

EXHIBIT

Exhibit No:
Issue: Depreciation
Witness: William W. Dunkel
Type of Exhibit: Direct Testimony
Case No.: ER-2008-0093
Date Testimony Prepared: February 22, 2008

FILED
June 4, 2008
Data Center
Missouri Public
Service Commission

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Empire District Electric)
Company of Joplin, Missouri for Authority) **Case No. ER-2008-0093**
to File Tariffs Increasing Rates for Electric) **Tariff File No. YE-2008-0205**
Service Provided to Customers in the Missouri)
Service Area of the Company.)

DIRECT TESTIMONY AND SCHEDULES

OF

WILLIAM W DUNKEL

ON BEHALF OF

OFFICE OF THE PUBLIC COUNSEL

OF THE STATE OF MISSOURI

ORC Exhibit No. 300
Case No(s). ER-2008-0093
Date 5-12-08 Rptr XF

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

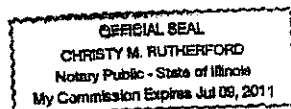
In the Matter of the Empire District Electric)
Company of Joplin, Missouri for Authority) **Case No. ER-2008-0093**
to File Tariffs Increasing Rates for Electric) **Tariff File No. YE-2008-0205**
Service Provided to Customers in the Missouri)
Service Area of the Company.)

AFFIDAVIT OF WILLIAM DUNKEL

COUNTY OF SANGAMON)
STATE OF ILLINOIS) SS

William Dunkel, of lawful age and being first duly sworn, deposes and states:

1. My name is William Dunkel. I am a Consultant for the Office of the Public Counsel.
2. Attached hereto and made a part hereof for all purposes is my direct testimony.
3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.



William Dunkel
William Dunkel
Consultant

Subscribed and sworn to me this 22nd day of February 2008.

Christy M. Rutherford
Notary Public

My commission expires 7/9/11.

1 **Q. Please state your name and address.**

2 A. My name is William W. Dunkel. My business address is 8625 Farmington Cemetery
3 Road, Pleasant Plains Illinois, 62677.

4 **Q. What is your present occupation?**

5 A. I am the principal of William Dunkel and Associates, which was established in 1980.
6 Since that time, I have regularly provided consulting services in utility regulatory
7 proceedings throughout the country. I have participated in over 200 state regulatory
8 proceedings before over one-half of the state commissions in the United States. I have
9 participated in utility regulatory proceedings for over 20 years.

10 **Q. Have you prepared an appendix that describes your qualifications?**

11 A. Yes. My qualifications, including a list of Missouri proceedings in which I participated,
12 are shown on Appendix A.

13 **Q. On whose behalf are you providing testimony?**

14 A. I am providing this Testimony on behalf of the Office of the Public Counsel of the State
15 of Missouri (OPC).

16 **Q. What is the purpose of this testimony?**

17 A. The purpose of this testimony is to address appropriate depreciation rates for Empire
18 District Electric Company (Empire or Company).

19 **Q. Can you summarize the issues you will discuss?**

20 A. Yes. I will primarily address two related issues which can be summarized as follows:

1 (1) The existing book amounts in the Depreciation Reserves¹ should be used when
2 calculating the depreciation rates. For all Production Plant, Transmission Plant, and
3 Distribution Plant accounts, Empire witness Donald S. Roff ignored the book amounts in
4 the Depreciation Reserves (Reserve), and instead effectively based his proposed
5 depreciation rates on theoretical Reserve amounts. Overall the book amounts in the
6 Reserves total more than the theoretical Reserve amounts that Mr. Roff used (there is an
7 overall Reserve "surplus"). Overall the depreciation rates Mr. Roff proposes for the
8 Production Plant, Transmission Plant, and Distribution Plant accounts are excessive,
9 because they ignore the booked Depreciation Reserve amounts.

10 I present depreciation rates that are calculated using the booked Reserve amounts.

11 (2) In the General Plant accounts overall the booked amounts in the Depreciation
12 Reserve exceed the theoretical Reserve. This means there is an overall surplus, not a
13 deficiency.

14 However Mr. Roff divided the General Plant accounts into two groups. One of those
15 groups had a booked Reserve that was less than the theoretical Reserve (a Reserve
16 "deficiency"), and the other group was the opposite, with booked Reserve being more
17 than the theoretical Reserve (a Reserve "surplus").

18 For the group with the deficiency, Mr. Roff did consider the booked Reserve amount, and
19 proposed an additional amount to be collected from the customers to recover the
20 deficiency in the booked Reserve amount for this group. However for the other group, in

¹ Account 108, Accumulated Provision for Depreciation

1 which there is a Reserve surplus, Mr. Roff did not consider the booked Reserve amount,
2 and gave customers no depreciation rate benefit from the Reserve surplus that exists in
3 that group. This is a double standard. In addition, there is no overall deficiency in the
4 General Plant Reserves in aggregate. There is an overall surplus.

5 I redistributed the Reserves within the General Plant accounts.² After the Reserves are
6 redistributed, no General Plant account has a Reserve deficiency, and some accounts still
7 have a Reserve surplus. There is no need to collect extra money from the customers
8 based on General Plant account Reserve deficiencies, because redistributing the Reserves
9 within the General Plant accounts eliminates all Reserve deficiencies in all General Plant
10 accounts.

11 The elimination of the two above problems in Mr. Roff's proposal results in an annual
12 depreciation accrual that is \$1.1 million less than Mr. Roff proposal, with no other
13 changes being made.

14 **Q. What is the importance of the booked Depreciation Reserve level in the calculation**
15 **of depreciation rates?**

16 A. The book Reserve level shows how much the customers have already paid for
17 depreciation. The past depreciation expense that has been paid by the customers is
18 credited into the Depreciation Reserve.³ Knowing how much customers have already
19 paid, is needed in order to calculate how much remains to be collected.

² For consistency, I also redistributed the Reserves within each Plant category other than General Plant (within the Transmission Plant category, within the Distribution Plant category, and within each of the Production Plant categories). Redistributing the Reserves within these other categories had only a minor impact.

³ 18 CFR 101 - Accumulated Provision for Depreciation

1 As an analogy, assume years ago you took out a \$100,000 mortgage on your home, and
2 in the past you have paid-off \$80,000 of the principal, and the bank's records show that
3 you have paid-off \$80,000. If you ask how much more is needed to pay off the principal,
4 the correct answer is \$20,000 ($\$100,000 - \$80,000 = \$20,000$). Imagine if your bank
5 asserted that you instead owed \$40,000 because it decided to use a hypothetical paid-off
6 amount instead of the actual \$80,000 paid-off amount. This bank calculation would not
7 be reasonable. This bank's incorrect calculation is very similar to Empire's use of the
8 theoretical Reserve, instead of the book Reserve, when calculating the depreciation rates
9 Empire proposes.

10 **Q. Can you illustrate what difference this makes in calculating depreciation?**

11 A. Yes. Assume a \$1,000 investment that has a book Reserve level of \$700.⁴ This means
12 the company needs to collect another \$300 from the customers in future depreciation
13 expense, to have the investment fully depreciated when it is expected to retire ($\$1,000$
14 investment - \$700 already in the Reserve = \$300).

15 However if Mr. Roff uses a theoretical Reserve amount of \$600, he would incorrectly
16 calculate that \$400 remains to be collected in the depreciation rates. The correct number
17 is \$300, as shown above. The booked Reserve amount should be used in the depreciation
18 rate calculations.

19 **Q. In another current case, has Mr. Roff testified that adjusting the depreciation rate**
20 **based on the existing book Reserve is required?**

21 A. Yes. In a current case in Kansas, Mr. Roff's testifies as follows in his Direct Testimony:

⁴ We assume zero net salvage for this example.

1 "Q. WHEN YOU USE THE TERM "RESERVE POSITION", WHAT
2 DO YOU MEAN?

3 A. The term "reserve position" refers to the difference between a
4 theoretical reserve and the existing book reserve. If the theoretical reserve
5 is greater than the book reserve, past depreciation has been inadequate
6 compared to the depreciation parameters developed in the Kansas and
7 SSU study, and an upward adjustment to the depreciation rate is
8 required. If the opposite is true, a downward adjustment to the
9 depreciation rate is required."⁵ (Emphasis added).

10 Schedule WWD-2 contains pages from Mr. Roff's current testimony in Kansas which
11 contain the above quotation. In that testimony, Mr. Roff says that adjusting the
12 depreciation rate based on the existing book Reserve is required.

