as a percentage of book value)

Only 7, 8, 9 and 11 proved to have a significant impact on M/B ratios but their explanatory values were not equal. For instance, book yield alone explained about 65 to 70 percent (according to Staff witness' best estimate), followed by regulatory climate, growth in earnings from 1967 through 1976, and bond ratings which when added to book yield explains about 87 percent of the variability. In other words, these four variables explained about 87 percent of the movement of the M/B ratios of the companies studied. The equation he developed from the model is:

M/B = .0286 + 11.3442(book yield) + 1.8269(earnings growth) - .0491(for Missouri having regulatory ranking of 3)

or

M/B = .0286 + 11.3442(8.67) + 1.8269(.001) - .0491

Applying this equation to Company (as of December 31, 1976) resulted in a predicted M/B ratio of 96.5 percent when, in fact, the actual M/B ratio was 92.2 percent.

Given the "explanation" power of these variables, Staff witness had to decide what value they would have to have in order for Company to sell its stock at 1.04 times book value. Because this Commission does not have the power to change its regulatory ranking, the Company's bond rating or alter its historic earnings per share growth, only book yield can be affected by the action of this Commission. Staff witness determined that a book yield of 9.33 percent when added to the other values in his equation would produce an M/B ratio of 104 percent and went on to draw the connection between book yield and return on book equity. The relationship can be simply expressed by the formula:

$$\text{Return on equity} = \frac{\text{book yield}}{\text{payout ratio}}$$

Schedule 6-21

Therefore, having decided the proper book yield to produce a M/B ratio of 1.04, it was also necessary for Staff witness to select the proper payout ratio. Looking at his Exhibit I, Schedule 21, he decided that Company's traditional payout ratio was in the vicinity of 75 percent which resulted in a recommended equity return of 12.44 percent (9.33 ÷ 75) with a range of 11.94 percent to 12.94 percent. Company had several objections to using a payout ratio of 75 percent.

One Company rebuttal witness explained the problem of the payout ratio paradox. With Staff's procedure for calculating equity returns, the higher the payout ratio, the lower the return on equity which results. For instance, if for some reason Company's payout ratio increased to 80 percent, Staff's return recommendation would be reduced from 12.44 percent to 11.66 percent (9.33 ÷ 80). An increasing payout ratio usually indicates financial problems, so Staff's approach, in effect, would lower Company's allowed return when it was having financial difficulties and raise it when Company was financially healthy. Another rebuttal witness pointed out that Staff's procedure would lead to equity returns which in turn would lead to internally generated funds providing 29 percent of Company's construction expenditures for the period 1978-1980. (Internally generated funds are provided from deferred taxes, depreciation and retained earnings. The higher the payout ratio, the lower retained earnings and, hence, internally generated funds.) This, in effect, would force Company into a greater reliance on the external capital markets which are less reliable than internal sources of funds.

The Commission finds that basing an equity return on the necessity of maintaining a 75 percent payout ratio is unreasonable. When a company such as U. E. is undertaking a major construction program, it does not have the freedom of choice to set its dividend payout ratio at any level it desires. In the first place, there is the problem mentioned above of adequate internal generation of funds for Company's construction program. Ideally, Company should generate at least 40 percent of its construction budget internally, but given the magnitude of Company's construction program, this simply is not possible. On the other hand, to allow internally generated funds to provide less than 30 percent of construction expenditures would be imprudent on the part of Company management. In the second place, the magnitude of Company's construction program means that a significant portion of Company's earnings will comprise "Allowance For Funds Used During Construction" (AFFUDC). One Company rebuttal witness estimated 55 percent

of earnings would be AFFUDC in the period 1978-1980. Since AFFUDC is a non-cash component of earnings, any dividends paid from the AFFUDC part of earnings will have to be funded from other sources. If 55 percent of Company's earnings are AFFUDC, Company is going to be reluctant to increase its payout ratio above 45 percent (the cash part of earnings) and it will be even more reluctant to increase the payout ratio above 72 percent (which was its actual payout ratio in 1976) except to maintain the dividend at its current level. Therefore, the Commission finds a payout ratio of 72 percent to be reasonable for the purposes of the instant case.

Company has several objections to Staff's procedure of using regression analysis with a target M/B ratio to set an equity return. Company objected to Staff witness using different time periods in his various schedules, a different method of computing earnings growth, the use of different variables compared to past rate cases, and the use of two "dummy variables" in the instant case. Staff witness explained that some of his schedules were for clarification and with those he did use different time periods but with those schedules which led to his equity return recommendation, the time periods were consistent. He also explained that his method of calculating earnings growth was different but the differences were miniscule, that the variables used in the instant case were the result of a more current analysis than those used in prior cases, and that "dummy variables" are a highly accepted technique in statistical analysis for quantifying non-numerical variables such as the impact of bond ratings on a company's stock.

Company further objected to Staff's procedure because it did not include a variable for interest rates, that its predictive ability was questionable and that it contained spurious correlation because the same term was used to calculate one of the independent variables as was used to calculate the dependent variable. Staff's rebuttal witness responded that the model used in the instant case covered 1976 data when long-term interest rates were in the vicinity of 9 percent. He added that rates in 1977 are lower and unless interest rates in 1978 or 1979 rise above the 9 percent level of 1976, his model would yield accurate results. Company's objection about the predictive ability of the model primarily concerned the "standard error of the regression" being 0.636172 which means that, given a confidence level of 99 percent, the probability is 99 percent that the true value is within three standard errors of the predicted value. In this instance, the predicted value is 104 and three standard errors

would be plus or minus 19, so the probability is 99 percent that the true market-to-book value is somewhere between .85 and 1.23. Staff's response was that the model predicted Company's M/B ratio to be 96.5 percent when it actually was 92.2 percent. The Commission notes that Staff does build a range around the recommended return in order to compensate for the fact that no such model similar to the one used by Staff can predict with exactitude.

Company pointed out that book value is found on both sides of Staff's equation and this would lead to spurious correlation i.e. where a model seems to be able to predict values better than it really can. In this case book value is used to determine book yield--an independent variable--while it is also used to determine the market-to-book ratio which is the dependent variable. The Commission notes that book value is only one component of both book yield and market-to-book while it does not appear in the other independent variables in Staff's model. The Commission finds that the presence of book value on both sides of the equation does not invalidate Staff's model in assisting the Commission to arrive at a return on equity. If Staff's model is recalculated using the payout ratios found appropriate above, the result is as follows:

$$104 = .0286 + 1.0584 + .0018 - .0491$$

or

$$104 = .0286 + 11.3442(.0933) + .0018 - .0491$$

Given a book yield of 9.33 percent and a payout ratio of 72 percent, Staff's recommendation of 12.44 percent increases to 13.00 percent.

