

Union Electric Company
Incentive Regulation Monitoring
Case No. EM-96-149

Staff Calculation of
Average Capital Structure and Embedded Cost of Debt and Preferred
Year Ending June 30, 1998
(000)

	Capital Structure		Embedded Cost	Weighted Cost
	Dollars	Percent		
Beginning of Sharing Period (June 30, 1997)				
Common Stock Equity	\$2,364,384	54.360%	N/A	N/A
Preferred Stock	155,197	3.568%	5.775%	0.206%
Long Term Debt	1,829,911	42.072%	7.013%	2.950%
Total Capitalization	<u>\$4,349,492</u>	<u>100.000%</u>		
Return portion related to debt and preferred				<u>3.157%</u>
End of Sharing Period (June 30, 1998)				
Common Stock Equity	\$2,415,631	55.334%	N/A	N/A
Preferred Stock	155,197	3.555%	5.775%	0.205%
Long Term Debt	1,794,739	41.111%	6.978%	2.869%
Total Capitalization	<u>\$4,365,567</u>	<u>100.000%</u>		
Return portion related to debt and preferred				<u>3.074%</u>
Average for sharing period				
Common Stock Equity	\$2,390,008	54.848%	N/A	N/A
Preferred Stock	155,197	3.562%	5.775%	0.206%
Long Term Debt	1,812,325	41.591%	6.996%	2.910%
Total Capitalization	<u>\$4,357,529</u>	<u>100.000%</u>		
Return portion related to debt and preferred				<u>3.115%</u>
Return portion related to common equity				<u>54.848%</u>

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Staff Calculation of
Achieved Cost of Common Equity
Year Ending June 30, 1998
(000)

	<u>Total Electric</u>	<u>Missouri Jurisdictional</u>
Plant in Service	\$ 8,247,689	\$ 7,386,184
Reserve for Depreciation	3,162,410	2,815,161
Net Plant	\$ 5,085,279	\$ 4,571,023
Add:		
Fuel and Materials & Supplies	197,523	170,633
Cash Working Capital	(27,466)	(24,000)
Prepayments	12,479	10,904
Less:		
Income Tax Offset (Staff Method)	57,971	59,401
Interest Expense Offset (Staff Method)	16,160	14,533
Customer Advances	8,113	8,065
Customer Deposits	10,435	10,435
Accumulated Deferred Income Taxes	836,061	733,777
(A) Total Rate Base	<u>\$ 4,339,075</u>	<u>\$ 3,902,348</u>
(B) Net Operating Income	<u>\$ 457,077</u>	<u>\$ 431,361</u>
(C) Return on Rate Base ((B) / (A))	10.534%	11.054%
(D) Return Portion Related to Debt & Preferred	3.115%	3.115%
(E) Return Portion Related to Common Equity ((C) - (D))	7.419%	7.939%
(F) Equity Percentage of Capital Structure	54.848%	54.848%
(G) Achieved Cost of Common Equity ((E) / (F))	<u>13.526%</u>	<u>14.474%</u>

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Staff Calculation
Income Statement
Year Ending June 30, 1998
(000)

	Total Electric	Missouri Jurisdictional
Operating Revenues	\$ 2,133,116	\$ 1,916,228
Operation & Maintenance Expenses:		
Production:		
Fixed Allocation	\$ 90,644	\$ 79,025
Variable Allocation	548,552	468,299
Directly Assigned	(2,436)	(2,048)
Total Production Expenses	<u>\$ 636,761</u>	<u>\$ 545,276</u>
Transmission Expenses (Fixed)	\$ 14,593	\$ 12,715
Distribution Expenses (Direct)	84,837	79,345
Customer Accounting, Customer Service and Sales Expenses (Direct)	59,428	55,659
Administrative & General Expense:		
Directly Assigned	\$ 3,132	\$ 2,763
Labor Allocation	195,437	171,066
Total Administrative & General Expense	<u>\$ 198,569</u>	<u>\$ 173,829</u>
Total Operation & Maintenance Expenses	\$ 994,188	\$ 866,825
Depreciation & Amortization Expense:		
Fixed Allocation	\$ 66,965	\$ 58,346
Labor Allocation	9,724	8,594
Directly Assigned	171,632	156,477
Total Depreciation & Amortization Expense	<u>\$ 248,321</u>	<u>\$ 223,417</u>
Taxes Other Than Income Taxes:		
Fixed Allocation	\$ 52,194	\$ 45,477
Variable Allocation	1,848	1,578
Labor Allocation	3,502	3,095
Directly Assigned	145,747	134,524
Total Taxes Other Than Income Taxes	<u>\$ 203,291</u>	<u>\$ 184,673</u>
Income Taxes		
Federal Income Tax	\$ 198,112	\$ 178,251
Environmental Tax	(445)	(400)
Missouri State Income Tax	29,435	32,100
Other States Income Tax	3,137	0
Total Income Taxes	<u>\$ 230,240</u>	<u>\$ 209,952</u>
Net Operating Income	<u>\$ 457,077</u>	<u>\$ 431,361</u>