13 **Q. In Kansas, Mr. Roff says that adjusting the depreciation rate based on the existing**
14 **book Reserve is required. Has Mr. Roff adjusted the depreciation rates based on**
15 **the existing book Reserve in this Missouri Empire proceeding?**

16 A. Not for the Production Plant, Transmission Plant, and Distribution Plant accounts. Those
17 accounts contain almost 96% of the Empire investment.⁶ For these accounts he
18 calculated the Empire proposed depreciation rates effectively using the theoretical
19 Reserve amounts, not the book Reserve amounts.

20 Later I will discuss the accounts which contain the remaining 4% of the investment, the
21 General Plant accounts.

⁵ Page 14, Direct Testimony of Donald S. Roff for Atmos Energy Corporation Before the State Corporation Commission of Kansas, filed on or about 9-14-2007 in Docket No. 08-ATMG-280-RTS.

⁶ From Schedule DSR-3 Production Plant investment \$508,907,485 plus Transmission Plant investment \$168,281,698 plus Distribution Plant investment \$533,654,596 divided by total Electric Plant investment \$1,265,546,604. $(\$508,907,485 + \$168,281,698 + \$533,654,596) / \$1,265,546,604 = 95.67\%$

1 **Q. Could you show that the depreciation rates that Mr. Roff proposes for the**
2 **Production Plant, Transmission Plant, and Distribution Plant accounts are not**
3 **based on the booked Reserve amounts?**

4 A. Yes. In his workpapers Mr. Roff actually calculates two different depreciation rates for
5 each account. One depreciation rate is calculated using the booked Reserve amount, and
6 the other depreciation rate is calculated effectively using the theoretical Reserve amount.
7 In his filed depreciation study, he uses the depreciation rate that is calculated using the
8 theoretical Reserve amount, not the depreciation rate that is calculated using the booked
9 Reserve amount.

10 Schedule WWD-3 is one of Mr. Roff's workpapers. As you can see for account 314
11 (Turbogenerator Units, the account I have underlined) Mr. Roff has calculated two
12 different depreciation rates: 1.83% which effectively uses the "Theoretical Reserve," and
13 1.38%, which uses the "book Reserve." In his filing he uses the 1.83% depreciation rate,
14 which is the depreciation rate that effectively uses the "Theoretical Reserve," not the
15 "Book Reserve."

16 **Q. How have you corrected this problem?**

17 A. I have used the depreciation rate that is calculated using the book Reserve.⁷ Likewise for
18 all of the Production Plant, Transmission Plant, and Distribution Plant accounts, the

⁷ As discussed elsewhere I redistributed the book Reserve amounts within each Plant category. Because of this the depreciation rate shown on my Schedule WWD-1 maybe different than the depreciation rate based on book Reserve shown in the Roff workpapers.

1 depreciation rate I used on Schedule WWD-1 is the depreciation rate that uses the book
2 Reserve amounts.⁸

3 For some accounts the correct depreciation rate (the rate that uses the book Reserve) is
4 lower than the depreciation rate Mr. Roff proposed, and for other accounts it is higher.
5 However in total the correct depreciation rates produce a lower total annual depreciation
6 accrual for the Production Plant, Transmission Plant, and Distribution Plant accounts,
7 than the total depreciation accrual produced by the incorrect depreciation rates Mr. Roff
8 proposes.

9 **Q. Above you have addressed all accounts except the General Plant Accounts. Is there**
10 **an overall surplus or a deficiency in the Reserves in the General Plant accounts?**

11 A. There is an overall surplus in the General Plant Reserve. Schedule WWD-4 is one of Mr.
12 Roff's workpapers.⁹ It shows the "Theoretical Reserve" for General Plant totals
13 \$23,648,001, but the "book Reserve" is the higher figure of \$28,519,594. As this Roff
14 workpaper shows there is a deficiency in some accounts, and a surplus in other accounts,
15 but in total there is an overall surplus in the General Plant Reserve. In the General Plant
16 accounts overall the booked amounts in the Depreciation Reserve exceed the theoretical
17 Reserve. This means there is an overall surplus, not a deficiency.

⁸ The issue is not whether a "whole life" or "remaining life" technique should be used, a correct "whole life" calculation would include an adjustment for the book Reserve level, which Mr. Roff failed to do.

⁹ For each account in the "amortize group" Mr. Roff made two different calculations of theoretical Reserve depending on the treatment he was using, however under either of these calculations there is net Reserve surplus for General Plant overall.

1 **Q. What did Mr. Roff do in the General Plant accounts?**

2 A. Mr. Roff divided the General Plant accounts into two subdivisions, (1) the group of
3 accounts he proposes to "amortize" (which I will call the "amortize group"), and (2) the
4 accounts he does not propose to "amortize" (the "non-amortize" group)

5 The "amortize group" had an overall book Reserve that was less than the theoretical
6 Reserve (a Reserve "deficiency"), but the other group, the "non-amortize" group, was the
7 opposite, with book Reserve being more than the theoretical Reserve (a Reserve
8 "surplus").

9 For the group with the deficiency, the "amortize group", Mr. Roff did consider the book
10 Reserve amount, and proposed an additional amount to be collected from the customers
11 to recover the deficiency in the booked Reserve amount for this group. This additional
12 annual charge of \$731,122 is shown on Schedule DSR-3, Table 1A, column [8] attached
13 to the Direct Testimony of Mr. Roff.

14 However for the other General Plant group, the "non-amortize" group, in which there is a
15 book Reserve surplus; Mr. Roff did not consider the book Reserve amount. For this
16 group he purposes the depreciation rates that use the theoretical Reserves, not the
17 depreciation rates that use the book Reserves. He gave customers no depreciation rate
18 benefit from the surplus that exists in the book Reserve in this "non-amortize" group.

19 This is a double standard. He did adjust for the book Reserve in the group in which that
20 adjustment increases the charges to the customers, but did not adjust for the book Reserve
21 in the group in which that adjustment would reduce the charges to the customers.

1 **Q. How did you correct for Empire's use of this double standard?**

2 A. I redistributed the Reserves within the General Plant accounts.¹⁰ After the Reserves are
3 redistributed, no General Plant account has a Reserve deficiency, and some General Plant
4 accounts still have a Reserve surplus, as shown on Schedule WWD-5. There is no need
5 to collect extra money from the customers based on Reserve deficiencies in the General
6 Plant accounts, because redistributing the Reserves within the General Plant accounts
7 eliminates all Reserve deficiencies in the General Plant accounts.
8
9 There is no overall deficiency in the General Plant Reserves. There is an overall surplus.
10
11 After redistributing the Reserves within the General Plant accounts, I calculated the
12 depreciation rates using the redistributed book Reserves.
13
14 The results are shown on Schedule WWD-1.

12 **Q. What is the impact of making these two changes?**

13 A. As shown on Schedule WWD-1 the annual depreciation accruals are \$1,153,610 less than
14 Mr. Roff's proposal, when these two changes, and only these two changes, are made.
15 The only changes I made were to (1) use the book Reserve instead of the theoretical
16 Reserve, and (2) redistribute the book Reserve within each Plant category.¹¹

¹⁰ For consistency, I also redistributed the Reserves within each Plant category other than General Plant (within the Transmission Plant category, within the Distribution Plant category, and within each of the Production Plant categories), as shown on Schedule WWD-6. Redistributing the Reserves within these other categories had only a minor impact on the total annual depreciation accruals.

¹¹ For consistency, In addition to distributing the Reserve within the General Plant category, I also redistributed the Reserves within each Plant category other than General Plant. However, redistributing the Reserves within these other Plant categories did not contribute to my proposal being \$1,153,610 less than Mr. Roff's proposal. In fact, had I not redistributed within these other categories (within the Transmission Plant category, within the Distribution Plant category, and within each of the Production Plant categories), my proposed annual accruals would have been \$1,228,482 less than Mr. Roff's proposal.

1 I recommend these two corrections be made to the Company's proposed depreciation
2 rates.

3 **Q. Are you addressing service lives, dispersions (curve shapes), or future net salvage**
4 **percentages?**

5 A. No. In this testimony I am not addressing service lives, dispersion (curve shapes), or
6 future net salvage percentages. At this time the only proposed service lives, curve
7 shapes, and future net salvage in the case are from Empire. I have used the Empire
8 proposed service lives, curve shapes, and future net salvage on Schedule WWD-1, but
9 that does not imply I necessarily endorse those parameters. If any other party
10 recommends different service lives, curve shapes, or future net salvage, I will prepare an
11 alternative version of Schedule WWD-1 that uses the parameters proposed by the other
12 party.