The Commission would also like to employ DCF analysis in an effort to grasp what prospective investors may be requiring by way of return to pay book value for Company's stock. In fact, the example employed above is based upon Company's 1976 experience. Company's year-end book value was $15.46 (Staff Exhibit 10, Schedule 11), dividends per share of $1.34 (Staff Exhibit 10, Schedule 21, gives 1976 book yield of 8.65 percent which multiplied times book value yields dividends per share) and earnings of $1.86 per share (the same schedule gives the 1976 payout ratio of 72 percent which divided into dividends gives earnings). Given the current market price of Company's stock of $15.00 per share, the example indicates that investors are discounting Company's stock at the rate of 12.8 percent. In order to permit Company to market its stock at 1.04 times book value, it is necessary to make an adjustment similar to the one made by Company witness in his Exhibit C-5 or 12.8% x 72% = 9.22% + 3.53% = 12.8%. 9.22% ÷ 95 = 9.60% + 3.53% = 13.1% This return falls between the

adjusted returns of Staff (13.00 percent) and Company (13.3 percent) and the Commission finds that 13.1 percent is the appropriate return on book equity.

Finally, the Commission finds that the capital ratios at test year end reflected on Staff Exhibit 1, corrected Schedule 25, with cost factors updated by Company's 1977 debt and preferred stock sales, are proper for this case. (The debt issue of $60,000,000 should be included at its actual cost of 8.625 percent). The results are as follows:

Type of Capital	Capitalization Ratio	Cost	Weighted Cost
Common equity	33.19	13.1	4.348
Preferred stock	14.20	7.528	1.069
Long-term debt	52.61	7.017	3.692
	100.00%		9.109%

Cancellation of Rush Island Units 3 and 4

Company forecasts prior to 1973 indicated the need for an additional 1200 megawatts in the 1978-1980 period and Company had the alternative of selecting either oil-fired peaking capacity or coal-fired baseload capacity. The difference between the two is that the former has relatively low capital costs to install but high fuel costs over the life of the plant, while just the opposite applies to the latter. Staff Exhibit 6, Schedule 1, indicates that the peaking capacity alternative offers the least expensive combination of capital and operating costs and Company was favoring that alternative until the Arab oil embargo of 1973 threatened the future availability of oil. Company then decided to build the coal-fired baseload Rush Island Units 3 and 4 and preliminary work began in 1974.

However, as stability returned to the oil markets, even though the price of oil had increased dramatically, Company's calculation still showed the cost advantage to be with oil-fired peakers (combustion turbines) and the Rush Island Units were canceled. Company's total costs of construction on the two units up to the point of cancellation and after all usable items had been taken elsewhere included $5,900,000 of engineering work, site work, some materials, etc. and $3,000,000 representing the costs of canceling the various contracts involved with the project. The net after taxes amounts to $4,500,000, the Missouri portion of which is $3,045,000. Company has worked out an arrangement with the Federal Power Commission (now the Federal Energy Regulatory Commission) and the States of Iowa and Illinois to amortize these costs over a five-year period and Staff recommended that the Commission do the same for the Missouri portion at the rate of $609,000 per year.

The Commission finds that Company's decision not to add 1200 megawatts of baseload capacity to its system in the next three years and substitute peaking capacity as needed was prudent and both Company and its ratepayers will benefit therefrom. There remains the question of the proper treatment of $4,500,000 of costs sunk in the Rush Island project. Union Sarah questions whether some of these costs might not be recoverable, particularly if sometime in the future, Company decides to build Rush Island Units 3 and 4. Company maintained that if that decision were made, the project would have to begin from scratch and the Commission agrees that any salvage from work done in 1974 would be of minimal value to a power plant which would most likely not commence construction until the completion of Callaway Unit No. 2 in 1987.

It was the position of Public Counsel that the sunk costs of $3,045,000 should be written off over what would have been the life of the plant had it been built. The Commission does not consider this to be a reasonable solution to the problem. Had the plant been built, the Company not only would have recovered the dollars invested in it, but received a return on unrecovered dollars. Staff's proposal permits only the recovery of the sunk costs but permits no return on them. Any period of amortization for an extraordinary expense is arbitrary in nature, but the Commission will accept Staff's proposal of five years in accord with the arrangement worked out with Iowa, Illinois and the Federal Energy Regulatory Commission. However, in an effort to prevent future reoccurrences of similar events, the Commission will order its Staff to investigate Company's generation expansion plans as mentioned above.

Deferred State Income Taxes

The Commission has in the past considered the merits of tax normalization versus flow-through treatment on a case-by-case basis. Initially, the problem arises because every dollar of a given company which is recognized as an expense by the taxing authorities in a given year also represents a tax savings of fifty cents--the approximate combined state and federal tax rate being 50 percent. In other words, the taxing authorities will tax 50 percent of a company's net income so every dollar of expense will reduce "net income" by a dollar and, hence, reduce that company's tax liability by fifty cents.

The problem is complicated by the fact that the taxing authorities recognize certain expenses which the Commission does not so, even though the Commission does not permit the Company to recover the expense itself in rates, the question remains: "What about the tax benefit associated with the expense?"

An example would be certain expenditures occurred in connection with a construction program. The taxing authorities recognize them as expenses in the year in which they occur while the Commission insists that they be capitalized and written off over a period of years. Utilities are permitted to recover their taxes through the rates they charge and, thus, the proper tax expense must be decided by this Commission.

When the Commission decides to "normalize" taxes, it is proceeding upon the assumption that the tax benefits of an expense should follow the recovery of that expense through company's rates. When it "flows through" tax benefits, it is proceeding on the assumption that the tax benefits of an expense should be used to reduce rates in the year in which the utility receives them even though the associated expense will not be recovered until some time in the future. Under the former procedure, expenses and taxes are calculated consistently. If the expenditure is not recognized as an expense by the Commission until a future date, then the associated benefit is not recognized until the expense is recognized. Under the latter approach, only the actual tax liability of a utility is recognized by the Commission as includable in rates.

Special circumstances surround the tax benefits associated with the Investment Tax Credit (ITC) and accelerated depreciation. In both cases, the federal government created these tax benefits for the express purpose of encouraging companies to make capital investments which purpose can only be achieved if the companies involved are allowed to retain the tax benefits. In order to make certain companies retained these tax benefits, conditions were attached to these special tax treatments which would cause a utility to lose the tax benefits of both accelerated depreciation and the ITC if the utility was forced by this Commission to flow those benefits through to its ratepayers in the form of lower rates.

Not all utilities under the jurisdiction of this Commission have been granted permission to fully normalize their taxes. As mentioned above, this has been handled on a case-by-case basis with the general direction being toward full normalization but with other considerations such as a utility's cash flow situation weighing upon the final decision of which taxes should be normalized and which taxes would not be normalized.

In Company's last rate case (Case No. 18,314), the Commission authorized Company to normalize all of its taxes, not just accelerated depreciation and ITC. Public Counsel argues that at least Company's state taxes

should be denormalized and put back on a flow through basis because this course of action would not endanger the tax benefits derived from accelerated depreciation or the ITC. He argued that, unless there is an overriding reason, rates should be based on actual expenses, that the policy of tax normalization results not in tax deferrals but permanent tax savings, and that the ratepayer must pay $2.00 for every $1.00 of normalized taxes.

