Exhibit No.:	
Issues:	Depreciation
Witness:	Brian C. Andrews
Type of Exhibit:	Direct Testimony
Sponsoring Party:	Missouri Industrial Energy Consumers
Case No.:	ER-2019-0335
Date Testimony Prepared:	December 4, 2019

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service.	**Case No. ER-2019-0335**

Direct Testimony and Schedules of

Brian C. Andrews

On behalf of

Missouri Industrial Energy Consumers

December 4, 2019

BRUBAKER & ASSOCIATES, INC.

Project 10842

MIEC Exhibit No. 450
Date 3/4/20 Reporter JM
File No. ER-2019-0335

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STATE OF MISSOURI)
) SS
COUNTY OF ST. LOUIS)

Affidavit of Brian C. Andrews

Brian C. Andrews, being first duly sworn, on his oath states:

1. My name is Brian C. Andrews. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 16690 Swingley Ridge Road, Suite 140, Chesterfield, Missouri 63017. We have been retained by the Missouri Industrial Energy Consumers in this proceeding on their behalf.

2. Attached hereto and made a part hereof for all purposes are my direct testimony and schedules which were prepared in written form for introduction into evidence in Missouri Public Service Commission Case No. ER-2019-0335.

3. I hereby swear and affirm that the testimony and schedules are true and correct and that they show the matters and things that they purport to show.

Brian C. Andrews

Subscribed and sworn to before me this 4th day of December, 2019.

TAMMY S. KLOSSNER
Notary Public - Notary Seal
STATE OF MISSOURI
St. Charles County
My Commission Expires: Mar. 18, 2023
Commission # 15024862

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION
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BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service.	)))))	**Case No. ER-2019-0335**

Direct Testimony of Brian C. Andrews

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Brian C. Andrews. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

Q WHAT IS YOUR OCCUPATION?

A I am a Senior Consultant in the field of public utility regulation with the firm of Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory consultants.

Q PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A This information is included in Appendix A to this testimony.

Q DO YOU BELONG TO ANY PROFESSIONAL SOCIETIES?

A Yes. I am a member and the current President of the Society of Depreciation Professionals ("SDP").

Q PLEASE DESCRIBE THE SOCIETY OF DEPRECIATION PROFESSIONALS.

A SDP is a national society that was organized to recognize the professional field of depreciation analysis and individuals contributing to this field; to promote the professional development and professional ethics of those practitioners in the field of

depreciation; to collect and exchange information about depreciation and analysis; and to promote a national forum of programs and publications concerning depreciation. More information on SDP can be found on its website, www.depr.org.

Q DO YOU HOLD ANY CERTIFICATIONS AS A DEPRECIATION EXPERT?

A Yes. I have been awarded the designation of Certified Depreciation Professional ("CDP") by the SDP. This certification is based upon my education, experience, and successful completion of the CDP Exam.

Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

A This testimony is presented on behalf of the Missouri Industrial Energy Consumers ("MIEC"), a non-profit corporation that represents the interest of large customers in Missouri utility matters. These companies purchase substantial quantities of electricity from Ameren Missouri, and the outcome of this proceeding will have an impact on their cost of electricity.

Q HAVE YOU TESTIFIED BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION IN PRIOR PROCEEDINGS?

A Yes. I have previously testified before the Missouri Public Service Commission ("Commission" or "MPSC") regarding Ameren Missouri's net base fuel costs in Case No. ER-2014-0258. Also, I have provided expert witness testimony in 32 regulatory proceedings in 13 states. I have provided a list of these other proceedings in Schedule BCA-1.

INTRODUCTION AND SUMMARY

Q WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A My direct testimony will provide MIEC's proposed depreciation rates for Ameren Missouri's production plant accounts. I will show how reallocating existing production function book reserves among the production accounts to better align book reserves with the current life and net salvage parameters will reduce the production plant depreciation expense recovered through Ameren Missouri's base rates. Since I have not made any other changes, Ameren Missouri will still be able to recover all of its investment according to its proposed life and net salvage parameters.

