Exhibit No.:
Issue: *Depreciation*
Witness: *Guy C. Gilbert, PE, RG*
Sponsoring Party: *MoPSC Staff*
Type of Exhibit: *Rebuttal Testimony*
Case No.: *ER-2004-0570*
Date Testimony Prepared: *November 4, 2004*

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

REBUTTAL TESTIMONY

OF

GUY C. GILBERT, PE, RG

THE EMPIRE DISTRICT ELECTRICT COMPANY

CASE NO. ER-2004-0570

Jefferson City, Missouri
November 2004

****Denotes Highly Confidential Information****

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BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In The Matter of the Tariff Filing of The Empire District Electric Company to Implement a General Rate Increase for Retail Electric Service Provided to Customers in its Missouri Service Area.	)))))	Case No. ER-2004-0570

AFFIDAVIT OF GUY GILBERT

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Guy Gilbert, being of lawful age, on his oath states: that he has participated in the preparation of the following rebuttal testimony in question and answer form, consisting of 10 pages to be presented in the above case; that the answers in the following rebuttal testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.

Guy Gilbert

Subscribed and sworn to before me this 1st day of November 2004.

Notary

TONI M. CHARLTON
NOTARY PUBLIC STATE OF MISSOURI
COUNTY OF COLE
My Commission Expires December 28, 2004

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GUY C. GILBERT, PE, RG

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2004-0570

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GUY C. GILBERT, PE, RG

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2004-0570

Q. Please state your name and business address.

A. Guy C. Gilbert, P.O. Box 360, Jefferson City, Missouri, 65102.

Q. Please state the purpose of your testimony?

A. The purpose of my rebuttal testimony is to offer the Staff's position in response to the Company's filed direct testimony by Donald S. Roff of Deloitte & Touche LLP in this case, regarding salvage of plant accounts, The Empire District Electric Company (Empire or Company's) depreciation study and that study's recommendations.

Q. By whom are you employed and in what capacity?

A. I am employed by the Missouri Public Service Commission (PSC or Commission) as a Utility Regulatory Engineer II in the Engineering and Management Services Department.

Q. Please describe your work and educational background.

A. A copy of my work and educational experience is provided at the end of this testimony as Schedule 1.

Q. How is your testimony organized?

A. First, I will present Staff's response to the Company's proposal to adopt estimated lifespans for the production plant accounts. Second, I will discuss Staff's response to the Company's recommendation to set depreciation rates based on the Remaining Life (RL) procedure rather than the Average Life Group (ALG) procedure. Along with RL, I

will discuss the Company's request to implement a remaining life technique to correct the alleged theoretical reserve deficiency. Third, I will discuss a number of parameters used by the Company in its depreciation study regarding accrual of estimated net future salvage expense. These parameters include life span estimates, terminal net salvage and interim future salvage.

ESTIMATED LIFESPANS FOR PRODUCTION PLANT ACCOUNTS ISSUE

Q. Please describe Empire's proposal regarding the amortization of production plant accounts.

A. As described on pages 18 through 22 of Mr. Roff's direct testimony, Empire seeks to discontinue depreciation accrual for the depreciation reserve under the Average Service Life - Whole Life method of depreciation and instead adopt the Average Service Life - Remaining Life method of accrual. The annual effect of the change to the production plant depreciation amortization using Mr. Roff's recommended life and net salvage parameters is described in staff witness Greg Macias's direct testimony.

Q. What is Staff's position regarding the amortization of production plant as proposed by Empire?

A. Staff believes that the Company's proposed method of recovery for depreciation is nothing more than an amortization that seeks to recover now an estimated amount of future removal cost expenditures, over an estimated accrual period into the limited future.

Q. Why is the Company's proposed method of depreciation amortization inappropriate?

A. Empire's production plant amortization is inappropriate for two reasons. Staff believes that this method of plant amortization will result in a return of estimated capitalized investment in a period that is typically less than the used and useful life of the asset. This unfairly shifts costs from a later generation of ratepayers to the current generation of ratepayers.

Q. Please explain Staff's concern regarding intergenerational equity.

A. Intergenerational equity is a ratemaking doctrine suggesting that the costs of providing service to a utility's customer be assigned to the generational class of customers receiving the benefit of the utility's service.