The Commission finds that it is true that it takes $2.00 from rates to recover each dollar of taxes because there is, in effect, no tax benefit associated with a tax expense. More precisely, each dollar of taxes must be paid with a dollar from rates, unlike many expenses which are deductible for tax purposes and, hence, cost the ratepayer only fifty cents. Simply, the taxing authority will not permit a company to deduct from its tax liability the very taxes which that authority levies on the company. However, this is true of all taxes no matter when they are paid. Since most normalized taxes involve a tax deferral (the tax is postponed and not forgiven), sooner or later the ratepayer will have to pay $2.00 in rates for each $1.00 of tax liability.

Public Counsel also argued that given the construction budget of Company and its ever increasing size, normalization will not result in tax deferrals but what are, in effect, permanent tax savings. This argument is based upon the premise of an ever increasing construction program so that every time a postponed tax becomes due and payable in the future, it is replaced by an even bigger deferral to be paid at an even later date and so on ad infinitum. The Commission notes that according to Company's minimum filing requirements in the instant case, Company's construction program will peak and then decline. Further Company's president testified that Company has revised its load growth forecasts downward so there is no reason to presume that once the current construction program has been completed, it will be replaced by a program of even greater magnitude. Hence, the Commission finds that the tax normalization ordered in Company's last case will not result in a permanent tax savings for Company and that said normalization should continue unaltered. In so finding, the Commission agrees with Public Counsel that rates should be based upon expenses or at least those expenses recognized by this Commission. However, if this Commission does not recognize an expense in a given year, it should also not recognize an associated tax benefit in the same year.

Facility Planning and Conservation

Public Counsel raised the issue of the adequacy of Company's facility planning effort and called for an investigation of Company's facility planning and construction programs. Facility planning here refers to the process of making long-range forecasts of Company's load growth, then deciding when to add new generating capacity to meet the projected load, how much capacity is needed to meet the projected load and what type of capacity would most economically meet the projected load.

Public Counsel witness began with a series of assumptions which led him to draw a series of conclusions which, in turn, led to the recommendation that Company's corporate planning activities should be thoroughly investigated. The assumptions were that Company's peak load would grow approximately at 4.5 percent over the next 15 years as shown on Public Counsel Exhibit F, that Company's proper generating reserve margin over and above peak should be 18 percent, that large Westinghouse pressurized water nuclear reactors like Company's Callaway Units No. 1 and No. 2 with nameplate ratings of 1150 megawatts have historically been able to maintain capacity factors of less than 50 percent and that these very same types of reactors completed since 1973 (Public Counsel Exhibit WKC-2, Table 4) have taken an average of 86.3 months to build.

He then looked at Company's peak load forecast for 1983 of 6,825 megawatts and the capacity Company would have in 1983 to meet that forecasted load if all 1150 megawatts of Callaway Unit No. 1 were on line and available to meet the 1983 summer peak. Company shows on Public Counsel Exhibit 1 that, with Callaway Unit No. 1, it will have 8,645 megawatts to meet this 6,825 megawatt peak or, in other words, it will have 1820 spare megawatts representing a 26.7 percent margin. This is in excess of the 18 percent which Company considers necessary to insure a high degree of system reliability, but Public Counsel witness pointed out that the comfortable 1983 margin may be an illusion.

Capacity factor is simply a method of measuring actual megawatt hour output from a power plant during a year compared to what the megawatt output could have been if the plant had operated at full capacity for each of the 8,760 hours in a year. Public Counsel witness reasoned that if the capacity factor of nuclear plants like Callaway Unit No. 1 are about 50 percent (meaning they actually produce half of their potential output), then there is a strong possibility that Callaway Unit No. 1 will only be able to provide half of its nameplate capacity of 1,150 megawatts (or 575 megawatts) on 1983 peak. This would lower Company's reserve margin in 1983 to exactly 18 percent and for each

of the two years after that (as the peak load continues to grow), the reserve margin would also continue to slip until it reached 7.6 percent at the 1985 summer peak. This would be consideraly below what Company considers the proper margin to insure a high degree of system reliability.

Company pointed out that their calculations, using the same nuclear power plant Public Counsel witness used, indicate an average capacity factor of 54 percent, that there were special reasons why the factor was even that low (one winter peaking utility operated its nuclear plant at a very low level during the summer because of the availability of cheaper hydro power), and that the use of capacity factors in connection with meeting peak loads was a total misuse of the concept: Capacity factors measure annual output and they can be less than 100 percent for several reasons. The plant may be down for scheduled maintenance, the demand on the system during some of the 8,760 hours in a year may not be great enough to warrant operating the plant at full capacity or problems may develop within the plant and Company is forced to bring it down for repairs (a forced outage). Company emphasized that it does its scheduled maintenance in off-peak periods and there is certainly no lack of demand on system peak so only forced outages would prevent Callaway Unit No. 1 from operating at full capacity at times of system peak. Company further explained that forced outages were a random occurrence, and even though Callaway would be subject to forced outages at peak, so would every other power plant Company owns. Public Counsel witness made no allowances in his analysis for the possibility of forced outages at times of peak for any of Company's other plants and Company pointed out that the problem of forced outages is the very reason Company maintains a generating reserve at all.

Public Counsel witness also questioned the availability of Callaway Unit No. 1 for the 1983 peak given the average construction period for similar nuclear power plants. It was his contention that even with a revised construction schedule of 69 months, Company's estimate of completion date (October, 1983) of Unit No. 1 was considerably below the national average of 86.3 months. In other words, if it takes Company the average period to build, Callaway Unit No. 1 will not be completed until the summer of 1985. Without any part of the output from Unit No. 1 during the summer peaks of 1983 and 1984, Company will have reserve margins of 9.8 percent and 4.8 percent respectively, both of which are well below the high degree reliability margin of 18 percent. Company pointed out that

the nuclear plants that Company could identify as most similar to Callaway took less than 75 months to complete and that, having commenced construction on Callaway No. 1 in September, 1975, completing the plant by October, 1983 or 85 months later should create no insurmountable difficulty.

The Commission finds that nothing in Public Counsel witness' testimony or exhibits would warrant a formal investigation of Company's facility planning program. However, certain information brought out on cross-examination of Company witnesses by Public Counsel does cause the Commission concern. It was brought out that when Company was planning the construction of the two Callaway units, the peak load projection for 1984 was 9,407 megawatts compared to Company's most recent projection for the 1984 peak of 7,153 megawatts (or a 2,254 megawatt difference), that the cost of the project would be $765 per kilowatt, and that in order to meet the construction schedule as then contemplated, Company would either require an 18 percent return on equity or be permitted to add Construction Work In Progress (CWIP) to rate base. Company president testified that the passage of "Proposition No. 1" precluded the latter alternative and another Company witness stated that Company decided that this Commission would not grant the former and, as a result, the decision was made in February, 1977 to postpone Unit No. 1 by one year and Unit No. 2 by four years. Company president also testified that this decision increased the estimated cost of this project by $860,000,000.