Q HOW IS YOUR DIRECT TESTIMONY STRUCTURED?

A First, I will present an overview of book depreciation concepts. This includes a description of the purpose of book depreciation as well as a brief overview of how depreciation rates are determined in a depreciation study.

Next, I will present a discussion of the depreciation reserve analysis I have conducted that will better align Ameren Missouri's book reserves with the life and net salvage parameters that it is proposing in its depreciation study.

Last, I present proposed depreciation rates that I recommend the Commission approve in this proceeding.

Q PLEASE SUMMARIZE YOUR CONCLUSIONS AND RECOMMENDATIONS.

A The depreciation rates proposed by Ameren Missouri result in excessive depreciation expense to be paid by Ameren Missouri's customers. I have conducted a depreciation reserve analysis which demonstrates that there are significant imbalances in Ameren Missouri's reserve accounts, ranging from under-accruals of 285% to over-accruals of

131%. These reserve imbalances result in excessive depreciation rates and expense recoverable through Ameren Missouri's base rates. I have reallocated Ameren Missouri's book reserves such that future depreciation accruals will more accurately reflect current life and net salvage estimates of the production assets. The production plant depreciation rates that will accomplish this result are shown in Schedule BCA-7. These production plant depreciation rates will reduce Ameren Missouri's proposed 2018 depreciation expense by $23.7 million. Since Ameren Missouri proposed to increase depreciation expense by $34.6 million, my recommendation would still provide Ameren Missouri with an annual increase in depreciation expense of $10.9 million.

BOOK DEPRECIATION CONCEPTS

Q PLEASE EXPLAIN THE PURPOSE OF BOOK DEPRECIATION ACCOUNTING.

A Book depreciation is the recognition in a utility's income statement of the consumption or use of assets to provide utility service. Book depreciation is recorded as an expense and is included in the ratemaking formula to calculate the utility's overall revenue requirement.

The basic underlying principle of utility depreciation accounting is intergenerational equity, where the customers/ratepayers who benefit from the service of assets pay all the costs for those assets during the benefit period, which is over the life of those assets.[1] This concept of intergenerational equity can be achieved through depreciation by allocating costs to customers in a systematic and

[1]Edison Electric Institute, Introduction to Depreciation for Public Utilities and Other Industries, April 2013, page viii.

rational manner that is consistent with the period of time in which customers receive the service value.[2]

Book depreciation provides for the recovery of the original cost of the utility's assets that are currently providing service. Book depreciation expense is not intended to provide for replacement of the existing assets, but provides for capital recovery or return of existing investment. Generally, this capital recovery occurs over the average service life of the investment or assets. As a result, it is critical that appropriate average service lives be used to develop the depreciation rates so no generation of ratepayers is disadvantaged.

In addition to capital recovery, depreciation rates also reflect recovery of net salvage. Net salvage is simply the scrap or reuse value less the removal cost of the asset being depreciated. Accordingly, a utility will also recover the net salvage costs over the useful life of the asset.

Q ARE THERE ANY DEFINITIONS OF DEPRECIATION ACCOUNTING THAT ARE UTILIZED FOR RATEMAKING PURPOSES?

A Yes. One of the most quoted definitions of depreciation accounting is the one contained in the Code of Federal Regulations:

> "Depreciation, as applied to depreciable electric plant, means the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of electric plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance. Among the causes to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand and requirements of public authorities."[3]

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[2] *Id.* at 22.
[3] Code of Federal Regulations, Title 18, Chapter 1, Subchapter C, Part 101.

Effectively, depreciation accounting provides for the recovery of the original cost of an asset, adjusted for net salvage, over its useful life.

Q HOW DO DEPRECIATION RATES AFFECT A UTILITY'S REVENUE REQUIREMENT?