13 **Q. Does this conclude your Direct Testimony?**

14 A. Yes.

COMPARISON OF CURRENT RATE, COMPANY PROPOSED RATES, AND OPC PROPOSED RATES
ASSUMING EMPIRE'S PROPOSED LIVES AND CURVE SHAPES

Account Number	Description	12/13/06 Balance	Current Rate	Annual Accrual	Company Proposal			OPC Proposal Using Empire Proposed Life and Curve Shape			
					Whole Life Rate	Annual Accrual	Difference from Present	Remaining Life Rate	Annual Accrual	Difference from Present	Difference from Company
A	B	C	D	E=C*D	F	G=C*F	H=G-E	I	J=C*I	K=J-E	L=J-G
STEAM PRODUCTION PLANT											
311.0	Structures & Improvements	23,811,430	1.06%	251,353	1.80%	380,983	129,630	1.39%	331,008	79,655	(49,974)
312.0	Boiler Plant Equipment	128,877,453	1.88%	2,428,748	2.18%	2,809,528	380,780	1.82%	2,340,435	(88,313)	(469,093)
312.1	Coal Cars	5,580,296	6.67%	372,206	5.00%	279,015	(93,191)	0.00%	0	(372,206)	(279,015)
314.0	Turbogenerator Units	36,776,791	1.61%	593,822	1.83%	673,015	79,193	1.38%	508,371	(85,451)	(164,644)
315.0	Accessory Electric Equipment	7,330,476	1.49%	109,207	1.75%	128,283	19,076	1.06%	77,567	(31,640)	(50,716)
316.0	Misc. Power Plant Equipment	3,909,460	1.95%	76,348	1.55%	60,597	(15,751)	1.27%	49,555	(26,793)	(11,042)
	Total Steam Production Plant	206,285,906	1.88%	3,831,684	2.10%	4,331,421	499,737	1.60%	3,306,937	(524,747)	(1,024,485)
HYDRAULIC PRODUCTION PLANT											
331.0	Structures & Improvements	556,389	1.64%	9,125	1.25%	6,955	(2,170)	1.18%	6,571	(2,554)	(384)
332.0	Reservoirs, Dams & Waterways	1,450,298	1.67%	24,220	2.00%	29,006	4,786	1.05%	15,269	(8,951)	(13,737)
333.0	Waterwheels, Turbines & Generators	1,611,159	1.47%	23,684	1.39%	22,395	(1,289)	1.35%	21,757	(1,927)	(638)
334.0	Accessory Electric Equipment	812,324	1.47%	11,941	1.83%	14,866	2,925	1.76%	14,330	2,389	(536)
335.0	Misc. Power Plant Equipment	366,646	2.44%	8,946	1.82%	6,673	(2,273)	1.72%	6,298	(2,648)	(375)
	Total Hydraulic Production Plant	4,796,816	1.62%	77,916	1.67%	79,894	1,978	1.34%	64,224	(13,692)	(15,670)
OTHER PRODUCTION PLANT											
341.0	Structures & Improvements	14,593,800	2.31%	336,689	1.82%	265,607	(71,082)	1.51%	220,988	(115,701)	(44,620)
342.0	Fuel Holders, Producers & Accessories	13,779,806	2.87%	394,824	3.75%	516,743	121,919	2.68%	368,692	(26,132)	(148,051)
343.0	Prime Movers	159,329,953	2.42%	3,863,033	2.27%	3,616,790	(246,243)	1.99%	3,175,620	(687,413)	(441,170)
344.0	Generators	81,375,321	2.12%	1,725,090	2.27%	1,847,220	122,130	2.10%	1,705,570	(19,520)	(141,650)
345.0	Accessory Electric Equipment	14,394,151	3.19%	458,614	1.67%	240,382	(218,232)	1.52%	219,084	(239,530)	(21,298)
346.0	Misc. Power Plant Equipment	14,351,732	3.85%	552,461	1.82%	261,202	(291,259)	1.68%	241,476	(310,985)	(19,725)
	Total Other Production Plant	297,824,763	2.46%	7,330,711	2.27%	6,747,943	(582,768)	1.99%	5,931,430	(1,399,281)	(816,514)
	Total Production Plant	508,907,485	2.21%	11,240,311	2.19%	11,159,259	(81,052)	1.83%	9,302,591	(1,937,720)	(1,856,669)
TRANSMISSION PLANT											
352.0	Structures & Improvements	2,357,554	2.09%	49,273	1.92%	45,265	(4,008)	2.15%	50,651	1,378	5,386
353.0	Station Equipment	82,068,329	2.20%	1,805,503	2.30%	1,887,572	82,069	2.57%	2,110,622	305,119	223,051
354.0	Towers & Fixtures	799,508	1.92%	15,351	1.67%	13,352	(1,999)	2.26%	18,079	2,728	4,727
355.0	Poles & Fixtures	29,992,731	3.33%	998,758	4.09%	1,226,703	227,945	4.55%	1,365,270	366,512	138,568
356.0	Overhead Conductors & Devices	53,063,576	2.15%	1,140,867	4.09%	2,170,300	1,029,433	4.59%	2,436,735	1,295,868	266,434
	Total Transmission Plant	168,281,698	2.38%	4,009,752	3.18%	5,343,191	1,333,439	3.55%	5,981,357	1,971,605	638,166
DISTRIBUTION PLANT											
361.0	Structures & Improvements	9,117,131	2.08%	189,636	2.50%	227,928	38,292	2.64%	240,683	51,047	12,755
362.0	Station Equipment	63,879,547	1.89%	1,207,323	3.33%	2,127,189	919,866	3.52%	2,246,736	1,039,413	119,547
364.0	Poles, Towers & Fixtures	106,735,812	4.35%	4,643,008	4.69%	5,005,910	362,902	4.96%	5,290,932	647,924	285,022
365.0	Overhead Conductors & Devices	115,440,681	3.77%	4,352,114	3.88%	4,479,098	126,984	4.05%	4,680,916	328,802	201,818
366.0	Underground Conduit	19,414,728	3.92%	761,057	2.22%	431,007	(330,050)	2.31%	448,381	(312,676)	17,374
367.0	Underground Conductors & Devices	45,457,445	3.59%	1,631,922	3.50%	1,591,011	(40,911)	3.68%	1,674,009	42,087	82,998
368.0	Line Transformers	78,835,996	2.78%	2,130,481	2.00%	1,532,720	(597,761)	2.09%	1,603,930	(526,551)	71,210
369.0	Services	54,565,246	5.00%	2,728,262	5.00%	2,728,262	0	5.28%	2,880,131	151,869	151,869
370.0	Meters	17,136,148	2.27%	388,991	2.34%	400,986	11,995	2.45%	420,426	31,435	19,440
371.0	Installations on Customers' Premises	13,667,365	5.80%	792,707	3.93%	537,127	(255,580)	4.19%	573,090	(219,617)	35,962
373.0	Street Lighting & Signal Systems	11,604,497	3.13%	363,221	2.40%	278,508	(84,713)	2.52%	292,260	(70,961)	13,753
	Total Distribution Plant	533,654,596	3.60%	19,188,722	3.62%	19,339,746	151,024	3.81%	20,351,493	1,162,771	1,011,747
GENERAL PLANT											
Depreciable Plant											
390.0	Structures & Improvements	9,212,785	2.75%	253,352	2.83%	242,296	(11,056)	2.27%	209,490	(43,862)	(32,806)
392.0	Transportation Equipment	6,819,102	7.08%	482,792	6.92%	471,882	(10,910)	6.09%	415,612	(67,180)	(56,269)
396.0	Power Operated Equipment	10,392,093	6.33%	657,819	6.33%	657,819	0	5.11%	531,164	(126,655)	(126,656)
	Total Depreciable General Plant	26,423,980	5.28%	1,393,963	5.19%	1,371,998	(21,965)	4.38%	1,156,266	(237,697)	(215,731)
Amortized Plant											
391.1	Office Furniture & Equipment	3,041,719	5.00%	152,086	4.00%	178,900	26,814	4.00%	121,669	(30,417)	(57,231)
391.2	Computer Equipment	10,715,630	10.00%	1,071,563	10.00%	1,366,512	294,949	10.00%	1,071,563	0	(294,949)
393.0	Store Equipment	333,503	3.17%	10,572	3.13%	(6,326)	(16,898)	3.13%	10,439	(133)	16,765
394.0	Tools, Shop, & Garage Equipment	2,797,946	4.50%	125,908	5.00%	156,467	30,559	5.00%	139,897	13,989	(16,570)
395.0	Laboratory Equipment	917,132	2.63%	24,121	2.38%	(29,195)	(53,316)	2.38%	21,828	(2,293)	51,023
397.0	Communications Equipment	6,784,189	4.00%	271,368	5.00%	768,844	497,476	5.00%	339,209	67,841	(429,635)
398.0	Miscellaneous Equipment	245,314	4.55%	11,162	4.00%	10,338	(824)	4.00%	9,813	(1,349)	(525)
	Total Amortized General Plant (1)	24,835,433	6.71%	1,666,780	9.85%	2,445,540	778,760	6.90%	1,714,417	47,637	(731,123)
	"Fully Depreciated" Retirements	3,443,412	6.71%	231,098			(231,098)			(231,098)	0
	Total General Plant	54,702,825	6.02%	3,291,841	6.98%	3,817,538	525,697	5.25%	2,870,684	(421,157)	(946,854)
	Total Electric Plant	1,265,546,604	2.98%	37,730,626	3.13%	39,659,734	1,929,108	3.04%	38,506,125	775,499	(1,153,610)