Given Company's peak load growth forecast, the Commission cannot find Company's decision to add 2,300 megawatts to its system on a delayed schedule unreasonable. In only three years out of fifteen years does Company's projected reserve margin exceed 18 percent which Company considers prudent in order to maintain a high degree of reliability. What does concern the Commission is the statement of Company president that it was the financial constraint imposed by the passage of Proposition No. 1 which caused the Company to adopt the delayed schedule. This implies to the Commission that Company would have continued on the original construction schedule if Proposition No. 1 had not passed. Once again, given Company's load forecast and the original construction schedule plus the assumption that at no time before the summer peak of 1982 would Company allow its reserve margin to drop below 15 percent, then the Commission can estimate that Company would have reserves in 1982 of 27.6 percent, in 1983 of 21.8 percent, in 1984 of 32.3 percent, in 1985 of 26.2 percent, and in 1986 of 20.1 percent.

Schedule 6-31

The Commission cannot accept the fact that Company president would saddle his ratepayers with the capacity costs of reserve margins considerably in excess of Company's target margin of 18 percent for so many years unless he had little if any faith in the validity of Company's load forecasts. Further, the estimated cost increase of $840,000,000 is not in and of itself a matter of concern when it is the result of a total five-year delay in construction if the Commission were completely convinced that 1150 megawatts of baseload nuclear capacity added to Company's system in 1987 is the most economical decision. In order to satisfy itself in this regard, the Commission will order its Staff to perform an analysis and issue a report, the purpose of which will be to recommend to this Commission the optimum generation expansion program Company should follow during the next fifteen years.

Public Counsel also sponsored a witness on the subject of conservation. This witness recommended that a general docket on "conservation" be established by this Commission. He also made some general recommendations concerning utility supported energy conservation education programs, utility sponsored home insulation and retrofit programs, rate restructuring, restricting the use of master meters in multi-family dwelling units, the promotion of higher and best uses of natural gas and fuel oil, the promotion of power pooling, the promotion of industrial co-generation, the evaluation of co-location, the evaluation of the use of solid waste as a fuel for power generation, the establishment of conditions of service criteria and the restriction of non-essential outdoor lighting.

Company witnesses replied Company does have a conservation education program and a Company sponsored insulation program. Company witnesses further contended that rate restructuring which departed from cost recovery even for the purpose of promoting conservation would be self-defeating, that outdoor lighting usage occurred off peak and, hence was no burden to the system, and that any energy savings from the elimination of master metering would be minimal. It was also pointed out that the Commission had already instituted a proceeding to establish condition of service criteria.

The Commission finds that the recommendations brought before it by this witness do not provide a solid factual foundation upon which it can proceed with regard to Company's conservation program. The Commission further finds that instituting an amorphous ill-defined docket on the subject of "conservation" will not remedy these weaknesses. Until more concrete programs supported by competent and substantial evidence are presented to this Commission concerning

Company's conservation efforts, the Commission is in no position to order Company to do anything it is not already doing.

Rate Design

Several rate design proposals were put before the Commission during the course of hearings in the instant case. Intervenor MoACORN, representing moderate and low income customers of Company, maintained that Company's current rate structure, by charging more for limited electrical use and less for higher use, promotes overconsumption of our wasting resources by large industrial users. This, in turn, causes Company to add expensive generating facilities which drive rates up even for customers represented by MoACORN who can ill afford the increase. He recommended that for the time being, the Commission freeze all residential rates at their present level so that any rate increase granted would fall on the large industrial customers who have the greatest opportunity for conservation and should be encouraged to do so by higher priced kilowatt hours. During cross-examination, it was pointed out that according to Company's annual report, residential electrical consumption as a percentage of total consumption had steadily increased (from 24.8 percent to 31.0 percent during the period 1966 through 1976) while large industrial consumption had declined (from 55.1 percent to 49.5 percent).

Intervenor MoACORN suggested that the Commission study a "lifeline" proposal which would take the average residential consumption of 686 kilowatt hours (KWH) per month and reduce the rate on the first 450 KWH by 40 percent while billing the balance of 236 KWH at Company's current average residential rate of 3.8 cents per KWH. Intervenor witness did not indicate at what rate all residential consumption above 686 KWH per month would be billed. If again current rates were applied, then this "lifeline" concept would result in an overall reduction of rates for all residential customers as Company's current average rate is a composite of all of its rate blocks. In effect, high blocks would be reduced while the low blocks would remain the same. If, however, the proposal contemplates high usage residential customers making up some of the revenue deficiency created by reducing rates on the first 686 kilowatt hours of monthly consumption, the result would be inverted residential rates where the rate per KWH steadily increases as consumption increases. This witness did indicate that the intent of his proposal was to shift a part of the revenue burden from residential to large commercial and industrial customers by increasing their rates by 25 percent. He estimated the amount of the shift, but upon cross-examination, it turned out that he had used the wrong numbers.

Intervenor UCCM endorsed the "lifeline" concept and objected to the concept of different rates for different classes of customers (more specifically, lower rates for large commercial and industrial customers compared to Company's other customers) and declining block rates for all customer classes on the basis that both of these rate design features result in Company selling electricity below cost at peak. As a remedy, this witness recommended a combination of flat rates with customer class differentials only where differences in transmission and distribution costs warrant time of day rates with three different rates for various parts of the day, at least during the summer months. Company rebuttal witness claimed that time of day rates could cost its customers as much as $45.00 per month and do little to shift consumption from the peak, because Company's daily load factor on high usage days is already well over 80 percent.

Intervenor witness Union Sarah also recommended a "lifeline" rate implemented by freezing the first 500 kilowatt hours of monthly consumption. This concept differs from the MoACORN "lifeline" proposal in that only those customers who use 500 kilowatt hours or less would receive the benefit of it. Even though he admitted that his proposal would not help all low income customers, Intervenor witness Union Sarah held that it was the best practical approach to the problem of low income people paying their utility bills and recommended that it be instituted immediately because the customers who would be benefited are not increasing their electrical usage and, hence, are not causing Company to build new capacity.

Company and Industrial Intervenors' witnesses had several criticisms of the "lifeline" concept. Essentially, these criticisms centered around the concept of setting rates not based upon costs. Anytime a rate structure is altered without backup cost information, there is the possibility that the new rate structure is not cost based and these witnesses pointed out the problems associated with rates which are not cost based. Those customers who are paying less than cost will tend to consume more electricity and, because Company is losing money on each kilowatt hour sold to this group, Company would require continuous rate relief to make up the difference. Those customers who are paying more than cost would at first conserve but when no opportunity for conservation remained, they would either switch to alternate energy sources or move. In any case, electrical consumption by the group being overcharged would decrease and this loss of revenue would again require continuous rate relief to make up the difference.