A Depreciation expense is typically one of the largest single line items in a utility's overall revenue requirement. When a utility updates its depreciation rates, it is effectively updating the amount of capital that is returned to it each year for investments that have been made to provide utility service. The depreciation rates are calculated in a depreciation study. The resulting depreciation rates are then applied to test year plant balances to determine the depreciation expense component of the utility revenue requirement.

Q HOW ARE DEPRECIATION RATES DETERMINED?

A Depreciation rates are determined in a depreciation study using a depreciation system. There are three components, each with a number of variations, used to determine a depreciation system, which is then used to estimate depreciation rates. The three basic components of a depreciation system are: (1) methods, (2) grouping procedures, and (3) techniques. The choice of a depreciation system can significantly affect the resulting depreciation rates, thus the revenue requirement.

The depreciation study results in depreciation rates that should recover all unrecovered plant investment and net salvage costs over the remaining lives of the accounts studied.

Q IN YOUR EXPERIENCE, WHAT DEPRECIATION SYSTEM IS MOST COMMONLY UTILIZED TO DETERMINE UTILITY DEPRECIATION RATES FOR RATEMAKING PURPOSES?

A The most common depreciation system is one that consists of the straight line method, the average life group procedure, and the remaining life technique. This is the same depreciation system used by Mr. Spanos to calculate Ameren Missouri's depreciation rates.[4]

DEPRECIATION RESERVE ANALYSIS

Q WHAT IS A DEPRECIATION RESERVE ANALYSIS?

A The purpose of a depreciation reserve analysis is to compare the actual balances of a company's accumulated depreciation accounts with a theoretical reserve. This comparison analysis allows for a measurement of what is termed a reserve imbalance. Depending on the resulting reserve imbalances calculated in the depreciation reserve analysis, it may be appropriate to take corrective action to alleviate certain reserve imbalances.

Q WHAT IS A THEORETICAL DEPRECIATION RESERVE?

A The theoretical depreciation reserve is a calculated balance that would be in the accumulated depreciation account at a point in time using the currently proposed retirement dates, survivor curves, and net salvage rates. The theoretical depreciation reserve is also known as the Reserve Requirement, Computed Reserve, or Calculated Accrued Depreciation ("CAD"). Ameren Missouri's main deprecation witness, John

[4]Spanos Direct Testimony at page 5, lines 12-18.

Spanos, refers to it as the CAD in his depreciation study. For each vintage of property, for each plant, and for each account, a theoretical reserve has been calculated by Mr. Spanos.[5]

Q HAVE YOU CONDUCTED A COMPARISON OF AMEREN MISSOURI'S BOOK RESERVES AND THEORETICAL DEPRECIATION RESERVES?

A Yes. I present in Schedule BCA-2, the depreciation reserve analysis conducted on Ameren Missouri's production plant accounts. I present a summary of this analysis in Table BCA-1.

Table BCA-1

Production Plant Depreciation Reserve Analysis Summary
($-Million)

Plant/Production Type	Theoretical Reserve	Book Reserve	Reserve Imbalance	Imbalance Percentage
Meramec	$ 536.38	$ 482.59	($ 53.79)	(10%)
Sioux	$ 558.38	$ 520.14	($ 38.24)	(7%)
Labadie	$ 569.77	$ 613.81	$ 44.04	7%
Rush Island	$ 307.62	$ 332.65	$ 25.02	8%
Common All Steam Plants	$ 17.38	$ 20.07	$ 2.69	15%
Total Steam Production	**$1,989.53**	**$1,969.26**	**($ 20.28)**	**(1%)**
Nuclear	**$1,516.65**	**$1,603.45**	**$ 86.80**	**6%**
Hydro	**$ 126.88**	**$ 101.32**	**($ 25.56)**	**(20%)**
Other	**$ 466.53**	**$ 673.11**	**$206.57**	**44%**
Total Production Plant	**$4,099.59**	**$4,347.13**	**$247.54**	**6%**

[5]Spanos Direct Testimony, Schedule JJS-D2, pages IX-2 through IX-152, column (3).