Sources:
Schedule DSR-3 and Company Depreciation workpapers

Notes:

1. Empire's proposed \$1,714,418 of amortization expense plus \$731,122 of four-year amount of Reserve Difference equals \$2,445,540. See Schedule DSR-3, Table 1A.

REMAINING LIFE DEPRECIATION RATES

Account Number	Description	Surviving Balance 12/31/06	Net Salvage	Theoretical Reserve with Salvage	Redistributed Book Reserve	Average Remaining Life	Remaining to Accrue H=C*(1-D)-F	Annual Accrual I=H/G	Remaining Life Rate J=I/C
A	B	C	D	E	F	G	H=C*(1-D)-F	I=H/G	J=I/C
STEAM PRODUCTION PLANT									
311.0	Structures & Improvements	23,811,407	-20.00%	6,470,755	9,368,595	58.02	19,205,094	331,008	1.39%
312.0	Boiler Plant Equipment	128,877,438	-20.00%	42,140,208	61,012,128	40.01	93,640,798	2,340,435	1.82%
312.1	Coal Cars	5,580,296		4,882,759	5,580,296	2.50	0	0	0.00%
314.0	Turbogenerator Units	36,776,779	-10.00%	14,345,765	20,770,321	38.72	19,684,136	508,371	1.38%
315.0	Accessory Electric Equipment	7,330,468	-5.00%	3,609,319	5,225,704	31.86	2,471,288	77,567	1.06%
316.0	Misc. Power Plant Equipment	3,909,454	15.00%	951,782	1,378,025	39.25	1,945,011	49,554	1.27%
	Total Steam Production Plant	206,285,842		72,400,588	103,335,068		136,946,326	3,306,936	1.60%
HYDRAULIC PRODUCTION PLANT									
331.0	Structures & Improvements	556,388		148,422	170,931	58.66	385,457	6,571	1.18%
332.0	Reservoirs, Dams & Waterways	1,450,298	-20.00%	1,318,272	1,518,194	14.55	222,163	15,269	1.05%
333.0	Waterwheels, Turbines & Generators	1,611,159		248,676	286,389	60.89	1,324,770	21,757	1.35%
334.0	Accessory Electric Equipment	812,325	-10.00%	178,514	205,587	48.01	687,971	14,330	1.76%
335.0	Misc. Power Plant Equipment	366,646		97,993	112,854	40.30	253,792	6,288	1.72%
	Total Hydraulic Production Plant	4,796,816		1,991,877	2,293,955		2,874,153	64,224	1.34%
OTHER PRODUCTION PLANT									
341.0	Structures & Improvements	14,593,792		2,595,737	4,600,739	45.22	9,993,053	220,987	1.51%
342.0	Fuel Holders, Producers & Accessories	13,779,799	-20.00%	4,472,306	7,926,809	23.35	8,608,950	368,692	2.68%
343.0	Prime Movers	159,329,946		21,899,522	38,815,172	37.95	120,514,774	3,175,620	1.99%
344.0	Generators	81,375,315		7,439,896	13,186,628	39.98	68,188,687	1,705,570	2.10%
345.0	Accessory Electric Equipment	14,394,146		1,455,041	2,578,945	53.93	11,815,201	219,084	1.52%
346.0	Misc. Power Plant Equipment	14,351,825		1,264,776	2,241,716	50.15	12,110,109	241,478	1.68%
	Total Other Production Plant	297,824,823		39,127,278	69,350,008		231,230,775	5,931,431	1.99%
	Total Production Plant	508,907,481		113,519,743	174,979,031		371,051,254	9,302,591	1.83%
TRANSMISSION PLANT									
352.0	Structures & Improvements	2,357,554	-15.00%	781,951	548,385	42.70	2,162,802	50,651	2.15%
353.0	Station Equipment	82,068,327	-15.00%	26,743,014	18,754,980	35.83	75,623,596	2,110,822	2.57%
354.0	Towers & Fixtures	799,508	-25.00%	543,932	381,462	34.18	617,923	18,079	2.28%
355.0	Poles & Fixtures	29,992,727	-125.00%	18,491,840	12,968,400	39.93	54,515,236	1,365,270	4.55%
356.0	Overhead Conductors & Devices	53,063,577	-125.00%	34,735,860	24,360,394	39.00	95,032,654	2,436,735	4.59%
	Total Transmission Plant	168,281,693		81,296,597	57,013,621		227,952,211	5,981,357	3.55%
DISTRIBUTION PLANT									
361.0	Structures & Improvements	8,820,046	-50.00%	3,673,342	3,138,773	43.34	10,091,296	232,840	2.64%
362.0	Station Equipment	63,879,548	-50.00%	26,368,062	22,530,807	32.62	73,288,515	2,246,736	3.52%
364.0	Poles, Towers & Fixtures	106,735,813	-125.00%	67,926,880	58,041,711	34.42	182,113,869	5,290,932	4.96%
365.0	Overhead Conductors & Devices	115,440,679	-125.00%	61,626,016	52,657,790	44.24	207,083,738	4,680,916	4.05%
366.0	Underground Conduit	19,414,726		4,134,815	3,533,089	35.42	15,881,637	448,380	2.31%
367.0	Underground Conductors & Devices	45,457,443	-5.00%	12,602,145	10,768,197	22.08	36,962,118	1,674,009	3.68%
368.0	Line Transformers	76,635,996		18,545,976	15,847,043	37.90	60,788,953	1,603,930	2.09%
369.0	Services	54,565,243	-125.00%	33,966,580	29,023,538	32.55	93,748,258	2,880,131	5.28%
370.0	Meters	17,136,144	-3.00%	4,379,940	3,742,542	33.08	13,907,686	420,426	2.45%
371.0	Installations on Customers' Premises	13,667,367	-10.00%	4,757,511	4,065,167	19.14	10,968,937	573,090	4.19%
373.0	Street Lighting & Signal Systems	11,604,496	-15.00%	3,472,317	2,967,002	35.51	10,378,168	292,260	2.52%
	Total Distribution Plant	533,357,501		241,453,584	206,315,660		715,213,174	20,343,650	3.81%
GENERAL PLANT									
Depreciable Plant									
390.0	Structures & Improvements	9,212,785	-5.00%	4,183,993	4,917,997	22.70	4,755,427	209,490	2.27%
392.0	Transportation Equipment	6,619,639	10.00%	2,422,117	2,847,033	7.71	3,110,642	403,456	6.09%
396.0	Power Operated Equipment	10,373,951	5.00%	5,163,520	6,069,364	7.14	3,785,889	530,237	5.11%
	Total Depreciable General Plant	26,206,375		11,769,630	13,834,395		11,651,958	1,143,182	4.36%
Amortized Plant									
391.1	Office Furniture & Equipment	3,041,719		1,773,251	1,773,251		1,268,468	121,669	4.00%
391.2	Computer Equipment	10,715,630		3,675,583	3,675,583		7,040,047	1,071,563	10.00%
393.0	Store Equipment	333,503		175,626	175,626		157,877	10,439	3.13%
394.0	Tools, Shop, & Garage Equipment	2,797,946		1,102,527	1,102,527		1,695,419	139,897	5.00%
395.0	Laboratory Equipment	917,132		382,355	382,355		534,777	21,828	2.38%
397.0	Communications Equipment	6,784,189		4,057,362	4,057,362		2,726,827	339,209	5.00%
398.0	Miscellaneous Equipment	245,314		75,083	75,083		170,231	9,813	4.00%
	Total Amortized General Plant	24,835,433		11,241,788	11,241,788		13,593,645	1,714,417	6.90%
	"Fully Depreciated" Retirements	3,443,412		3,443,412	3,443,412		0	0	0.00%
	Total General Plant	54,485,220		26,454,829	28,519,594		25,245,604	2,857,600	5.24%
	Total Electric Plant	1,285,031,895		462,724,753	466,827,906		1,339,462,243	38,485,197	3.04%