Q. How does the Company's production plant amortization proposal defeat intergenerational equity?

A. The fixed assets should be depreciated over that asset's expected useful life.

Q. Why is it difficult to perform reliable analysis of the life of the production accounts by location?

A. As noted, the Company revised their accounting methods in 1996 to accrue to the reserve for depreciation by electric production plant location. While this disaggregation of production plant will at some future time provide better data for actuarial analysis, it does not facilitate near term analysis of those disaggregated plant accounts. There is insufficient data for actuarial analysis.

Q. Is it possible to conduct a depreciation study of the production plant accounts if the data were reaggregated?

A Yes. The currently ordered depreciation rates for the older production plant accounts are in fact a result of depreciation studies conducted before the data was disaggregated.

Q. Do you agree with the rationale underlying the Company's production plant amortization request?

A. No. The Company has subdivided the production plant accounts so as to contend that the only information to study regarding depreciation of the production plant accounts is that information derived from estimates and studies of study estimates as put forth by Mr. Roff.

REMAINING LIFE PROCEDURE ISSUE

Q. Do you have an opinion as to why a regulated utility, such as Empire, would recommend the Remaining Life over the Average Service Life Procedure?

A. It is my opinion that Empire's decision to utilize the Remaining Life procedure is based upon a desire to maximize depreciation expense received from current captive ratepayers. Under the current regulatory structure the Company seeks to maximize accruals to the reserve for depreciation at the expense of current ratepayers.

Other Concerns

Q. Did Empire conduct the submitted depreciation study in house?

A. No. It was conducted by Donald S. Roff, PE, of the consulting firm of Deloitte & Touche LLP (Deloitte).

Q. Are the proposed depreciation rates and subsequent reserve accruals greater than the currently ordered rates?

A. Yes. In Mr. Roff's study, the theoretical reserve used in the Remaining Life calculations is higher, because Remaining Life rates include an adjustment to an estimated under accrual in the theoretical reserve based on inflated reserve requirements caused by inaccurate estimates of salvage costs of removal and shorter lives.

Q. Please further explain your previous answer.

A. Mr. Roff estimates a shorter life of "used and useful" for the equipment and also estimated higher costs of removal. The result of such shorter lives drives the theoretical reserve for depreciation from an over accrual to an under accrual. He then recommends yet additional depreciation expense to make up for this estimated shortfall.

The Commission has historically determined that Average Life Group - Whole Life method of depreciation is appropriate for energy utilities.

DEPRECIATION PARAMETERS

Lifespan

Q. Please describe and discuss the lifespan parameters used in the calculation of the Company's recommended depreciation rates.

A. Mr. Roff has estimated retirement dates for production plant units as detailed in his direct testimony, ROFF SCHEDULE DSR-3, SCHEDULE 5. As Mr. Roff states in his depreciation study:

> For production plant the service life span of each generating unit was estimated based on unit retirement dates provided by Company planning personnel. The dates are used solely to establish a reasonable depreciation accounting period over which to allocate costs as required by depreciation accounting principles.

Q. Has the Company provided conflicting information with respect to the retirement of these production assets?

A. **_____

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Q. Has Mr. Roff previously provided this Commission a depreciation study with similar inconsistencies?

A. Yes, in Case No. ER-97-394, Mr. Roff presented the Commission with similar and numerous detailed inconsistencies.

Q. What are the results of Mr. Roff's estimated and shortened lifespan for the production plant accounts.

A. The shortening of plant life in conjunction with inaccurate estimations of future retirement costs result in a more than tripling of the annual accrual to the reserve for depreciation in production plant accounts.

Terminal Net Salvage

Q. Please describe and discuss the Company's use of terminal net salvage estimates in calculating its proposed depreciation rates.

A. As detailed in ROFF SCHEDULE DSR-3, SCHEDULE 2 of Mr. Roff's direct testimony, he maintains that there are two separate components of cost of removal and salvage for Production Plant: interim and terminal. Interim net salvage refers to the cost of removal net of salvage related to interim retirements. Terminal net salvage refers to the net demolition cost of a plant or unit at final retirement. Staff maintains that neither of these salvage costs should be included in the derivation of depreciation rates in that such costs are

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highly speculative and fail to comply with the Commission's standard regarding "known and measurable."