Q WHAT DO YOU CONCLUDE FROM YOUR DEPRECIATION RESERVE ANALYSIS?

A Several conclusions can be drawn from the depreciation reserve analysis. First, it is clear that relative to the theoretical reserve, the actual book reserves have been over-accrued by $247.5 million, or 6%. Both the Steam and Hydro groups are under-accrued, Nuclear is over-accrued and Other Production is significantly over-accrued. Note that both Meramec and Sioux are under-accrued and Labadie and Rush Island are over-accrued, while total Steam Production is only under-accrued by 1%.

In addition, this analysis shows that Ameren Missouri's investment in Other Production (mostly combustion turbines) is overstated by $207 million, or 44%. This is because FERC Account 344 is significantly over-accrued. The theoretical reserve for Account 344 is $380 million, but the actual reserve for this account is $562 million, which is $181 million, or 48%, greater than what is theoretically necessary for this account.

This analysis shows that it is appropriate to reallocate the actual book reserves.

Q WHY IS IT APPROPRIATE TO REBALANCE OR REALLOCATE AMEREN MISSOURI'S BOOK RESERVES?

A As the depreciation reserve analysis shows, overall production is over-accrued by nearly $250 million, or 6%, but some of the individual accounts or plants are either significantly over-accrued, or under-accrued. A rebalancing of the actual book reserves will better match Ameren Missouri's accumulated depreciation reserves with the current estimates of the life and net salvage parameters for these production assets.

Q WHAT PROCEDURE IS COMMONLY USED TO REALLOCATE BOOK RESERVES?

A The theoretical reserves are used to create ratios that allow for the book reserves to be allocated in proportion to the theoretical reserves. The first step is calculate an allocation factor based on the theoretical reserve. This allocation factor for each Plant/FERC Account is calculated by dividing the theoretical reserve for the individual Plant/FERC Account by the total of all theoretical reserves within each functional type (Steam, Nuclear, Hydro, or Other). Those ratios are then multiplied by the total actual book reserve within each functional type. The result is an allocation of book reserve that is proportional to the theoretical reserve. I will provide a more detailed description of this procedure later in testimony.

Q DOES REALLOCATING AMEREN MISSOURI'S BOOK RESERVES REDUCE THE TOTAL AMOUNT OF FUTURE ACCRUALS?

A No. Reallocation of Ameren Missouri's book reserves will not reduce the total amount of future depreciation accruals. Rather, the reallocation of book reserves alters the timing of those accruals such that those accruals better match the current life and net salvage estimates of Ameren Missouri's production assets. Reallocating book reserves is a very common procedure used when determining depreciation rates within a depreciation study.

MIEC'S PROPOSED DEPRECIATION ADJUSTMENTS

Q WHAT ARE MIEC'S PROPOSED ADJUSTMENTS TO AMEREN MISSOURI'S DEPRECIATION RATES?

A MIEC proposes to adjust Ameren Missouri's proposed depreciation rates by conducting a reallocation of book reserves, conducted in two phases.

Q WHAT IS THE FIRST PHASE OF THE RESERVE ALLOCATION ADJUSTMENT?

A In the first phase of the depreciation rate adjustment, the book reserves within each functional production type (Steam, Nuclear, Hydro, Other) have been reallocated to each of the Plant/FERC Accounts in proportion to each of those Plant/FERC Accounts' theoretical reserve. The phase one book reserve allocation is provided in Schedule BCA-3. As an example of how this book reserve allocation was conducted, I will discuss the process utilized to determine the amount of book reserves allocated to FERC Account 312 for the Meramec Plant. I also show this example in Table BCA-2.