Source:
Company Depreciation Study workpapers

2007.09.14 15:46:34
Kansas Corporation Commission
/s/ Susan K. Duffy

**BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS**

**IN THE MATTER OF THE APPLICATION)
OF ATMOS ENERGY CORPORATION)
FOR REVIEW AND ADJUSTMENT OF ITS)
NATURAL GAS RATES)** **Docket No.**
08-ATMG-290-RTS

DIRECT TESTIMONY OF

DONALD S. ROFF

FOR ATMOS ENERGY CORPORATION

I. INTRODUCTION

- 1
2 **Q. PLEASE STATE YOUR NAME, ADDRESS AND BUSINESS**
3 **AFFILIATION.**
4 A. My name is Donald S. Roff and my address is 2832 Gainesborough Drive, Dallas,
5 Texas 75287. I am President of Depreciation Specialty Resources.
6 **Q. WHAT ARE YOUR QUALIFICATIONS AND EXPERIENCE?**
7 A. My qualifications and experience are described on Exhibit DSR-1.
8 **Q. HAVE YOU EVER TESTIFIED BEFORE THIS COMMISSION?**
9 A. Yes. A listing of my regulatory appearances is contained on Exhibit DSR-2.
10 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**
11 A. I have conducted a depreciation study of the depreciable natural gas distribution
12 properties in Kansas (referred to hereinafter as the "Kansas System") of Atmos
13 Energy Corporation ("Atmos" or "the Company") as of September 30, 2006, and I
14 have made recommendations for revised depreciation rates for inclusion in the
15 Company's revenue requirement. I have also conducted a depreciation study of
16 the plant assets of the Company's Shared Services Unit (SSU)¹ as of September

¹ The Company's Shared Services Unit provides common services, such as accounting, legal, risk management, treasury, procurement, information technology, etc., to all of the Company's utility divisions.

1 A. Yes. The Company recently settled a general rate case in Kentucky which, as part
2 of the settlement, adopted these rates. These depreciation rates have also been
3 included in a general rate case the Company filed in Tennessee earlier this year,
4 but, as of the date of this direct testimony, that case is still pending. Based upon a
5 similar study which I performed in 2002, Atmos has had SSU depreciation rates
6 approved in several other jurisdictions, including Louisiana, Texas and Virginia.

7 **Q. WOULD YOU SUMMARIZE THE RESULTS OF THE SSU**
8 **DEPRECIATION STUDY?**

9 A. Yes. In general, average service lives have increased. Net salvage remained the
10 same for each asset category. There are three asset categories containing the
11 largest changes in annual depreciation expense: Account 399.01, Server
12 Hardware; Account 399.08, Application Software and Account 399.24, General
13 Start-up Costs. For Account 399.01, the decrease in annual depreciation expense
14 of \$1,069,241 is due to an increase in average service life from 5 years to 10
15 years. For Account 399.08, the increase in annual depreciation expense of
16 \$3,217,244 is due to reserve position. For Account 399.24, the increase in annual
17 depreciation expense of \$1,751,828 is due to reserve position.

18 **Q. WHEN YOU USE THE TERM "RESERVE POSITION", WHAT DO YOU**
19 **MEAN?**

20 A. The term "reserve position" refers to the difference between a theoretical reserve
21 and the existing book reserve. If the theoretical reserve is greater than the book
22 reserve, past depreciation has been inadequate compared to the depreciation
23 parameters developed in the Kansas and the SSU study, and an upward
24 adjustment to the depreciation rate is required. If the opposite is true, a downward
25 adjustment to the depreciation rate is required.

26 **Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS REGARDING**
27 **THE DEPRECIATION RATES THAT SHOULD BE ESTABLISHED FOR**
28 **SSU IN THIS CASE.**

29 A. I recommend that the Commission adopt the depreciation rates shown on
30 Schedule 1 of Exhibit DSR-4. I base this recommendation on the fact that I have
31 conducted a comprehensive depreciation study, giving appropriate recognition to

THE EMPIRE DISTRICT ELECTRIC COMPANY
PRODUCTION PLANT
TRANSMISSION PLANT
WORKPAPERS

Depreciation Study as of 12/31/06
Prepared By Donald S. Roff
Book 1 of 3

DEPRECIATION SYSTEM - DSALGUA RELEASE 7.0

DEPRECIATION SPECIALTY RESOURCES

STUDY AS OF DECEMBER 31, 2006.

PAGE 1

7-23-2007

*** THE EMPIRE DISTRICT ELECTRIC COMPANY ***

AVERAGE LIFE GROUP METHOD REMAINING LIFE RATE

ACCOUNT NUMBER	SURVIVING BALANCE DECEMBER 31 2006	ASL & CURVE	NET SLVG RATE	% LIFE	WHOLE THEORETICAL RESERVE W/SALVAGE	BOOK RESERVE BY GROUP	AVERAGE REMAINING LIFE	REMAINING TO ACCRUE	ANNUAL ACCRUAL	REMAINING LIFE ACCUAL RATE
31100000	23811407.	75.0R2.0	-20.0	1.50	6470755.	8661408.	58.02	19912280.	343223.	1.44
31200000	128877438.	55.0R5.5	-20.0	2.18	42140208.	62899279.	40.01	91753647.	2933069.	1.78
31210000	5580296.	20.0R0	0.0	5.00	4882759.	5489556.	2.50	90740.	36296.	0.65
31400000	36775779.	60.0R3.0	-10.0	1.83	14345755.	20748143.	38.72	19706314.	508303.	1.38
31500000	7330468.	60.0R4.0	-5.0	1.75	3609319.	3555522.	31.86	4141469.	129971.	1.77
31600000	3909454.	55.0R2.5	15.0	1.55	951782.	1981160.	39.25	1341876.	34191.	0.87
									3345654.	1.62
	206285842.				72400588.	103335068.		136946326.		

THE EMPIRE DISTRICT ELECTRIC COMPANY
GENERAL PLANT
WORKPAPERS

Depreciation Study as of 12/31/06
Prepared By Donald S. Roff
Book 3 of 3

DEPRECIATION SYSTEM - DSALGO4 RELEASE 7.0

DEPRECIATION SPECIALTY RESOURCES

STUDY AS OF DECEMBER 31, 2006

PAGE 1

5-17-2007

*** THE EMPIRE DISTRICT ELECTRIC COMPANY ***

AVERAGE LIFE GROUP METHOD REMAINING LIFE RATES

ACCOUNT NUMBER	SURVIVING BALANCE DECEMBER 31, 2006	ASL & CURVE	% NET SLVG RATE	WHOLE LIFE	THEORETICAL RESERVE W/SALVAGE	BOOK RESERVE BY GROUP	AVERAGE REMAINING LIFE	REMAINING TO ACCRUE	ANNUAL ACCRUAL	REMAINING LIFE ACCRUAL RATE
390000000	9212785.	40.082.0	-5.0	2.62	4183993.	5230549.	22.70	4442875.	195730.	2.12
391100000	3274188.	25.041.0	0.0	4.00	1263708.	1776797.	15.35	1497391.	97544.	2.98
391200000	11577927.	10.042.0	0.0	10.00	3771130.	3358085.	6.74	8219842.	1219050.	10.53
392000000	6619639.	13.012.0	10.0	6.92	2422117.	5708172.	7.71	249503.	32341.	0.49
393000000	340331.	32.082.5	0.0	3.12	161235.	257315.	16.84	83016.	4930.	1.45
394000000	3464358.	20.085.0	10.0	4.50	1504231.	1765859.	9.71	1352063.	139250.	4.02
395000000	947056.	42.083.0	0.0	2.38	377623.	616370.	25.25	330686.	13095.	1.38
396000000	10373951.	15.084.0	5.0	6.33	5163520.	5820161.	7.14	4035093.	565063.	5.45
397000000	8197844.	20.082.0	0.0	5.00	4618202.	3886570.	8.73	4311274.	493669.	6.02
398000000	272048.	25.085.	0.0	4.00	82249.	9716.	17.44	172332.	9890.	3.63
	54280129.				23648011.	28519594.		24694077.	2770551.	5.10