Q. Has the Commission previously addressed the issue of terminal net salvage?

A. Yes. In Case No. ER-90-101, Re: Missouri Public Service, 30 Mo.P.S.C. (N.S.) 320, 348 (October 5, 1990) the Commission stated:

> The Commission determines that the decommissioning costs of fossil fuel plants should not be included in depreciation rates. The Commission permits decommissioning costs for nuclear plants because there are federal requirements to do so since nuclear plant sites cannot be reused and require special care when retired due to radioactive contamination. There are no requirements for the establishment of a decommissioning fund for fossil fuel plants. As pointed out by Staff / Public Counsel, fossil fuel plant sites can be reused for new fossil plants. Since these plant sites can be rehabilitated, the Commission considers the normal cost of removal which is calculated as part of the depreciation rates to be sufficient for these purposes and finds it unnecessary to reflect terminal cost of removal in these rates.

Similarly, in Case No. EO-85-185, Re: Kansas City Power & Light Company, 28 Mo.P.S.C. (N.S.) 228, 394 (April 23, 1986), the Commission also addressed the issue of terminal net salvage. As stated in the Report and Order:

> The Commission determines that any decommissioning expenses associated with the future retirement of the Company's existing fossil plants are speculative. Since such costs are not known and measurable, the Commission finds that it is inappropriate to consider decommissioning costs for fossil units to determine net salvage value for the purpose of calculating depreciation rates.

Q. Is it your opinion that the same concerns expressed by the Commission in Case Nos. ER-90-101 and EO-85-185 regarding terminal net salvage still apply to the current proceeding?

A. Yes. Not only are the terminal net salvage costs associated with the retirement of fossil fuel plants highly speculative, the Staff's experience is that even the

simple retirement (removal from service) of such plants is itself speculative. The electric industry is characterized by fossil units which continue to operate well beyond the original design life. Currently, The Empire District Electric Company operates its Riverton units even though such units are approaching 75 years of operation. Similarly, the Grand Avenue plant purchased by Trigen from Kansas City Power & Light Company continues to operate and is of a similar vintage.

Q. In your opinion, why would electric utilities continue to operate fossil units after the end of its expected useful life?

A. The matter is an issue of simple economics. The utility would compare the cost of replacing such power with the cost of continuing to operate/maintain the older generating units. In most instances, the cost to replace the power associated with these units exceeds the costs of operating/maintaining these units. It is my opinion that this is also a function of the inherent value of permits/licenses required for construction and operation of electric generating plants.

Given the ever-increasing level of environmental regulations, it is becoming increasingly more expensive to site an electric generation plant. As such, permits/licenses associated with currently operating units are becoming increasingly more valuable. Given this increased value as well as the difficulty and expense associated with attempting to site a replacement unit, it is highly unlikely that an electric utility would ever retire and subsequently "greenfield" an existing generating unit. Instead, utilities will continue to maintain existing units either through preventive continuing maintenance or through entire plant rebuilds. In either case, the existing unit is not removed from service and greenfielded. Given these economics, it is highly speculative that Empire or any other electric utility will

experience terminal net salvage associated with the retirement of fossil fuel units for the foreseeable future.

Interim Retirements

Q. What other parameters used in the calculation of the Company's recommended depreciation rates would you care to describe and discuss?

A. The Company has conducted a salvage study that, in light of the current theoretical reserve over accrual, would greatly inflate the estimated cost of retirement for future additions and retirements.

Q. How has the Company's salvage study inflated their proposed depreciation rates?

A. The Company recommends reversal of the Commission's previous decision to expense salvage costs on a current basis and instead add to the revenue requirement a grossly inflated cost of removal based on relatively very small number of retirements.

Q. Would you provide an example of these small amounts of retirement data?

A. Yes. Schedule 2, attached to this testimony lists a comparison between the amounts of dollars by plant account as compared to all retirements in dollars for the life of account.

Q. Are there any other concerns regarding the Company's salvage study?

A. Given the Company's adoption of the first in first out (FIFO) method of retiring assets, there is a bias of associating older lower cost items with retirement costs.