Table BCA-2

Depreciation Reserve Allocation Methodology
Meramec FERC Account 312
($-Million)

Step	Description	Results (Location in Schedule BCA-3)
1	Meramec – Account 312 CAD divided by Total CAD – Steam Production	$355.9 / $1,989.5 = 17.9% (Col 2, Line 2 / Col 2, Line 43)
2	Meramec Account 312 CAD Allocator calculated in Step 1 applied to Book Reserve of all Steam Production Accounts	17.9% * $1,960.0 = $352.3 (Col 3, Line 2 * Col 4, Line 43)
3	Reallocated Meramec Account 312 Book Reserve	$352.3 (Col 4, Line 2)

As is shown in Column (2), Line (2) of Schedule BCA-3, Account 312 for Meramec has a theoretical reserve or Calculated Accrued Depreciation of $355,899,560. This value was calculated in Ameren Missouri's depreciation study and is shown on page IX-10 of Schedule JJS-D2. The CAD was used to create an allocator of 17.9%, which is shown in Column (3), Line (2). 17.9% was the result of dividing the $355.9 million of CAD for Meramec Account 312 by the total CAD for all of Steam Production, $1,989,533,183 shown in Column (2), Line (43). In Column (4), the allocated book reserve is shown. For Meramec Account 312, $352,272,473, or 17.9%, of the entire $1.969 billion of book reserve for all steam plants has been allocated. The resulting reserve imbalance is shown in Column (5) and the imbalance percentage is shown in Column (6). As can be seen from this schedule, each of the four coal plants now have positive reserve imbalances of only $3.1 - $5.8 million (1%). These resulting reserve imbalances are significantly lower, in absolute terms, than the $25.0 - $53.8 (7% - 10%) million reserve imbalances that would exist under Ameren Missouri's proposed allocation of book reserves (See Table BCA-1 and Schedule BCA-2).

The procedure described for Meramec Account 312, was conducted for every production plant FERC account. As can be seen in the total lines for each function plant type (Schedule BCA-3, page 1, lines 43 and 52; page 2, lines 83 and 94), the overall reserve imbalances that were presented in Table BCA-1 and Schedule BCA-2 are unchanged; this phase one reserve allocation did not move any book reserves between production plant types.

Q HAVE YOU CALCULATED DEPRECIATION RATES CONSISTENT WITH THE RESERVE ALLOCATION ADJUSTMENT THAT REALLOCATES THE RESERVES WITHIN EACH OF THE FOUR TYPES OF GENERATING PLANTS?

A Yes. I present these depreciation rates in Schedule BCA-4. These depreciation rates for Ameren Missouri's production plants were calculated in the same manner as those proposed by Ameren Missouri, but with the allocated book reserve presented in Schedules BCA-3.

Q HOW DOES THIS ADJUSTMENT AFFECT THE DEPRECIATION RATES AND 2018 DEPRECIATION EXPENSE?

A I present this comparison in Schedule BCA-5 and summarize it in Table BCA-3. Overall, the phase one reserve allocation adjustment would reduce Ameren Missouri's proposed 2018 depreciation expense by $12.4 million.

Table BCA-3

Production Plant 2018
Depreciation Expense Summary
($-Million)

Production Type	Ameren Missouri	MIEC – Phase One	Delta
Steam	$192.4	$181.0	($11.4)
Nuclear	$ 82.8	$ 81.7	($ 1.1)
Hydro	$ 12.8	$ 13.1	$ 0.2
Other	$ 22.5	$ 22.5	($ 0.1)
Total	**$310.5**	**$298.2**	**($12.4)**

Q PLEASE EXPLAIN THE PHASE TWO RESERVE ALLOCATION ADJUSTMENT.