Industrial Intervenor went further to maintain that even under current rates, some of Company's large industrial customers are being overcharged. The basis of this position was a fully allocated cost of service study performed by Industrial Intervenors which indicates that Company overall is earning a rate of return of 7.72 percent while Company is earning 12.58 percent off of Industrial Intervenors. Under Company's proposed rates, the comparison would be 10.05 percent for the entire system and 16.50 percent for Industrial Intervenors. To partially remedy this situation, Industrial Intervenors recommended that any rate increase granted in the instant case be applied on a "zero fuel cost" basis. This involves removing the fuel costs from all rates and applying the appropriate percentage increase to the residual for all classes of customers. Since fuel costs are a higher percentage of Industrial Intervenors' rates than other rates, the result would be a lower rate increase for these customers compared to Company's other customers. Witness for Industrial Intervernors claimed that this was appropriate for his clients because increases in fuel costs were not the cause of the instant rate case since these increases are automatically recovered through the fuel adjustment clause. Further, he maintained that this method would only reduce his clients' contribution to Company's rate of return from 16.50 percent to 15.69 percent--still considerably in excess of the overall system return of 10.05 percent.

Company's witnesses were critical of Industrial Intervenors' cost of service study primarily because it allocated capacity costs on a non-coincidental peak method while Company held that a coincidental peak method using Company's 12 monthly peaks would be more appropriate. It was Company's position that its system peak is a highly seasonal phenomenon and, because of this, Company can plan to meet its peak by cheaper means than simply adding baseload capacity. The result is that capacity costs are less than if pure baseload capacity was used to meet system peak, but Industrial Intervenors, by applying a non-peak allocation method against peak load costs, are giving themselves the best of both worlds. Company witness reworked Industrial Intervenors cost of service study using the contribution to the 12 monthly peaks allocation method and allocating all fuel costs on the basis of kilowatt hour consumption. The result was a rate of return of 8.42 percent for Industrial Intervenors compared to their claim of 12.58 percent.

Company witness also objected to the "zero fuel cost" method of increasing rates because all other non-fuel costs were not rising uniformly. It was Company's position that the cost elements most heavily reflected in Industrial

Intervenor rates were increasing more rapidly than other cost elements and, hence, an equal percentage increase should apply to this group of customers as well as to all other customers. The Commission finds that the use of a non-coincidental peak allocation method would only be appropriate if Company had the right to "interrupt" service to these customers and that in the absence of this right, the coincidental peak method is appropriate because this is the peak for which Company must plan. The Commission also finds that it is in no position to apply the zero cost fuel approach without additional cost information. The Commission finds that its Staff should initiate an extensive investigation of Company's entire rate design as part of Case No. 18,177 which is the cost of service study previously ordered by this Commission.

The Commission is most reluctant to depart from cost based rates. However, acceptance of the principle of cost based rates still leaves considerable latitude as to the interpretation of the term "cost" as well as the interpretation of who are the cost causers. In the instant case, the Commission is being asked to consider the merits of at least two "lifeline rate" proposals without any cost information whatsoever on the basis that they are probably cost based, and if they are not, non-cost consideration should prevail. The position that freezing the rates of low users of electricity is cost based hinges upon the argument that low users, whose usage is not increasing, are not imposing additional costs on the system, and therefore, it must be the higher users who are causing rates to increase. The Commission would like to point out that higher users whose use is not increasing are also not imposing additional costs on the system and further the higher user whose consumption is entirely off peak may be imposing fewer costs on the system than a low user whose consumption is entirely on peak. These are questions which cannot be answered in the absence of extensive cost information which Case No. 18,177 was designed to provide.

Company's position on rate design which Staff supported was to collect any rate increase granted in the instant case by applying an equal percentage increase to all existing rates with the exception of the rates for street lighting controlled by photo electric cells where more precise cost data enabled Company to establish specific amounts. Company also proposed to revise Rider N (General Service Rate Off-peak Demand Provisions), increase its reconnection charge from $5.00 to $10.00 and to apply its fuel adjustment clause to street and outdoor lighting. Company witness stated that the increased reconnection charge was based upon a 1973 cost report updated for changes in the wage level. This resulted in

a $15.00 reconnection charge but Company decided that an increase from $5.00 to $15.00 at one time was too precipitous. In his brief, Public Counsel objected to the absence of any labor productivity analysis in the updated study, but the Commission finds that decreasing the reconnection charge from $15.00 to $10.00 implies a considerable increase in labor productivity and that a reconnection charge of $10.00 is reasonable.

Intervenor Union Sarah objected to Company's electric heating rate applying only to permanent heating installation and not to portable space heaters. The Commission finds that Company's electric space heating rate should apply to electric space heaters where they are the sole source of heat.

Finally, the Commission finds that any rate increase granted in the instant case should be recovered by changing the rates of street and outdoor lights controlled by photo electric cells as proposed by Company and by changing Rider N also as proposed by Company. The balance should be recovered, until the conclusion of Case No. 18,177, by a uniform percentage increase to Company's existing rates.

Fair Value Return

Staff developed a fair value rate base by the traditional method of beginning with original cost and trending that to the present with the help of the Handy-Whitman Construction Cost Index. This was then reduced by an estimate of depreciation and the result for Company's Missouri properties was $2,652,437,030. Company used the "modern substitute plant" method which compares Company's actual plant with a modern plant put in place of the actual plant. The fixed and variable costs of the latter are calculated and the variable costs of the existing plant are subtracted. The residual is what Company has in theory to cover the fixed costs of the modern plant and if this amount is capitalized at the appropriate fixed charge carrying rate, then the value of the modern substitute plant can be determined.

By this method, Company established a plant value of $2,757,714,000. Though Company has offered an interesting method to approximate fair value, the matter was not subject to any cross-examination or analysis during the case, and the Commission finds that the more traditional method employed by Staff is appropriate in the instant case. Therefore, the Company's fair value rate base is as follows:

Net plant in service	$2,652,437,030
Material and supplies	48,469,917
Customer advances for construction	- 1,024,913
Working capital	8,389,223
Accumulated deferred taxes	-27,910,002
	$2,680,361,255

The Commission finds that a return of 4.45 percent is proper on Company's fair value rate base.

Advertising Expense

Staff, Public Counsel and Intervenor Union Sarah all requested the Commission to exclude parts of Company's test year advertising expenditures. Each party relied upon prior orders of this Commission to base their recommendations to the Commission. In Case No. 18,433 et al., the Commission decided that the following categories of advertising are appropriate for the Company to expect to be reimbursed by its ratepayers:

(1) Conservation--Advertising dealing with the methods by which the ratepayer can effectively, efficiently and economically use electricity;

(2) Safety--Advertising dealing with the making of the ratepayer aware of certain dangers connected with electricity and ways to avoid possible danger;

(3) Off-Peak Load Building--Advertising designed to encourage the use of electricity when consumption is low to make the cost of service more economical; and,

(4) Information--Advertising designed to provide information of substantial benefit to the customer and the use of the product or service sold, or in promoting customer-company relations.

Goodwill advertising should not be reimbursed by the Company's ratepayers.

In Case No. GR-77-33, the Commission concluded that Laclede Gas Company's promotional advertising should be disallowed because it was thinly-veiled goodwill advertising and that advertising which met the competitive advertising of another utility at the expense of the ratepayer would not be allowed.