Q. Please provide an example of your previous statement.

A. For example, assume a unit of property that was placed in service in 1950 at a cost of $1. In 2003 a unit of the same type of property was retired from service at a cost of

$2. The cost of removal would then be calculated at [$2/$1] x 100% = 200% cost of removal. However, in reality if we were to go back through the work order system we might find that this retired unit of property was actually placed in service in 2000 at a cost of $10. Now the cost of removal would be [$2/$10] x 100% = 20%.

Q. How does the inclusion of these heretofore unproven parameters used in the calculation of the Company's recommended depreciation rates effect the accrual to the depreciation reserve?

A. The inclusion of future salvage costs under the Remaining Life (RL) technique of depreciation inflate the amount of plant balance to be recovered annually, the computed depreciation rate and any underlying theoretical reserve imbalance.

Q. Has the theoretical reserve over accrual of $61 million been addressed in this case?

A. Yes, Mr. Macias has recommended in his direct testimony filed in this case, that no action be taken regarding the reserve over accrual of $61 million, but that Staff continue to monitor it.

Q. Does this conclude your prepared rebuttal testimony?

A. Yes, it does.

CASE PARTICIPATION

GUY C. GILBERT, PE, RG

Date Filed	Issue	Case Number	Exhibit	Case Name
3/28/1997	Depreciation of Plant	EC-97-362	Direct	UtiliCorp United Inc. d/b/a MO Public Service
3/28/1997	Depreciation of Plant	EO-97-144	Direct	UtiliCorp United Inc. d/b/a MO Public Service
9/16/1997	Depreciation of Plant	ER-97-394	Direct	Missouri Public Service, A Division of UtiliCorp United Inc.
9/30/1997	Sale of Plant	GM-97-435	Rebuttal	Missouri Public Service, A Division of UtiliCorp United Inc.
10/17/1997	Depreciation of Plant	ER-97-394	Rebuttal	UtiliCorp United Inc. d/b/a MO Public Service
11/21/1997	Amortization of accounts, Depreciation, Depreciation Recommendations	ER-97-394	Surrebuttal	UtiliCorp United Inc. d/b/a MO Public Service
5/15/1998	Depreciation	GA-98-227	Rebuttal	Ozark Natural Gas Company, Inc.
10/8/1998	Depreciation of Plant	EC-98-573	Direct	St. Joseph Light and Power Company
11/30/1998	Depreciation of Plant	WA-97-410	Rebuttal	George Hoesch
5/13/1999	Depreciation of Plant	ER-99-247	Direct	St. Joseph Light & Power Company
5/13/1999	Depreciation of Plant	EC-98-573	Direct	St. Joseph Light & Power Company
8/8/2000	Depreciation of Plant	GR-2000-512	Direct	Union Electric Company d/b/a AmerenUE

GUY C. GILBERT, PE, RG

PROFESSIONAL EXPERIENCE

Linn State Technical College
Chair, Civil / Construction Engineering Management Technology Department
Director, Material and Safety Institute
2000 - 2004

Department Chair and faculty instructor for courses in civil engineering technology, construction methods and techniques, surveying, engineering economics, materials, material testing, estimating, scheduling and project management.
Direct and manage activities of the Material and Safety Institute that provides resources and training for business and industry in the areas of quarry/materials acceptance certification as mandated by the Federal Highway Administration and OSHA/MSHA safety training.

State of Missouri, Public Service Commission
Utility Regulatory Engineer I 1994 -2000

Prepare depreciation studies, cost studies, valuations and engineering analysis of utility assets.
Conduct special projects in conjunction with the FCC and the FERC.

State of Illinois, Department of Energy and Natural Resources
Project Engineer 1991 - 1994

Managed Clean Coal Technology Demonstration projects; often in concert with U.S.DOE projects. Represented Illinois in over $1.1 billion of projects ranging from pre-combustion technologies to combustion and post combustion technologies. Performed cost benefit analysis of the environmental and economic impacts and procured benefits to the state.

CW3M Company, Inc.
Consulting Project Engineer 1993 –1994 (part time contract)

Conducted geotechnical evaluation of leaking underground storage tank sites. Designed equipment for containment and treatment of contaminated ground water.