A As I alluded to earlier in my discussion of the depreciation reserve analysis, Ameren Missouri has over-accrued its combustion turbine ("CT") investment in Account 344 by approximately $181 million, or 48%. Unless corrective action is taken now, this over-accrual will be flowed back to customers over the 29.4 year remaining life of the CTs.[6] Overall, Ameren Missouri has over-accrued its production plant investment by $247.5 million, or only 6%. The phase two adjustment will remove the $181 million in over-accrued book depreciation from Other Production and spread it to the under-accrued plant types, Steam and Hydro. Specifically, $181.3 million will be removed from Other Production. $35 million will be reallocated to the Hydro accounts and the remaining $146.3 million will be reallocated among the Steam Production accounts. The process used for allocating the new total functional book reserves is conducted using the exact same procedure as was used in phase one. This is shown in Schedule BCA-6. This phase two book reserve allocation results in Ameren Missouri's book reserves being allocated to all accounts in a manner much more reflective of the overall reserve imbalance. In other words, Ameren Missouri's total plant investment reserve is over-accrued by 6%. With the phase two book reserve reallocation, all accounts will be allocated the book reserves with an over-accrual between 5-7%. In contrast, under Ameren Missouri's allocation of book reserves, the accounts range from an under-accrual of 285% to an over-accrual of 131%.[7] I present a summary of the phase two book reserve reallocation in Table BCA-4.

[6]See Spanos Direct Testimony, Schedule JJS-D2, pages VI-6 and IX-81.
[7]See Schedule BCA-2, Column (5).

Table BCA-4

Phase Two Book Reserve Reallocation Summary
($-Million)

Plant/Production Type	Theoretical Reserve	Book Reserve	Reserve Imbalance	Imbalance Percentage
Meramec	$ 536.38	$ 570.35	$ 33.97	6%
Sioux	$ 558.38	$ 593.74	$ 35.36	6%
Labadie	$ 569.77	$ 605.85	$ 36.08	6%
Rush Island	$ 307.62	$ 327.11	$ 19.49	6%
Common All Steam Plants	$ 17.38	$ 18.48	$ 1.10	6%
Total Steam Production	**$1,989.53**	**$2,115.53**	**$126.00**	**6%**
Nuclear	**$1,516.65**	**$1,603.45**	**$ 86.80**	**6%**
Hydro	**$ 126.88**	**$ 136.32**	**$ 9.44**	**7%**
Other	**$ 466.53**	**$ 491.84**	**$ 25.31**	**5%**
Total Production Plant	**$4,099.59**	**$4,347.13**	**$247.54**	**6%**

Q HAVE YOU CALCULATED DEPRECIATION RATES CONSISTENT WITH REALLOCATING RESERVES AND REMOVING THE $181 MILLION OVER-ACCRUAL FROM ACCOUNT 344 AND ALLOCATING THAT AMOUNT TO STEAM AND HYDRO PRODUCTION?

A Yes. I present these depreciation rates in Schedule BCA-7. Again, these depreciation rates for Ameren Missouri's production plants were calculated in the same manner as those proposed by Ameren Missouri, but with the allocated book reserve presented in Schedule BCA-6.

Q HOW DOES THE PHASE TWO BOOK RESERVE ALLOCATION ADJUSTMENT AFFECT THE DEPRECIATION RATES AND 2018 DEPRECIATION EXPENSE?

A I present this comparison in Schedule BCA-8 and summarize it in Table BCA-5. Overall, the phase one and phase two reserve allocation adjustments would reduce the 2018 depreciation expense by $23.7 million.

Table BCA-5

Production Plant 2018 Depreciation Expense Summary – MIEC Phase Two ($-Million)

Production Type	Ameren Missouri	MIEC – Phase Two	Delta
Steam	$192.4	$164.3	($28.1)
Nuclear	$ 82.8	$ 81.7	($ 1.1)
Hydro	$ 12.8	$ 12.0	($ 0.9)
Other	$ 22.5	$ 28.9	$ 6.4
Total	**$310.5**	**$286.8**	**($23.7)**

Q WHICH PRODUCTION PLANT DEPRECIATION RATES ARE YOU REQUESTING THE COMMISSION APPROVE IN THE PROCEEDING?