Staff reduced Company's Missouri advertising expenditures in the amount of $36,723 by adjustment number S-23. This "S-23" advertising consisted of that portion of Company's Edison Electric Institute dues which were spent on national

institutional advertising for the electric industry with the balance being local institutional advertising on behalf of the bicentennial, the Municipal Opera, the Symphony, etc. The Commission continues its objection to this form of advertising as goodwill advertising which has no benefit to the ratepayer and should be disallowed.

Public Counsel and Union Sarah requested the Commission to disallow $11,312 which represents Company's Missouri expenditures for a public television program entitled "Consumer Survival Kit" which Public Counsel contends is also institutional advertising. Since the information generated by this program does not specifically relate to matters of electrical conservation, safety, efficiency, etc., the Commission agrees that these expenditures are institutional and should be disallowed.

Public Counsel and Union Sarah suggested to the Commission that an advertisement entitled "People, Power and Progress" was political in nature and should be disallowed. The Commission agrees and disallows $61.00 from Company operating expenses, which is the Missouri portion of that advertisement.

Staff recommended that the Commission disallow $95,132 for its "S-19" advertising. "S-19" advertising includes advertising for the promotion of electric heat and contained the phrase "Some Day Every Home Will Have Electric Heat" and advertising which also promoted electric heat by showing subdivisions which offered electric heat. Some of these ads were cooperative in nature (where Company shares the cost with another interested party such as a heating contractor or developer) and some were paid for entirely by Company. It was Staff's position that the ads featuring subdivisions should be paid for by the real estate developers. As for the ads featuring "Some Day Every Home Will Have Electric Heat," Staff objected to the validity of the statement and referring to the Laclede case, objected to advertising which provoked a competitive response from another utility. Staff maintains that the Commission should not require ratepayers to finance a competitive struggle between two utilities and recommends disallowance of the advertising as the Commission did in the Laclede case.

Company argues that these ads should be charged to the ratepayers because this type of advertising promotes off-peak load building. In short, Company contends that capacity necessary to serve the summer peak, which would otherwise remain idle in the winter, is utilized by electric heat customers and, thus, the fixed costs associated with this capacity are spread over more kilowatt hours.

The Commission is of the opinion and finds that this type of advertising, as represented by Staff Adjustment "S-19", should not be charged to electric rates, but should more properly be borne by Company's stockholders. The touchstone behind the allowance or disallowance of an expense of this nature is "Does it benefit the Ratepayer?" In this case, regardless of Company's contention, the Commission finds that this type of advertising does not benefit the ratepayer. In the instant case, the circumstances are unique in that Union Electric Company and Laclede Gas Company are competing for the same "heating dollar" of ratepayers located in their concurrent service areas. In addition, gas heating customers must, to one extent or another, rely on electricity to provide the remainder of their energy needs. Thus, what the Company proposes is to spend the gas/electric ratepayers' money in order to enhance its load and increase the gas company's load. If successful, this would push gas rates higher because the fixed costs must now be spread among fewer customers.

The Commission also finds an advertising campaign premised on the slogan that "Someday Every Home Will Have Electric Heat" is inflammatory and provokes a competitive response from the gas company (See testimony in Laclede Gas rate case, Case No. GR-77-33). Such competitive advertising campaigns are of no benefit to company's ratepayers. Moreover, the Commission is of the opinion that a theme such as "Someday Every Home Will Have Electric Heat" is unnecessary in light of the extensive public debate currently being waged over the natural gas supply situation. Whether the issue is the National Energy Policy or the findings of the Ozarks Regional Commission, continuing discussion centers around the availability and price of natural gas. Threats of shortages or exorbitantly high prices are already being considered by the energy consuming public. Company's hard sell campaign is a waste of ratepayers money in view of the free publicity generated by the "Energy Debate".

Union Sarah pointed out that Staff did allow some cooperative advertising which included the phrase "Consider Electric Heat" rather than "Someday Every Home Will Have Electric Heat." Union Sarah recommended that all cooperative advertising should be disallowed. The Commission disagrees that there is an inconsistency in Staff's position. The theme "Someday Every Home Will Have Electric Heat" is inflammatory and unnecessary as previously stated. "Consider Electric Heat" is a theme that promotes off-peak load building, is not inflammatory and does not already benefit from public debate. The Commission finds that advertising of this nature should be reimbursed by revenues collected through rates.

Finally, Public Counsel requested the Commission to disallow $21,003 which is the Missouri portion of two advertising campaigns also designed to build off-peak load. The results of building off-peak load, he maintained, should show up in an improved load factor and, since Company's load factor has shown little improvement over the years, these ads have been unsuccessful and should be disallowed as failure. The Commission finds that Company's load factor is not a reliable measure of either the impact of electric heating customers on Company's system or on the effectiveness of Company's ads designed to attract electric heating customers. The Commission could just as well conclude that Company's load factor could be substantially less than it is without Company's electric heating customers. Hence, the Commission will disallow these expenditures.

Conclusions of Law

The Missouri Public Service Commission has arrived at the following conclusions of law:

The Company is a public utility subject to the jurisdiction of this Commission pursuant to Chapters 386 and 393, RSMo 1969.

The Company's tariffs which are the subject matter of this proceeding were suspended pursuant to authority vested in this Commission by Section 393.150, RSMo 1969.

The burden of proof to show that the proposed increased rates are just and reasonable is upon the Company.

The Commission, after notice and hearing, may order a change in the rate, charge, or rental, in any regulation or practice affecting the rate, charge, or rental, and it may determine and prescribe the lawful rate, charge, or rental, and the lawful regulation or practice affecting said rate, charge, or rental thereafter to be observed.

The Commission may consider all facts, which in its judgment, have any bearing upon a proper determination of the price to be charged with due regard, among other things, to a reasonable average return upon the capital actually expended, and to the necessity of making reservations out of income for surplus and contingencies.

The Order of this Commission is based upon competent and substantial evidence upon the whole record.

The Company's existing rates and charges for electric service are insufficient to yield reasonable compensation for electric service rendered by it in this State, and accordingly, revisions in the Company's applicable tariff

charges, as herein authorized, are proper and appropriate and will yield the Company a fair return on the net original cost rate base or the fair value rate base found proper herein. Rates resulting from the authorized revisions will be fair, just, reasonable and sufficient and will not be unduly discriminatory or unduly preferential.

The original cost rate base and operating income found proper by the Commission are set out on Appendix "A" attached hereto. The original cost rate base and operating income are hereby determined to be fair and reasonable.

The Company should file in lieu of the proposed revised tariffs, new tariffs designed to increase gross electric revenues by approximately $30,755,498 excluding gross receipts taxes.

It is, therefore,

ORDERED: 1. That the proposed revised electric tariffs filed by Union Electric Company of St. Louis, Missouri, in this case are hereby disapproved and the Company is authorized to file in lieu thereof, for approval of this Commission, tariffs designed to increase gross revenues by approximately $30,755,498, exclusive of gross receipts and franchise taxes.