Illinois Commerce Commission
Management Analyst 1988 – 1991

Managed consultant conducted comprehensive management audits of operational aspects of public utilities. Assessed least cost planning programs of public utilities and provided recommendations on risk assessment and cost estimating of various externalities. Have reviewed and provided recommendations to utilities within the management function areas of Operations, Operations Planning, Power Production (fossil and nuclear), Fuels Management (fossil and nuclear), Transmission and Distribution (electric and gas), Engineering and

Construction (electric, gas, and telephone), Gas Supply, Network Operations Planning, Network Operations and Information Services.
Freeman United Coal Mining Company (General Dynamics)
Assistant to the Superintendent 1982 - 1987

Produced annual mining plans and budget for 2+ million ton per year underground mining facility. Assessed geologic aspects of the mine environment to optimize safety and productivity. Prepared economic feasibility studies and justification for new and alternative capital expenditures. Developed and implemented microcomputer based on site operations information systems encompassing maintenance, materials, manpower, and costs. Administered UMWA-BCOA Labor Agreement: grievance procedures, attendance control and benefits programs. Special projects involving production methods, structures, ventilation, and materials engineering. Provided certification of operating compliance with Federal and State regulations as required.

Peabody Coal Company
Coal Miner, UMWA 1976-1980

EDUCATION:

Bachelor of Science Economics, University of Missouri-Rolla
Bachelor of Science Mining Engineering, University of Missouri-Rolla
Matriculating Master of Science Technical and Occupational Education, Central Missouri State University
National Science Foundation Research Grant participant (NSF GY 9841)

CERTIFICATIONS:

by United States Department of Labor

Noise Level Testing
Dust Sampling
Dust Sampling Equipment Calibration
Electricity Low/Medium/High Voltage, Expired
Dam and Refuse Impoundment Inspector
Dam and Refuse Impoundment Inspection Instructor
OSHA Safety Instructor (10 & 30 Hour)

by State of Missouri

Chairperson State Board of Geologist Registration, Slot: Geologist-Engineering
Registered Professional Engineer, No. EN 026908
Registered Professional Geologist, No. RG 0976
SAVE/SEMA Structural Inspector I
Vocational Teaching Certificate, No. 0238934
Department of Transportation, Trainer Certified Materials Technician Level 1

Department of Transportation, Trainer Certified Level 2 Aggregate
Department of Transportation, Trainer Certified Level 2 Soils
Department of Transportation, Trainer Certified Level 2 Concrete
Department of Transportation, Trainer Certified Profilograph

by State of Illinois

Mine Manager, No. 6634
Mine Examiner, No. 10324
Electrical Hoisting Engineer, No. 2427
Sewage Treatment Plant Operator, Class K
Industrial Wastewater Treatment Works Operator, Class K
State of Illinois Mine Rescue Team, Springfield Station, No. 2
Certified Benchman for Mine Rescue Equipment
Emergency Medical Technician-Ambulance, Expired

Continuing Education

Management Analyst Training
Basic Depreciation Concepts
Models Used In Life and Salvage Studies
Forecasting Life and Salvage
Advanced Topics in Analysis and Forecasting
Business and Technical Writing
Communicating Effectively
Auditing in Telecommunications
Introduction to EDP Auditing
Network Certification
Asbestos Training for Maintenance Employees, #40 CFR 763.92(a)(2)(I thru iv)
Red Cross First Aid Adult/AED/Child/Infant CPR Instructor
Redirecting Employee Performance
Basic Supervision
Humboldt Radiation Safety Training Class

THE EMPIRE DISTRICT ELECTRIC COMPANY
Depreciation Study as of December 31, 2003
Comparison of Balance and Retirement Amounts
Used in Cost of Removal Analysis