A I recommend the Commission approve the production plant depreciation rates that are presented in Schedule BCA-7. These rates were calculated in the same manner as those proposed by Ameren Missouri, but with a reallocation of book reserves that better matches the current life and net salvage parameters for the production assets. These depreciation rates would result in a reduction to Ameren Missouri's 2018 depreciation expense of $23.7 million. Since Ameren Missouri proposes to increase rates by $34.6 million, my recommendation would still provide Ameren Missouri with an annual increase in depreciation expense of $10.9 million. These depreciation rates in no way

reduce the total amount of future depreciation accruals for Ameren Missouri's production plants, but rather alter the timing of the accruals to better reflect current life and net salvage estimates.

Q DOES THAT CONCLUDE YOUR DIRECT TESTIMONY?

A Yes, it does.

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Qualifications of Brian C. Andrews

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Brian C. Andrews. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

Q PLEASE STATE YOUR OCCUPATION.

A I am a Senior Consultant in the field of public utility regulation with the firm of Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory consultants.

Q PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EMPLOYMENT EXPERIENCE.

A I received a Bachelor of Science Degree in Electrical Engineering from the Washington University in St. Louis/University of Missouri - St. Louis Joint Engineering Program. I have also received a Master of Science Degree in Applied Economics from Georgia Southern University.

I have attended training seminars on multiple topics including class cost of service, depreciation, power risk analysis, production cost modeling, cost-estimation for transmission projects, transmission line routing, MISO load serving entity fundamentals and more.

I am a member and the current President of the Society of Depreciation Professionals. I have been awarded the designation of Certified Depreciation Professional ("CDP") by the Society of Depreciation Professionals. I am also a certified Engineer Intern in the State of Missouri.

As a Senior Consultant at BAI, and as a Consultant, Associate Consultant and Assistant Engineer before that, I have been involved with several regulated and competitive electric service issues. These have included book depreciation, fuel and purchased power cost, transmission planning, transmission line routing, resource planning including renewable portfolio standards compliance, electric price forecasting, class cost of service, power procurement, and rate design. This has involved use of power flow, production cost, cost of service, and various other analyses and models to address these issues, utilizing, but not limited to, various programs such as Strategist, RealTime, PSS/E, MatLab, R Studio, ArcGIS, Excel, and the United States Department of Energy/Bonneville Power Administration's Corona and Field Effects ("CAFÉ") Program. In addition, I have received extensive training on the PLEXOS Integrated Energy Model and the EnCompass Power Planning Software. I have provided testimony on many of these issues before the Public Service Commissions in Arizona, Arkansas, Florida, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, Montana, New Mexico, Oklahoma, and Texas.

BAI was formed in April 1995. BAI provides consulting services in the economic, technical, accounting, and financial aspects of public utility rates and in the acquisition of utility and energy services through RFPs and negotiations, in both regulated and unregulated markets. Our clients include large industrial and institutional customers, some utilities and, on occasion, state regulatory agencies. We also prepare special studies and reports, forecasts, surveys and siting studies, and present seminars on utility-related issues.

In general, we are engaged in energy and regulatory consulting, economic analysis and contract negotiation. In addition to our main office in St. Louis, the firm also has branch offices in Phoenix, Arizona and Corpus Christi, Texas.