ORDERED: 2. That the Company shall file its new tariffs in compliance with this Report and Order on or before January 27, 1978, using a rate design as hereinafter ordered.

ORDERED: 3. That the rates established in Company's new tariffs shall become effective for service rendered after the effective date of this Report and Order.

ORDERED: 4. That the increase granted in the instant proceeding shall be recovered by: (1) Changing the rates for street and outdoor lights controlled by photoelectric cells as originally proposed by the Company; (2) By changing Rider N as originally proposed by the Company; (3) Increasing Company's reconnection charge from $5.00 to $10.00 as originally proposed by the Company; and (4) The balance by a uniform percentage increase applied to all of Company's other existing rates.

ORDERED: 5. That within six (6) months of the effective date of this Report and Order the Commission's Staff shall commence an investigation into Company's generation expansion program.

ORDERED: 6. That the Commission Staff, at the conclusion of the aforementioned investigation, will advise the Commission as to its conclusions

concerning the optimum program of generation expansion which the Company should follow through the next fifteen years.

ORDERED: 7. That the Commission Staff shall initiate an investigation into the Company's entire rate design as part of Commission Case No. 18,177.

ORDERED: 8. That this Report and Order shall become effective on the 2nd day of February, 1978.

BY THE COMMISSION

R. Michael Jenkins
Acting Secretary

(S E A L)

Fraas, Acting Chm., Sprague, Jones and McCartney, CC., Concur and certify compliance with the provisions of Section 536.080, RSMo 1969.
Slavin, C., Not participating.

Dated at Jefferson City, Missouri, on the 19th day of January, 1978.

Schedule 6-43

Union Electric Company
Case No. ER-77-154

Net Original Cost Rate Base	$1,309,956,852
Rate of Return	9.109
Net Operating Income Requirement	119,323,970
Net Operating Income Available	103,757,162
Additional Net Operating Income Needed Before Income Taxes	15,566,808
Add Increased Income Taxes	15,188,690
Gross Revenue Requirement	$ 30,755,498

Union Electric Company
Case No. ER-77-154

Electric Plant in Service	$1,683,062,322
Less Accumulated Depreciation	401,029,695
Net Electric Plant in Service	1,282,032,627
Materials and Supplies	48,469,917
Cash Working Capital	8,389,223
Customer Advances for Construction	(1,024,913)
Accumulated Deferred Income Taxes	
Liberalized Depreciation	(8,234,236)
Amortization of Emergency Facilities	(4,128,119)
Other	(15,547,647)
Total Rate Base	$1,309,956,852

Union Electric Company
Case No. ER-77-154

Revenues	$460,893,110
Expenses:	
Production	143,189,840
Transmission	4,087,346
Distribution	19,593,905
Customer Accounts	11,282,962
Customer Service and Information	640,686
Sales	1,858,151
Administrative and General	24,836,584
Total Operation and Maintenance	205,489,474
Depreciation and Amortization	45,972,190
Taxes Other Than Income Taxes	66,725,525
Total Expense Before Taxes	318,187,189
Total NOI Before Taxes	142,705,921
Current Income Tax Expense	15,079,339
Deferred Income Tax Expense:	
Liberalized Depreciation	5,474,678
Accumulated Amortization	(641,080)
Investment Tax Credit - Net	6,911,280
Other	12,124,542
Total Income Tax Expense	38,948,759
Electric Net Operating Income	$103,757,162

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the matter of Union Electric Company of St. Louis, Missouri, for authority to file revised tariffs reflecting increased rates for electric service to customers in the Missouri service area of the Company.	))))))	Case No. ER-77-154

HEARING MEMORANDUM

Pursuant to an Order of the Missouri Public Service Commission dated April 29, 1977, issued in the above-cited case, a prehearing conference was conducted on October 12, 1977, in the Commission's hearing room, located on the 10th floor of the Jefferson State Office Building.

Representatives of the Missouri Public Service Commission Staff ("Staff"); Union Electric Company ("Company"); Office of the Public Counsel ("Public Counsel"); City of St. Louis ("City"); St. Louis County ("County"); ACF Industries, Inc., Anheuser-Busch, Inc., Emerson Electric Co., General Motors Corp., McDonnell Douglas Corp., Meramec Mining Co., Missouri Portland Cement Co., Monsanto Co., PPG Industries, Inc., and St. Joe Lead Co. ("ACF Industries et al." or "Industrials"); Abex Corporation and Mallinckrodt, Inc. ("Abex/Mallinckrodt" or Industrials"); Missouri Association of Community Organizations for Reform Now ("MoACORN"); and Union Sarah Community Corporation ("Union Sarah") were present at the prehearing conference. The Utility Consumers' Council of Missouri ("UCCM") did not attend this conference.

The Company's request for additional gross revenues including gross receipts taxes is $65,402,000.

This memorandum is a result of the aforementioned prehearing conference and is offered in the belief that it will be useful to the Commission in delineating the areas of conflict which after the prehearing conference continue to exist between Staff, Public Counsel, Company and Intervenors, and to outline the contemplated order in which the witnesses will be presented for direct and cross-examination

(see Appendix A).

TEST YEAR

The Parties agreed to utilize as a test year the 12 months ending June 30, 1977, for all pertinent calculations.

ACCOUNTING ISSUES

I. Rate Base

The Parties agree to utilize the Staff's calculation of original cost rate base with all adjustments by Staff, except as specified herein as a contested issue.

Disagreements with respect to Missouri rate base calculations are as follows:

A. 1. Disallowance of Average Cash Balances

Company proposes to include in rate base $3,250,000 representing the entire amount of the Company's balances at the various banks at which it maintains accounts.

Staff opposes the inclusion of this amount in rate base.

A. 2. Working Capital

In determining the required amount of cash working capital, the Company proposes to adjust operating expenses for interchange sales and to include in operating expenses the wages and benefits associated with the Company's labor contracts effective July 1, 1977. These and other operating expense adjustments increase the working capital component of rate base by $3,973,000.

Staff opposes the inclusion of this amount in Company's cash working capital.

B. 3. Fuel Inventories

The Staff has reduced Company's fuel inventories by $8,893,000 by using average rather than actual coal inventories at the end of the test year.

The Company opposes this adjustment and proposes the use of year end inventories.

4. Materials and Supplies

The Staff has proposed to include $41,710,073 of materials and supplies in the Company's Missouri rate base.

The Public Counsel reserves the right to inquire into and assert a different position regarding this issue.

II. Cost of Service

The Parties agree to utilize the Staff's calculations of total Missouri cost of service (exclusive of rate of return and income tax calculations attributable to rate of return) for the test year, except as specified below:

1. Adjustment for Wages and Related Benefits

The Company proposes to include expenses totaling $5,103,000 for increases in wages and related benefits based on contracts which took effect on July 1, 1977.

The Staff opposes this adjustment.

2. Investment Tax Credit

The Staff calculated flow-through investment tax credit on an historical six-year average of 1971-1976, rather than the four-year average of 1977-1980 utilized by the Company. The investment tax credit used by the Staff is $1,739,000 higher than that used by the Company.