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Staff Calculation of Customers Sharing Credit
Year Ending June 30, 1998
(000)

Missouri Rate Base	\$3,902,348
Total Return on Rate Base	11.054%
Earned Return on Common Equity	14.474%
50% Sharing for Earned Return > 12.61% but < 14.00% [(14% - 12.61%) x 50% x Rate Base x Common Equity %]	\$14,875
Total 50% Sharing Including Income Taxes **	\$24,144
100% Sharing for Earned Return > 14% [(Achieved Return on Equity - 14%) x 100% x Rate Base x Common Equity %]	\$10,144
Total 100% Sharing Including Income Taxes **	\$16,465.21
Total Customers Sharing Credit for the Current Period Including Income Taxes	\$40,609
Under (Over) Credit of Actual 1997 Customers Sharing Credit	\$41
Total Customers Sharing Credit	\$40,650

** Gross-up factor for income taxes - 1.6231

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Allocations 12 Months Ending June 30, 1998

	<u>Total Electric</u>	<u>Missouri Jurisdictional</u>
Fixed	100.00%	87.13%
Variable	100.00%	85.37%
KWH sales	100.00%	83.56%
Nuclear	100.00%	86.99%
Distribution	100.00%	94.30%
Missouri Distribution	100.00%	99.35%
Labor	100.00%	88.38%
Net Plant	100.00%	89.89%
Operating Revenues	100.00%	89.82%
Operating Expenses	100.00%	87.38%

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Average Rate Base
Year Ending June 30, 1998

Revenue (Refund) Requirement

(A)	12.61% Equity Return (B)	14.00% Equity Return (C)
Net Original Cost Rate Base (From Acctg. Sch. 2)	\$ 3,902,348	\$ 3,902,348
Rate of Return	10.03%	10.79%
	-----	-----
Net Operating Income Requirement	\$ 391,465	\$ 421,216
Net Income Available (From Acctg. Sch 8)	431,361	431,361
	-----	-----
Additional Net Operating Income Needed Before Income Taxes	\$ (39,895)	\$ (10,144)
Income Tax Requirement: (From Acctg. Sch. 10)		
Required Current Income Tax	\$ 211,118	\$ 229,655
Test Year Current Income Tax	235,975	235,975
	-----	-----
Additional Current Income Tax Required	\$ (24,858)	\$ (6,321)
	-----	-----
Revenue Requirement	\$ 48,288	\$ 16,465
	-----	-----
Revenue Refund		\$ 40,609

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Average Rate Base
Year Ending June 30, 1998

		Missouri Jurisdiction

Total Average Plant In Service	(From Accounting Schedule 3)	\$ 7,386,184
Average Depreciation Reserve	(From Accounting Schedule 5)	2,815,161

Net Average Plant In Service		\$ 4,571,023

Add:		
Stipulated Cash Working Capital		\$ (24,000)
Unspent nuclear fuel in reactor	(From Accounting Schedule 7)	35,245
Coal Inventory	(From Accounting Schedule 7)	50,265
Other fuel and General M&S	(From Accounting Schedule 7)	85,124
Average prepayments	(From Accounting Schedule 7)	10,904

Total Additions		\$ 157,537

Less:		
Income tax offset @ 25.13%		\$ 59,401
Interest offset @ 12.80%		14,533
Customer Advances		8,065
Accumulated deferred income tax		733,777
Customer Deposits		10,435

Total Deductions		\$ 826,211

Total Rate Base	(To Accounting Schedule 1)	\$ <u>3,902,348</u>

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Average Plant In Service
Year Ending June 30, 1998