REDISTRIBUTION OF GENERAL PLANT BOOK RESERVE

Account Number	Description	Book Reserve	Theoretical Reserve with Salvage	Percent used to Redistribute Reserve E=D/(j)	Redistributed Reserve F (1)
A	B	C	D	E=D/(j)	F (1)
GENERAL PLANT					
Depreciable Plant					
390.0	Structures & Improvements	5,230,549	4,183,993	35.55%	4,917,997
392.0	Transportation Equipment	5,708,172	2,422,117	20.58%	2,847,033
396.0	Power Operated Equipment	5,820,161	5,163,520	43.87%	6,069,364
	Total Depreciable General Plant	<u>16,758,882</u>	<u>11,769,630</u> (j)	100.00%	<u>13,834,395</u> (g)-(h)-(i)
Amortized Plant					
391.1	Office Furniture & Equipment	1,776,797	1,773,251		1,773,251
391.2	Computer Equipment	3,358,085	3,675,583		3,675,583
393.0	Store Equipment	257,315	175,626		175,626
394.0	Tools, Shop, & Garage Equipment	1,765,859	1,102,527		1,102,527
395.0	Laboratory Equipment	616,370	382,355		382,355
397.0	Communications Equipment	3,886,570	4,057,362		4,057,362
398.0	Miscellaneous Equipment	99,716	75,083		75,083
	Total Amortized General Plant	<u>11,760,712</u>	<u>11,241,788</u>		<u>11,241,788</u> (h)
	"Fully Depreciated" Retirements		<u>3,443,412</u>		<u>3,443,412</u> (i)
	Total General Plant	<u>28,519,594</u> (g)	<u>26,454,829</u>		<u>28,519,594</u>

Note:

(1) Redistributed Reserve for Amortized Plant set equal to Theoretical Reserve.

Redistributed Reserve for Depreciable Plant allocates remaining Book Reserve by column E.

Sources:

Columns C and D from Company Depreciation Study workpapers for General Plant

REDISTRIBUTION OF BOOK RESERVE BY PLANT CATEGORY

Account Number	Description	Book Reserve	Theoretical Reserve with Salvage	Percent used to Redistribute Reserve	Redistributed Reserve
A	B	C	D	E=D/Total Cat D	F=E*Total Cat C
STEAM PRODUCTION PLANT					
311.0	Structures & Improvements	8,661,408	6,470,755	8.94%	9,368,595
312.0	Boiler Plant Equipment	62,899,279	42,140,208	58.20%	61,012,128
312.1	Coal Cars	5,489,556	4,882,759	6.74%	5,580,296 (1)
314.0	Turbogenerator Units	20,748,143	14,345,765	19.81%	20,770,321
315.0	Accessory Electric Equipment	3,555,522	3,609,319	4.99%	5,225,704
316.0	Misc. Power Plant Equipment	1,981,160	951,782	1.31%	1,378,025
	Total Steam Production Plant	103,335,068	72,400,588	100.00%	103,335,068
HYDRAULIC PRODUCTION PLANT					
331.0	Structures & Improvements	239,275	148,422	7.45%	170,931
332.0	Reservoirs, Dams & Waterways	1,322,680	1,318,272	66.18%	1,518,194
333.0	Waterwheels, Turbines & Generators	386,529	248,676	12.48%	286,389
334.0	Accessory Electric Equipment	188,302	178,514	8.96%	205,587
335.0	Misc. Power Plant Equipment	157,169	97,993	4.92%	112,854
	Total Hydraulic Production Plant	2,293,955	1,991,877	100.00%	2,293,955
OTHER PRODUCTION PLANT					
341.0	Structures & Improvements	3,856,677	2,595,737	6.63%	4,600,739
342.0	Fuel Holders, Producers & Accessories	3,794,238	4,472,306	11.43%	7,926,809
343.0	Prime Movers	42,382,604	21,899,522	55.97%	38,815,172
344.0	Generators	13,297,506	7,439,896	19.01%	13,186,628
345.0	Accessory Electric Equipment	2,893,533	1,455,041	3.72%	2,578,945
346.0	Misc. Power Plant Equipment	3,125,450	1,264,776	3.23%	2,241,716
	Total Other Production Plant	69,350,008	39,127,278	100.00%	69,350,008
TRANSMISSION PLANT					
352.0	Structures & Improvements	956,612	781,951	0.96%	548,385
353.0	Station Equipment	28,339,591	26,743,014	32.90%	18,754,980
354.0	Towers & Fixtures	728,199	543,932	0.67%	381,462
355.0	Poles & Fixtures	12,215,983	18,491,840	22.75%	12,968,400
356.0	Overhead Conductors & Devices	14,773,236	34,735,860	42.73%	24,360,394
	Total Transmission Plant	57,013,621	81,296,597	100.00%	57,013,621
DISTRIBUTION PLANT					
361.0	Structures & Improvements	3,206,981	3,673,342	1.52%	3,138,773
362.0	Station Equipment	24,206,728	26,368,062	10.92%	22,530,807
364.0	Poles, Towers & Fixtures	48,298,664	67,926,880	28.13%	58,041,711
365.0	Overhead Conductors & Devices	40,553,223	61,626,016	25.52%	52,657,790
366.0	Underground Conduit	6,685,692	4,134,815	1.71%	3,533,089
367.0	Underground Conductors & Devices	14,080,733	12,602,145	5.22%	10,768,197
368.0	Line Transformers	26,073,278	18,545,976	7.68%	15,847,043
369.0	Services	25,335,853	33,966,580	14.07%	29,023,538
370.0	Meters	6,061,647	4,379,940	1.81%	3,742,542
371.0	Installations on Customers' Premises	7,280,613	4,757,511	1.97%	4,065,167
373.0	Street Lighting & Signal Systems	4,532,248	3,472,317	1.44%	2,967,002
	Total Distribution Plant	206,315,660	241,453,584	100.00%	206,315,660

Note:

(1) Account 312.1-Coal Cars is now fully depreciated due to redistribution.

Sources:

Columns C and D from Company Depreciation Study workpapers

William Dunkel, Consultant
8625 Farmington Cemetery Road
Pleasant Plains, Illinois 62677

Qualifications

The Consultant is a consulting engineer specializing in utility regulatory proceedings. He has participated in over 200 state regulatory proceedings as listed on the attached Relevant Work Experience.

The Consultant has provided cost analysis, rate design, jurisdictional separations, depreciation, expert testimony and other related services to state agencies throughout the country in numerous state regulatory proceedings.

The Consultant provides services almost exclusively to public agencies, including the Public Utilities Commission, the Public Counsel, or the State Department of Administration in various states.

William Dunkel currently provides, or in the past has provided, services in state utility regulatory proceedings to the following clients:

The Public Utility Commission or the Staffs in the States of:

Arkansas	Mississippi
Arizona	Missouri
Delaware	New Mexico
Georgia	Utah
Guam	Virginia
Illinois	Washington
Maryland	U.S. Virgin Islands
Kansas	

The Office of the Public Advocate, or its equivalent, in the States of:

Colorado	Maryland
District of Columbia	Missouri
Georgia	New Jersey
Hawaii	New Mexico
Illinois	Ohio
Indiana	Pennsylvania
Iowa	Utah
Maine	Washington

The Department of Administration in the States of:

Illinois	South Dakota
Minnesota	Wisconsin

The Consultant graduated from the University of Illinois in February, 1970 with a Bachelor of Science Degree in Engineering Physics with emphasis on economics and other business-related subjects. The Consultant has taken several post-graduate courses since graduation.

From 1970 to 1974, the Consultant was a design engineer for Sangamo Electric Company (Sangamo was later purchased by Schlumberger) designing electric watt-hour meters used in the electric utility industry. The Consultant was granted patent No. 3822400 for a solid state meter pulse initiator which was used in metering.