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Account Number	Description	12/31/2003 Balance $	Average Annual Retirements	Total Retirements	Annual % of Balance [4]÷[3]	% of Balance [5]÷[3]
	STEAM PRODUCTION PLANT					
	RIVERTON					
311.0	Structures and Improvements	8,467,460	48,520	582,242	0.57%	6.88%
312.0	Boiler Plant Equipment	21,399,386	191,676	2,491,790	0.90%	11.64%
314.0	Turbogenerator Units	6,514,048	154,379	1,852,546	2.37%	28.44%
315.0	Accessory Electric Equipment	1,299,877	34,168	307,513	2.63%	23.66%
316.0	Miscellaneous Power Plant Equipment	1,075,367	7,718	54,027	0.72%	5.02%
	Total Riverton	38,756,138				
	ASBURY					
311.0	Structures and Improvements	9,184,624	6,510	71,605	0.07%	0.78%
312.0	Boiler Plant Equipment	67,003,898	552,398	7,181,169	0.82%	10.72%
312.7	Unit Train	5,580,296	370,860	1,112,580	6.65%	19.94%
314.0	Turbogenerator Units	21,039,942	142,866	1,714,397	0.68%	8.15%
315.0	Accessory Electric Equipment	6,348,259	8,425	25,275	0.13%	0.40%
316.0	Miscellaneous Power Plant Equipment	1,596,097	4,104	36,937	0.26%	2.31%
	Total Asbury	110,753,116				
	IATAN					
311.0	Structures and Improvements	3,987,532	1,166	5,830	0.03%	0.15%
312.0	Boiler Plant Equipment	31,031,913	8,911	89,111	0.03%	0.29%
314.0	Turbogenerator Units	8,252,526	3,208	16,040	0.04%	0.19%
315.0	Accessory Electric Equipment	3,689,765	3,164	3,164	0.09%	0.09%
316.0	Miscellaneous Power Plant Equipment	862,575	1,623	8,113	0.19%	0.94%
	Total Iatan	47,824,311				
	Total Steam Production	197,333,565				
	HYDRAULIC PRODUCTION PLANT					
	OZARK BEACH					
331.0	Structures and Improvements	556,389	3,937	35,434	0.71%	6.37%
332.0	Reservoirs, Dams and Waterways	1,435,117	9,620	57,719	0.67%	4.02%
333.0	Waterwheels, Turbines and Generators	1,067,352	24,600	49,201	2.30%	4.61%
334.0	Accessory Electric Equipment	926,850	16,450	82,250	1.77%	8.87%
335.0	Miscellaneous Power Plant Equipment	325,076	4,887	34,209	1.50%	10.52%
	Total Hydraulic Production	4,310,784				
	OTHER PRODUCTION PLANT					
	RIVERTON CT					
341.0	Structures and Improvements	193,357	na	na	na	na
342.0	Fuel Holders, Producers and Access.	87,123	na	na	na	na
343.0	Prime Movers	10,147,180	52,294	104,588	0.52%	1.03%
344.0	Generators	926,850	na	na	na	na
345.0	Accessory Electric Equipment	315,835	na	na	na	na
346.0	Miscellaneous Power Plant Equipment	83,907	na	na	na	na
	Total Riverton CT	11,754,252				
	ENERGY CENTER CT					
341.0	Structures and Improvements	1,883,127	na	na	na	na
342.0	Fuel Holders, Producers and Access.	1,209,362	na	na	na	na
343.0	Prime Movers	25,638,096	489,173	2,445,864	1.91%	9.54%
344.0	Generators	4,160,383	na	na	na	na
345.0	Accessory Electric Equipment	339,416	na	na	na	na
346.0	Miscellaneous Power Plant Equipment	1,252,500	na	na	na	na
	Total Energy Center CT	34,482,884				
	ENERGY CENTER JET ENGINES					
341.0	Structures and Improvements	1,117,747	na	na	na	na
344.0	Generators	40,238,906	na	na	na	na
345.0	Accessory Electric Equipment	2,235,495	na	na	na	na
346.0	Miscellaneous Power Plant Equipment	12,295,221	na	na	na	na
	Total Energy Center Jet Engines	55,887,369	na	na	na	na
	STATE LINE CT					
341.0	Structures and Improvements	4,130,748	1,557,827	1,557,827	37.71%	37.71%
342.0	Fuel Holders, Producers and Access.	3,380,804	-1,701	-3,402	-0.05%	-0.10%
343.0	Prime Movers	42,664,185	17,779,189	17,779,189	41.67%	41.67%
344.0	Generators	11,268,284	2,812,720	2,812,720	24.96%	24.96%
345.0	Accessory Electric Equipment	3,710,093	981,276	981,276	26.45%	26.45%
346.0	Miscellaneous Power Plant Equipment	123,436	43,279	43,279	35.06%	35.06%
	Total State Line CT	65,277,550				