Description	Total Company	Accounting Schedule 4 Total Company Adjustments		Adjusted Total Electric	Allocation Factor	Missouri Jurisdictional
		Amount	Adjust. No.			
Intangible Plant						
Account 301						
System General	\$ 138	\$		\$ 138	88.38%	\$ 122
Heating and Gas	5	(5)	P-1	0		
Total Account 301	<u>\$ 143</u>	<u>\$ (5)</u>		<u>\$ 138</u>		<u>\$ 122</u>
Account 302						
Power Pool	\$ 16			16	87.13%	14
System General	3			3	88.38%	3
Heating and Gas	0	(0)	P-2	0		
Total Account 302	<u>\$ 19</u>	<u>\$ (0)</u>		<u>\$ 19</u>		<u>\$ 17</u>
Total Intangible Plant	<u>\$ 162</u>	<u>\$ (5)</u>		<u>\$ 157</u>		<u>\$ 138</u>
Production Plant						
Nuclear	\$ 2,874,945	\$		\$ 2,874,945	87.13%	\$ 2,504,939
Callaway Disallowances	(268,862)			(268,862)	Direct	(229,235)
Steam	1,950,682			1,950,682	87.13%	1,699,629
Hydraulic	145,190			145,190	87.13%	126,504
Other	41,193			41,193	87.13%	35,891
Total Production	<u>\$ 4,743,147</u>	<u>\$ 0</u>		<u>\$ 4,743,147</u>		<u>\$ 4,137,728</u>
Transmission Plant	<u>\$ 428,577</u>	<u>\$</u>		<u>\$ 428,577</u>	87.13%	<u>\$ 373,419</u>
Distribution Plant						
Missouri	\$ 2,507,159	\$ 1,285	P-4	\$ 2,508,444	Direct	\$ 2,492,072
Illinois	134,206			134,206	0.00%	0
Iowa	0			0	0.00%	0
Total Distribution	<u>\$ 2,641,365</u>	<u>\$ 1,285</u>		<u>\$ 2,642,650</u>		<u>\$ 2,492,072</u>
General Plant	<u>\$ 437,150</u>	<u>\$ (3,991)</u>	P-3	<u>\$ 433,159</u>	88.38%	<u>\$ 382,826</u>
Plant Held For Future Use	<u>\$ 0</u>	<u>\$</u>		<u>\$ 0</u>		<u>\$ 0</u>
Total Plant In Service	<u>\$ 8,250,400</u>	<u>\$ (2,711)</u>		<u>\$ 8,247,689</u>		<u>\$ 7,386,184</u>

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Adjustments to Plant In Service
Year Ending June 30, 1998

P-1			
Intangible Plant Account 301		\$	(5)
1 To adjust plant in service to exclude steam heating and gas operations.	\$	(5)	
P-2			
Intangible Plant Account 302		\$	(0)
1 To adjust plant in service to exclude steam heating and gas operations.	\$	(0)	
P-3			
General Plant		\$	(3,991)
1 To adjust plant in service to exclude steam heating and gas operations.	\$	(6,024)	
2 To capitalize EMPRV and AMRAPs computer systems.		2,033	
P-4			
Distridution Plant		\$	1,285
1 To include substation construction associated with territorial aggreements	\$	1,285	

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Average Depreciation Reserve
Year Ending June 30, 1998