Between April, 1974 and July, 1980 the Consultant was employed by the Illinois Commerce Commission as a Utility Engineer in the Electric and Telephone Sections. During that period, he testified as an expert witness in numerous rate design cases and tariff filings in the areas of rate design, cost studies and separations. During the period 1975-1980, he was the Separations and Settlements expert for the Staff of the Illinois Commerce Commission.

From July, 1977 until July, 1980, he was a Staff member of the FCC-State Joint Board on Separations, concerning the "Impact of Customer Provision of Terminal Equipment on Jurisdictional Separations" in FCC Docket No. 20981 on behalf of the Illinois Commerce Commission. The FCC-State Joint Board is the national board that specifies the rules for separations in the telephone industry.

The Consultant has completed an advanced depreciation program entitled "Forecasting Life and Salvage" offered by Depreciation Programs, Inc.

Mr. Dunkel is a member of the Society of Depreciation Professionals.

Since July 1980 he has been regularly employed as an independent consultant in state utility regulatory proceedings across the nation.

He has testified before the Illinois House of Representatives Subcommittee on Communications, as well as participated in numerous other schools and conferences pertaining to the utility industry.

RELEVANT WORK EXPERIENCE OF
WILLIAM DUNKEL

ALASKA

- Enstar Natural Gas Company Docket No. U-07-174
- ML&P Docket No. U-06-006
- ACS of Anchorage Docket No. U-01-34
- ACS
 - General rate case Docket Nos. U-01-83, U-01-85, U-01-87
 - AFOR proceeding Docket No. R-03-003
- All Companies
 - Access charge proceeding Docket No. R-01-001
- Interior Telephone Company Docket No. U-07-75
- OTZ Telephone Cooperative Docket No. U-03-85

ARIZONA

- U.S. West Communications (Qwest)
 - Wholesale cost/UNE case Cost of Service Study Docket No. T-00000A-00-0194
 - General rate case Docket No. E-1051-93-183
 - Depreciation case Docket No. T-01051B-97-0689
 - General rate case/AFOR proceeding Docket No. T-01051B-99-0105
 - AFOR proceeding Docket No. T-01051B-03-0454

ARKANSAS

- Southwestern Bell Telephone Company Docket No. 83-045-U

CALIFORNIA

(on behalf of the Office of Ratepayer Advocates (ORA))

- Kerman Telephone General Rate Case A.02-01-004

(on behalf of the California Cable Television Association)

- General Telephone of California I.87-11-033
- Pacific Bell
 - Fiber Beyond the Feeder Pre-Approval Requirement

COLORADO

- Mountain Bell Telephone Company
 - General Rate Case Docket No. 96A-218T et al.
 - Call Trace Case Docket No. 92S-040T
 - Caller ID Case Docket No. 91A-462T
 - General Rate Case Docket No. 90S-544T
 - Local Calling Area Case Docket No. 1766
 - General Rate Case Docket No. 1720
 - General Rate Case Docket No. 1700
 - General Rate Case Docket No. 1655

General Rate Case	Docket No. 1575
Measured Services Case	Docket No. 1620
- Independent Telephone Companies	
Cost Allocation Methods Case	Docket No. 89R-608T

DELAWARE

- Diamond State Telephone Company	
General Rate Case	PSC Docket No. 82-32
General Rate Case	PSC Docket No. 84-33
Report on Small Centrex	PSC Docket No. 85-32T
General Rate Case	PSC Docket No. 86-20
Centrex Cost Proceeding	PSC Docket No. 86-34

DISTRICT OF COLUMBIA

- C&P Telephone Company of D.C.	
Depreciation issues	Formal Case No. 926

FCC

- Review of jurisdictional separations	FCC Docket No. 96-45
- Developing a Unified Inter-carrier	
Compensation Regime	CC Docket No. 01-92

FLORIDA

- BellSouth, GTE, and Sprint	
Fair and reasonable rates	Undocketed Special Project

GEORGIA

- Southern Bell Telephone & Telegraph Co.	
General Rate Proceeding	Docket No. 3231-U
General Rate Proceeding	Docket No. 3465-U
General Rate Proceeding	Docket No. 3286-U
General Rate Proceeding	Docket No. 3393-U

HAWAII

- GTE Hawaiian Telephone Company	
Depreciation/separations issues	Docket No. 94-0298
Resale case	Docket No. 7702

ILLINOIS

- Commonwealth Edison Company	
General Rate Proceeding	Docket No. 80-0546
General Rate Proceeding	Docket No. 82-0026
Section 50	Docket No. 59008
Section 55	Docket No. 59064
Section 50	Docket No. 59314
Section 55	Docket No. 59704

- Central Illinois Public Service	
Section 55	Docket No. 58953
Section 55	Docket No. 58999
Section 55	Docket No. 59000
Exchange of Facilities (Illinois Power)	Docket No. 59497
General Rate Increase	Docket No. 59784
Section 55	Docket No. 59677
- South Beloit	
General Rate Case	Docket No. 59078
- Illinois Power	
Section 55	Docket No. 59281
Interconnection	Docket No. 59435
- Verizon North Inc. and Verizon South Inc.	Docket No. 02-0560
DSL Waiver Petition Proceeding	
- Geneseo Telephone Company	
EAS case	Docket No. 99-0412
- Central Telephone Company	
(Staunton merger)	Docket No. 78-0595
- General Telephone & Electronics Co.	
Usage sensitive service case	Docket Nos. 98-0200/98-0537
General rate case (on behalf of CUB)	Docket No. 93-0301
(Usage sensitive rates)	Docket No. 79-0141
(Data Service)	Docket No. 79-0310
(Certificate)	Docket No. 79-0499
(Certificate)	Docket No. 79-0500
- General Telephone Co.	Docket No. 80-0389
- SBC	
Imputation Requirement	Docket No. 04-0461
Implement UNE Law	Docket No. 03-0323
UNE Rate Case	Docket No. 02-0864
Alternative Regulation Review	Docket No. 98-0252
- Ameritech (Illinois Bell Telephone Company)	
Area code split case	Docket No. 94-0315
General Rate Case	Docket No. 83-0005
(Centrex filing)	Docket No. 84-0111
General Rate Proceeding	Docket No. 81-0478
(Call Lamp Indicator)	Docket No. 77-0755
(Com Key 1434)	Docket No. 77-0756
(Card dialers)	Docket No. 77-0757
(Concentration Identifier)	Docket No. 78-0005
(Voice of the People)	Docket No. 78-0028
(General rate increase)	Docket No. 78-0034
(Dimension)	Docket No. 78-0086
(Customer controlled Centrex)	Docket No. 78-0243
(TAS)	Docket No. 78-0031
(Ill. Consolidated Lease)	Docket No. 78-0473

(EAS Inquiry)	Docket No. 78-0531
(Dispute with GTE)	Docket No. 78-0576
(WUI vs. Continental Tel.)	Docket No. 79-0041
(Carle Clinic)	Docket No. 79-0132
(Private line rates)	Docket No. 79-0143
(Toll data)	Docket No. 79-0234
(Dataphone)	Docket No. 79-0237
(Com Key 718)	Docket No. 79-0365
(Complaint - switchboard)	Docket No. 79-0380
(Porta printer)	Docket No. 79-0381
(General rate case)	Docket No. 79-0438
(Certificate)	Docket No. 79-0501
(General rate case)	Docket No. 80-0010
(Other minor proceedings)	Docket No. various
- Home Telephone Company	Docket No. 80-0220
- Northwestern Telephone Company	
Local and EAS rates	Docket No. 79-0142
EAS	Docket No. 79-0519

INDIANA

- Indiana Michigan Power Company (I&M)	Cause No. 42959
- Public Service of Indiana (PSI)	
Depreciation issues	Cause No. 39584
- Indianapolis Power and Light Company	
Depreciation issues	Cause No. 39938

IOWA

- U S West Communications, Inc.	
Local Exchange Competition	Docket No. RMU-95-5
Local Network Interconnection	Docket No. RPU-95-10
General Rate Case	Docket No. RPU-95-11