THE EMPIRE DISTRICT ELECTRIC COMPANY
Depreciation Study as of December 31, 2003
Comparison of Balance and Retirement Amounts
Used in Cost of Removal Analysis

[1] Account Number	[2] Description	[3] 12/31/2003 Balance $	[4] Average Annual Retirements	[5] Total Retirements	[6] Annual % of Balance [4]÷[3]	[7] % of Balance [5]÷[3]
	STATE LINE CC					
341.0	Structures and Improvements	7,159,115	na	na	na	na
342.0	Fuel Holders, Producers and Access.	7,824,293	na	na	na	na
343.0	Prime Movers	84,008,591	na	na	na	na
344.0	Generators	23,336,374	na	na	na	na
345.0	Accessory Electric Equipment	7,785,292	na	na	na	na
346.0	Miscellaneous Power Plant Equipment	51,796	na	na	na	na
	Total State Line CC	130,165,461				
	Total Other Production	297,567,516				
	TOTAL PRODUCTION PLANT	499,211,865				
	TRANSMISSION PLANT					
352.0	Structures and Improvements	2,335,614	30,340	242,717	1.30%	10.39%
353.0	Station Equipment	81,203,748	331,034	4,965,509	0.41%	6.11%
354.0	Towers and Fixtures	777,079	11,330	11,330	1.46%	1.46%
355.0	Poles and Fixtures	26,516,184	31,765	476,472	0.12%	1.80%
356.0	Overhead Conductors and Devices	50,765,895	81,908	1,228,625	0.16%	2.42%
	Total Transmission	161,598,520				
	DISTRIBUTION PLANT					
361.0	Structures and Improvements	9,001,252	17,452	261,786	0.19%	2.91%
362.0	Station Equipment	58,177,159	220,863	3,312,943	0.38%	5.69%
364.0	Poles, Towers and Fixtures	89,549,037	236,257	3,542,855	0.26%	3.96%
365.0	Overhead Conductors and Devices	102,680,118	139,311	2,089,670	0.14%	2.04%
366.0	Underground Conduit	15,763,255	25,320	379,797	0.16%	2.41%
367.0	Underground Conductors and Devices	33,337,405	135,001	2,025,007	0.40%	6.07%
368.0	Line Transformers	66,324,487	284,476	4,267,142	0.43%	6.43%
369.0	Services	45,193,254	35,183	527,743	0.08%	1.17%
370.0	Meters	15,118,298	120,099	1,801,481	0.79%	11.92%
371.0	I.O.C.P.	12,250,216	103,384	1,550,760	0.84%	12.66%
373.0	Street Lighting and Signal Systems	10,089,943	39,395	590,929	0.39%	5.86%
	Total Distribution	457,484,424				
	GENERAL PLANT					
390.0	Structures and Improvements	9,228,596	73,280	1,099,206	0.79%	11.91%
391.1	Office Furniture and Equipment	3,443,866	74,446	1,116,696	2.16%	32.43%
391.2	Computer Equipment	7,606,233	167,104	2,506,563	2.20%	32.95%
	Subtotal 391.0	11,050,099				
392.0	Transportation Equipment	6,284,687	247,014	3,705,203	3.93%	58.96%
393.0	Stores Equipment	343,778	1,736	24,302	0.50%	7.07%
394.0	Tools, Shop and Garage Equipment	2,871,995	6,064	90,963	0.21%	3.17%
395.0	Laboratory Equipment	886,388	2,047	30,735	0.23%	3.47%
396.0	Power Operated Equipment	9,359,418	284,332	426,980	3.04%	4.56%
397.0	Communication Equipment	10,761,984	112,010	1,680,145	1.04%	15.61%
398.0	Miscellaneous Equipment	229,184	4,631	64,836	2.02%	28.29%
	Total General	51,016,129				
	Total Depreciable Plant	1,169,310,938				
	Intangible Plant	7,622,196				
	Land	12,373,021				
	Total Electric Plant in Service	1,189,306,155				