Description	Total Company	Accounting Schedule 4 Total Company Adjustments		Adjusted Total Electric	Allocation Factor	Missouri Jurisdictional
		Amount	Adjust. No.			
Intangible Plant						
Account 301						
System General	\$ 0	\$		\$ 0		\$ 0
Heating and Gas	0			0		
Total Account 301	<u>\$ 0</u>	<u>\$ 0</u>		<u>\$ 0</u>		<u>\$ 0</u>
Account 302						
Power Pool	\$ 0			0		0
System General	0			0		0
Heating and Gas	0			0		
Total Account 302	<u>\$ 0</u>	<u>\$ 0</u>		<u>\$ 0</u>		<u>\$ 0</u>
Total Intangible Plant	<u>\$ 0</u>	<u>\$ 0</u>		<u>\$ 0</u>		<u>\$ 0</u>
Production Plant						
Nuclear	\$ 741,691	\$		\$ 741,691	86.99%	\$ 645,197
Callaway Post Operational	17,784			17,784	94.34%	16,777
Steam	921,707			921,707	87.13%	803,083
Hydraulic	59,936			59,936	87.13%	52,222
Other	36,099			36,099	87.13%	31,453
Total Production	<u>\$ 1,777,217</u>	<u>\$ 0</u>		<u>\$ 1,777,217</u>		<u>\$ 1,548,733</u>
Transmission Plant	<u>\$ 177,952</u>	<u>\$</u>		<u>\$ 177,952</u>	87.13%	<u>\$ 155,050</u>
Distribution Plant						
Missouri	\$ 1,037,622	\$ 17	R-2	\$ 1,037,638	99.35%	\$ 1,030,894
Illinois	78,536			78,536	0.00%	0
Iowa	0			0	0.00%	0
Total Distribution	<u>\$ 1,116,158</u>	<u>\$ 17</u>		<u>\$ 1,116,174</u>		<u>\$ 1,030,894</u>
General Plant	<u>\$ 92,365</u>	<u>\$ (1,298)</u>	R-1	<u>\$ 91,067</u>	88.38%	<u>\$ 80,485</u>
Total Plant In Service	<u>\$ 3,163,691</u>	<u>\$ (1,281)</u>		<u>\$ 3,162,410</u>		<u>\$ 2,815,161</u>

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Adjustments to Depreciation Reserve
Year Ending June 30, 1998

	R-1		
General Plant Reserve		\$	(1,298)
1 To adjust plant in service to exclude steam heating and gas operations.		\$	(1,298)
	R-2		17
Distribution Plant			
1 To include the depreciation reserve on territorial agreement plant additions.			17

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Average Fuels, Material & Supplies and Prepayments
Year Ending June 30, 1998

Unspent Nuclear Fuel in Reactor

Total Company	Missouri Jurisdictional Percentage	Missouri Jurisdictional
\$41,284	85.37%	\$35,245

Coal

Total Year Burn		75 Day Supply	Current Cost/Ton	Adjusted Coal Inventory (\$) Level
7,681	Labadie	1,578	\$17.335	27,360
2,698	Sioux	554	19.508	10,816
1,289	Meremac	265	26.004	6,886
4,088	Rush Island	840	16.449	13,817
				58,879
			Missouri Jurisdictional Percent	85.37%
			Missouri Jurisdiction	\$50,265

Other Fuel and General M&S

Total Company		Missouri Jurisdictional Percentage	Missouri Jurisdictional
\$1,826	Oil	85.37%	\$1,559
4	Shredded Tires	85.37%	3
37	Propane/Elec	85.37%	32
437	Propane/Gas		0
74,736	Power Pool M&S	85.37%	63,802
20,757	Direct M&S - Elec	NA	19,728
1,592	Direct M&S - Gas	NA	0
\$99,388			\$85,124

Prepayments

Total Company		Missouri Jurisdictional Percentage	Missouri Jurisdictional
\$12,711			
233	Gas & steam heating		
\$12,479	Electric	87.38%	\$10,904