KANSAS

- Atmos Energy Corporation	
General rate proceeding	Docket No. 08-ATMG-280-RTS
- Sunflower Electric Power Corporation	
Depreciation rate study	Docket No. 08-SEPE-257-DRS
- Southwestern Bell Telephone Company	
Commission Investigation of the KUSF	Docket No. 98-SWBT-677-GIT
- Rural Telephone Service Company	
Audit and General rate proceeding	Docket No. 00-RRLT-083-AUD
Request for supplemental KUSF	Docket No. 00-RRLT-518-KSF
- Southern Kansas Telephone Company	
Audit and General rate proceeding	Docket No. 01-SNKT-544-AUD
- Pioneer Telephone Company	
Audit and General rate proceeding	Docket No. 01-PNRT-929-AUD

-	Craw-Kan Telephone Cooperative, Inc. Audit and General rate proceeding	Docket No. 01-CRKT-713-AUD
-	Sunflower Telephone Company, Inc. Audit and General rate proceeding	Docket No. 01-SFLT-879-AUD
-	Bluestem Telephone Company, Inc. Audit and General rate proceeding	Docket No. 01-BSST-878-AUD
-	Home Telephone Company, Inc. Audit and General rate proceeding	Docket No. 02-HOMT-209-AUD
-	Wilson Telephone Company, Inc. Audit and General rate proceeding	Docket No. 02-WLST-210-AUD
-	S&T Telephone Cooperative Association, Inc. Audit and General rate proceeding	Docket No. 02-S&TT-390-AUD
-	Blue Valley Telephone Company, Inc. Audit and General rate proceeding	Docket No. 02-BLVT-377-AUD
-	JBN Telephone Company Audit and General rate proceeding	Docket No. 02-JBNT-846-AUD
-	S&A Telephone Company Audit and General rate proceeding	Docket No. 03-S&AT-160-AUD
-	Wheat State Telephone Company, Inc. Audit and General rate proceeding	Docket No. 03-WHST-503-AUD
-	Haviland Telephone Company, Inc. Audit and General rate proceeding	Docket No. 03-HVDT-664-RTS

MAINE

-	New England Telephone Company General rate proceeding	Docket No. 92-130
-	Verizon AFOR investigation	Docket No. 2005-155
-	Central Maine Power Company General rate proceeding	Docket No. 2007-125

MARYLAND

-	Washington Gas Light Company Depreciation rate proceeding	Case No. 9103
-	Baltimore Gas and Electric Company Depreciation rate proceeding	Case No. 9096
-	PEPCO General rate proceeding	Case No. 9092
-	Chesapeake and Potomac Telephone Company General rate proceeding	Docket No. 7851
	Cost Allocation Manual Case	Case No. 8333
	Cost Allocation Issues Case	Case No. 8462
-	Verizon Maryland PICC rate case	Case No. 8862
	USF case	Case No. 8745

- Washington Gas Light Company
Depreciation Rate Case Case No. 8960
- Chesapeake Utilities Corporation
General rate proceeding Case No. 9062

MINNESOTA

- Access charge (all companies) Docket No. P-321/CI-83-203
- U. S. West Communications, Inc. (Northwestern Bell Telephone Co.)
Centrex/Centron proceeding Docket No. P-421/91-EM-1002
General rate proceeding Docket No. P-321/M-80-306
Centrex Dockets MPUC No. P-421/M-83-466
MPUC No. P-421/M-84-24
MPUC No. P-421/M-84-25
MPUC No. P-421/M-84-26
MPUC No. P-421/GR-80-911
MPUC No. P-421/GR-82-203
MPUC No. P-421/GR-83-600
MPUC No. P-421/CI-84-454
MPUC No. P-421/CI-85-352
MPUC No. P-421/M-86-53
MPUC No. P-999/CI-85-582
Docket No. P-421/M-86-508
- AT&T
Intrastate Interexchange Docket No. P-442/M-87-54

MISSISSIPPI

- South Central Bell
General rate filing Docket No. U-4415

MISSOURI

- AmerenUE
Electric rate proceeding ER-2007-0002
- Southwestern Bell
General rate proceeding TR-79-213
General rate proceeding TR-80-256
General rate proceeding TR-82-199
General rate proceeding TR-86-84
General rate proceeding TC-89-14, et al.
Alternative Regulation TC-93-224/TO-93-192
- United Telephone Company
Depreciation proceeding TR-93-181
- All companies
Extended Area Service TO-86-8
EMS investigation TO-87-131
Cost of Access Proceeding TR-2001-65

NEW JERSEY

- New Jersey Bell Telephone Company
 - General rate proceeding Docket No. 802-135
 - General rate proceeding BPU No. 815-458
 - Phase I - General rate case OAL No. 3073-81
 - General rate case BPU No. 8211-1030
 - Division of regulated OAL No. PUC10506-82
 - from competitive services BPU No. 848-856
 - Customer Request Interrupt OAL No. PUC06250-84
 - OAL No. PUC06250-84
 - BPU No. TO87050398
 - OAL No. PUC 08557-87
 - Docket No. TT 90060604

NEW MEXICO

- U.S. West Communications, Inc.
 - E-911 proceeding Docket No. 92-79-TC
 - General rate proceeding Docket No. 92-227-TC
 - General rate/depreciation proceeding Case No. 3008
 - Subsidy Case Case No. 3325
 - USF Case Case No. 3223
- VALOR Communications
 - Subsidy Case Case No. 3300
 - Interconnection Arbitration Case No. 3495

OHIO

- Ohio Bell Telephone Company
 - General rate proceeding Docket No. 79-1184-TP-AIR
 - General rate increase Docket No. 81-1433-TP-AIR
 - General rate increase Docket No. 83-300-TP-AIR
 - Access charges Docket No. 83-464-TP-AIR
- General Telephone of Ohio
 - General rate proceeding Docket No. 81-383-TP-AIR
- United Telephone Company
 - General rate proceeding Docket No. 81-627-TP-AIR

OKLAHOMA

- Public Service of Oklahoma
 - Depreciation case Cause No. 96-0000214

PENNSYLVANIA

- GTE North, Inc.
 - Interconnection proceeding Docket No. A-310125F002
- Bell Telephone Company of Pennsylvania
 - Alternative Regulation proceeding Docket No. P-00930715
 - Automatic Savings Docket No. R-953409

	Rate Rebalance	Docket No. R-00963550
-	Enterprise Telephone Company General rate proceeding	Docket No. R-922317
-	All companies InterLATA Toll Service Invest.	Docket No. I-910010
	Joint Petition for Global Resolution of Telecommunications Proceedings	Docket Nos. P-00991649, P-00991648, M-00021596
-	GTE North and United Telephone Company Local Calling Area Case	Docket No. C-902815
-	Verizon Joint Application of Bell Atlantic and GTE for Approval of Agreement and Plan of Merger	Docket Nos. A-310200F0002, A-311350F0002, A-310222F0002, A-310291F0003
	Access Charge Complaint Proceeding	Docket No. C-200271905

SOUTH DAKOTA

-	Northwestern Bell Telephone Company General rate proceeding	Docket No. F-3375
---	--	-------------------

TENNESSEE

	(on behalf of Time Warner Communications)	
-	BellSouth Telephone Company Avoidable costs case	Docket No. 96-00067

UTAH

-	U.S. West Communications (Mountain Bell Telephone Company)	
	General rate case	Docket No. 84-049-01
	General rate case	Docket No. 88-049-07
	800 Services case	Docket No. 90-049-05
	General rate case/ incentive regulation	Docket No. 90-049-06/90- 049-03
	General rate case	Docket No. 92-049-07
	General rate case	Docket No. 95-049-05
	General rate case	Docket No. 97-049-08
	Qwest Price Flexibility-Residence	Docket No. 01-2383-01
	Qwest Price Flexibility-Business	Docket No. 02-049-82
	Qwest Price Flexibility-Residence	Docket No. 03-049-49
	Qwest Price Flexibility-Business	Docket No. 03-049-50
-	Carbon/Emery General rate case/USF eligibility	Docket No. 05-2302-01

VIRGIN ISLANDS, U.S.

-	Virgin Islands Telephone Company	
	General rate case	Docket No. 264
	General rate case	Docket No. 277
	General rate case	Docket No. 314

General rate case

Docket No. 316

VIRGINIA

- General Telephone Company of the South
Jurisdictional allocations
Separations

Case No. PUC870029
Case No. PUC950019

WASHINGTON

- US West Communications, Inc.
Interconnection case
General rate case
- All Companies-

Docket No. UT-960369
Docket No. UT-950200
Analyzed the local calling
areas in the State

WISCONSIN

- Wisconsin Bell Telephone Company
Private line rate proceeding
General rate proceeding

Docket No. 6720-TR-21
Docket No. 6720-TR-34