A 3. Weather-Related Labor Expenses

The Staff has eliminated $1,199,000 in labor expenses at the Labadie Plant for the test-year months of December-February, which amount the Staff attributed to abnormal weather conditions.

The Company opposes this adjustment and contends that if this adjustment is made there should be a reduction in test year revenues to normalize for the abnormal weather.

B 4. Replacement of Sioux Plant Boiler Floor

The Staff has eliminated $1,591,000 in expenses for the replacement of the boiler floor at Sioux Plant Unit 2, on the ground that this amount was not a recurring annual expense.

The Company contends that such expenditures are properly included as part of the cost of service.

5. Loss of Interchange Sales to ERDA

The Company contends that the cost of service should be increased by $1,364,000 to reflect the cancellation of a sale of

capacity to the Energy Research and Development Agency.

The Staff opposes this adjustment.

6. Electric Power Research Institute (EPRI) Assessment

The Company contends the cost of service should be increased by $93,000 to fully reflect its EPRI assessment.

The Staff opposes this increase to Company's test-year cost of service.

The Public Counsel reserves the right to contest the inclusion of the EPRI assessment in the test-year expenses.

7. Interest Deduction for Income Taxes

The Staff increased interest expense for income tax purposes to include on an annualized basis the interest on short-term debt and on the long-term debt to be issued in 1977, thereby reducing the cost of service by $6,832,000. The Company contends and Staff agrees that if such an adjustment is made, there must also be a $2,779,000 increase in deferred income tax expenses.

Public Counsel reserves the right to inquire into and assert a position with respect to this issue.

8. Preliminary Operations at Rush Island No. 2

The Staff has deducted $90,000 in expenses for the preliminary operations at Rush Island No. 2, which went into service during the test year.

Company opposes this adjustment.

9. Advertising Expenses

The Staff reduced the cost of service by excluding $131,000 of certain advertising expenses.

The Company opposes this adjustment.

MoACORN opposes the inclusion of any advertising expenses in Company's test-year cost of service

10. Legal Expenses

The Staff reduced legal expenses thereby reducing the cost of service by $112,000.

The Company opposes this adjustment.

11. Injuries and Damages Expenses

The Company proposes to increase the injuries and damages expenses thereby increasing Company's cost of service by $292,000.

The Staff opposes this adjustment.

12. Real Estate and Personal Property Tax

The Staff has annualized real estate and personal property tax expense to reflect plant-in-service at June 30, 1977.

The Company disagrees with the tax rate utilized by Staff and proposes to increase this expense by $672,000. The Staff opposes this adjustment.

13. Unemployment and FOAB Taxes

The Company proposes to increase the Federal and Missouri unemployment and FOAB tax expenses thereby increasing the cost of service by $332,000.

The Staff opposes this adjustment.

14. Cancellation of Rush Island Units No. 3 and 4

The Staff has proposed an adjustment to increase depreciation and amortization expenses by $ to reflect the amortization of cancellation costs of Rush Island Units No. 3 and 4 over a five-year period.

The Public Counsel reserves the right to inquire into and assert a different position regarding this issue.

The Company supports the Staff adjustment.

15. Deferred State Income Taxes

The Public Counsel proposes that all test year deferred state income taxes be flowed-through rather than normalized.

The Company proposes to normalize these taxes.

16. Taxes

MoACORN contends that the Company should not recover from ratepayers any monies for federal, state and local taxes not actually paid by the Company during the test year and proposes reduction of the test-year cost of service by the appropriate amount.

Company and Staff oppose this recommendation.

Schedule 6-51

COST OF MONEY/RATE OF RETURN

The Staff contends that the proper rate of return is a range from 8.739% to 9.071% based on the following capital structure and costs:

Type of Capital	Capitalization Ratio (%)	Cost (%)	Weighted Cost
Long-term Debt	52.61	7.047	3.707
Preferred Stock	14.20	7.528	1.069
Common Equity	33.19	12.94 (11.94)	4.295 (3.963)
Total	100.00		9.071 (8.739)

The Company contends that the proper rate of return is 10.01% based on the following capital structure and costs:

Type of Capital	Capitalization Ratio (%)	Cost (%)	Weighted Cost
Long-term Debt	53.32	7.09	3.78
Preferred Stock	15.06	7.55	1.14
Common Equity	31.62	16.09	5.09
Total	100.00		10.01

RATE DESIGN

There is presently pending before the Commission, Case No. 18,177, in which the Company has accumulated data and is preparing a cost of service by class and subclass of customers. The results of this cost of service by class study will be available in the near future.

The Company has applied, and the Staff, the City of St. Louis and St. Louis County accept, uniform percentage increases to each present rate, except street lighting rates.

All Industrial Intervenors contend that the rates should be adjusted by applying a uniform percentage increase to existing base rates, after first reducing the existing base rates by the fuel costs included and then adding fuel costs back.

Union Sarah contends that the Commission should adopt a lifeline proposal by freezing the first 450 Kwh rate and spreading any increase over all classes by an equal charge per Kwh; and any special rates for all electric homes should be applied to all customers who use electricity as their heat source. Union Sarah also opposes any increase in the reconnection charge.

MoACORN contends that all residential rates be frozen at their present level, with any increase granted borne exclusively by large commercial and industrial consumers, or reduced to a level assuring residential consumers of electricity available for the essential human needs including lights, stove, refrigerator, and space and water heaters.

UCCM contends that some rate design should be at issue in this proceeding and reserves its position.

The Public Counsel reserves the right to contest the issue of rate design including the proposed increase in the reconnection charge and present a position in this proceeding.

OTHER ISSUES

1. Union Sarah has introduced testimony on customer policies and other issues which it wishes to pursue as well as inquiring into such issues as conservation, construction cost, facility planning and growth in demand.

2. Public Counsel issues:

A. Conservation

The Public Counsel proposes that the Commission establish a conservation docket to examine in depth the application of the State Energy Conservation Plan and other methods of conservation of energy to all Commission-regulated electric and gas companies, including Union Electric Company. The Public Counsel also reserves the right to inquire into the conservation policies of Union Electric Company.

B. Facilities Planning

The Public Counsel proposes that the Commission should evaluate in a separate docket the Company's facilities planning system in detail and continually review the latest data and plans used in the Company's facilities planning process. The Public Counsel also reserves the right to inquire into the Company's facilities planning decision to defer the construction schedule of the Callaway County generating plants, Units 1 and 2.

Schedule 6-53

GENERAL

1. It is understood and agreed by the Parties that reference in disputed terms to the position of any party is not all inclusive and no party shall be barred from developing on the record its full position with respect thereto.

2. The Parties to this Hearing Memorandum hereby reserve the right to assert a position concerning the above listed issues and any other issue relevant to these proceedings.

3. Except as otherwise herein expressly provided, nothing in this Memorandum shall be construed so as to limit any party's right to cross-examine any witness on any matter covered in the witness' prefiled testimony.

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