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Accounting Schedule 8

Income Statement
Year Ending June 30, 1998

	Total Electric As Recorded	Total Company Adjustment	Adjustmen t Number	Allocation Factor	Missouri Jurisdictional	Jurisdictiona l Adjustment	Adjustment Number	Adjusted Jurisdictiona l
Operating Revenue	\$ 2,131,069	\$ 0	S-1	NA	\$ 1,914,181	\$ 2,047	S-1	\$ 1,916,228
Operating & Maintenance Expenses								
Production								
Variable	\$ 557,794	\$ (9,242)	S-2	85.37%	\$ 468,299	\$ 0	S-2	\$ 468,299
Direct	(2,436)	0	S-3	NA	(2,048)	0	S-3	(2,048)
Power Pool	90,285	0	S-4	87.13%	78,666	359	S-4	79,025
Transmission	14,593	0	S-5	87.13%	12,715	0	S-5	12,715
Distribution								
Missouri	79,443	0	S-6	99.35%	78,927	419	S-6	79,345
Other direct	4,975	0		0.00%	0			0
Customer Accounting								
Missouri direct	54,551	0	S-7	NA	54,540	1,119	S-7	55,659
Other direct	3,758	0		0.00%	0			0
Administrative and General								
Direct	4,441	0	S-8	NA	4,072	(1,309)	S-8	2,763
System General	210,062	(328)	S-9	88.38%	185,363	(14,297)	S-9	171,066
Total Operation & Maintenance	\$ 1,017,467	\$ (9,570)			\$ 880,535	\$ (13,709)		\$ 866,825
Other Expenses								
Depreciation and Amortization								
Power Pool	66,965	0	S-10	87.13%	58,346	0	S-10	58,346
Direct	171,412	0	S-11	NA	156,257	220	S-11	156,477
System General	9,724	0	S-12	88.38%	8,594	0	S-12	8,594
Taxes Other								
Variable	1,848	0	S-13	85.37%	1,578	0	S-13	1,578
Power Pool	52,194	0	S-14	87.13%	45,477	0	S-14	45,477
Direct	145,271	0	S-15	NA	134,048	476	S-15	134,524
System General	3,502	0	S-16	88.38%	3,095	0	S-16	3,095
Other Expenses	\$ 450,915	\$ 0			\$ 407,394	\$ 696		\$ 408,091
Net Operating Inc. Before Inc. Tax	\$ 662,686	\$ 9,570			\$ 626,252	\$ 15,060		\$ 641,312
Income Taxes								
Current	\$ 230,240	\$ 0	S-17	Various	\$ 212,120	\$ 23,855	S-17	\$ 235,975
Deferred	(48,488)	0	S-18	Various	(37,406)	11,382	S-18	(26,024)
Total Income Taxes	\$ 181,752	\$ 0			\$ 174,715	\$ 35,237		\$ 209,952
Net Operating Income	\$ 480,934	\$ 9,570			\$ 451,537	\$ (20,177)		\$ 431,361

Accounting
Schedule 8

Accounting Schedule 8

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Adjustments To Income Statement
Year Ending June 30, 1998

Adj. No.	Description	Total Company	Missouri Jurisdictional
2	To "equalize" GRT in revenue and expense.		476
Taxes Other - System General S-16			
1	No adjustment.	\$ 0	\$ 0
Current Income Tax S-17			
1	To adjust current income tax expense.	\$ 0	\$ 23,855
Deferred Income Tax S-18			
1	To eliminate deferred taxes associated with disallowed accelerated depreciation.	\$	\$ 16,064
2	To eliminate the other deferred tax provisions		(8,479)
3	To eliminate deferred tax provision for ITC		3,797

Union Electric Company
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Test Year Ending June 30, 1998

Income Tax

Description (A)	Test Year (B)	12.61% Return (C)	14.00% Return (D)
Net Operating Income (Acctg. Sch. 1)	\$ 431,361	\$ 391,465	\$ 421,216
Add:			
Current Income Tax	235,975	211,118	229,655
Deferred Income Taxes	(26,024)	(26,024)	(26,024)
Net Income Before Taxes (Acctg. Sch. 8)	\$ 641,312	\$ 576,559	\$ 624,847
Timing differences			
Net excluding interest	87,972	87,972	87,972
Interest Expense @ 2.91%	(113,541)	(113,541)	(113,541)
Net Taxable Income	\$ 615,743	\$ 550,990	\$ 599,278
Provision For Federal Income Tax			
Net Taxable Income	\$ 615,743	\$ 550,990	\$ 599,278
Deduct:			
Missouri Income Tax 100%	32,100	28,725	31,242
Federal Taxable Income	\$ 583,643	\$ 522,266	\$ 568,036
Federal Income Tax @ 35%	\$ 204,275	\$ 182,793	\$ 198,813
Provision For Missouri Income Tax			
Net Taxable Income	\$ 615,743	\$ 550,990	\$ 599,278
Deduct:			
Federal Income Tax 50%	102,138	91,396	99,406
Missouri Taxable Income	\$ 513,606	\$ 459,594	\$ 499,872
Missouri Income Tax @ 6.25%	\$ 32,100	\$ 28,725	\$ 31,242
Summary of Provision For Income Tax			
Federal Income Tax	\$ 204,275	\$ 182,793	\$ 198,813
Federal Environmental Tax	(400)	(400)	(400)
Missouri Income Tax	32,100	28,725	31,242
Total Income Tax	\$ 235,975	\$ 211,118	\$ 229,655