Proceedings in Which
Brian C. Andrews Filed Testimony

Date Filed	State	Docket No.	Utility	Subjects	On Behalf Of
11/4/2019	TX	49523	LCRA TRANSMISSION SERVICES CORPORATION	Transmission Line Routing	Zorritos, LLC and Fronie Shelton
10/30/2019	IN	45253	DUKE ENERGY INDIANA, LLC	Depreciation Expense	Duke Industrial Group
10/17/2019	MI	U-20359	INDIANA MICHIGAN POWER COMPANY	Depreciation Expense	Association of Businesses Advocating Tariff Equity
8/21/2019	MI	U-20471	DTE ELECTRIC COMPANY	Resource Planning	Association of Businesses Advocating Tariff Equity
8/20/2019	IN	45235	INDIANA MICHIGAN POWER COMPANY	Depreciation Expense	The I&M Industrial Group
7/16/2019	AR	19-008-U	SOUTHWESTERN ELECTRIC POWER COMPANY	Depreciation Expense	The Office of the Arkansas Attorney General Leslie Rutledge
4/22/2019	OK	PUD 201800140	OKLAHOMA GAS AND ELECTRIC COMPANY	Depreciation Expense	Federal Executive Agencies
3/22/2019	TX	48625	SHARYLAND UTILITIES, L.P. AND LUBBOCK POWER AND LIGHT	Transmission Line Routing	Southwestern Public Service Company, BMWB Coalition, Kelly Mills, Stacey Mills and 246 Land LLC & Fox Dairy, LTD, James E. Laney, Gloyna's, Roque, Klatt, Delung, Ray, Tomsu, Browing, and Wuthrich
3/20/2019	TX	48629	CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC	Transmission Line Routing	CBH Farms, Ltd.
2/12/2019	MT	D2018.2.12	NORTHWESTERN ENERGY	Depreciation Expense	Federal Executive Agencies and Montana Large Customer Group
11/7/2018	MI	U-20162	DTE ELECTRIC COMPANY	Nuclear Surcharge; Rate Design	Association of Businesses Advocating Tariff Equity
6/11/2018	KS	18-WSEE-328-RTS	WESTAR ENERGY, INC. AND KANSAS GAS AND ELECTRIC COMPANY	Cost of Service; Rate Design	Kansas Industrial Consumers Group, Inc.
6/5/2018	IL	18-0463	AMEREN ILLINOIS COMPANY D/B/A AMEREN ILLINOIS	Depreciation Expense	Illinois Industrial Energy Consumers, Citizens Utility Board and Federal Executive Agencies
5/24/2018	IN	45029	INDIANAPOLIS POWER & LIGHT COMPANY	Depreciation Expense	IPL Industrial Group
5/2/2018	OK	PUD 201700496	OKLAHOMA GAS AND ELECTRIC COMPANY	Depreciation Expense	Federal Executive Agencies
1/19/2018	MN	E015/AI-17-568	MINNESOTA POWER	Resource Planning	Large Power Intervenors
11/7/2017	IN	44967	INDIANA MICHIGAN POWER COMPANY	Depreciation Expense	Indiana Michigan Industrial Group
10/12/2017	MI	U-18370	INDIANA MICHIGAN POWER COMPANY	Depreciation Expense	Association of Businesses Advocating Tariff Equity
8/15/2017	MI	U-18150	DTE ELECTRIC COMPANY	Depreciation Expense	Association of Businesses Advocating Tariff Equity

Proceedings in Which
Brian C. Andrews Filed Testimony

Date Filed	State	Docket No.	Utility	Subjects	On Behalf Of
6/2/2017	MI	U-18195	CONSUMERS ENERGY COMPANY / DTE ELECTRIC COMPANY	Depreciation Expense	Association of Businesses Advocating Tariff Equity
2/8/2017	TX	46234	AEP TEXAS NORTH COMPANY & ELECTRIC TRANSMISSION TEXAS, LLC	Transmission Line Routing	McAnelly Ranch, LP, Garrett Roddie, Leroy Keese and Robert F. Zesch
1/13/2017	FL	160186-EI / 160170-EI	GULF POWER COMPANY	Depreciation Expense	Federal Executive Agencies
12/21/2016	AZ	E-01345A-16-0036	ARIZONA PUBLIC SERVICE COMPANY	Depreciation Expense	Federal Executive Agencies
9/12/2016	TX	45866	LCRA TRANSMISSION SERVICES CORPORATION	Transmission Line Routing	Land and Home Owners of CR 175, Meritage Homes of Texas, LLC, Stewart Crossing Homeowner Association and Trails of Shady Oak Residential Community, Inc.
7/7/2016	FL	160021-EI	FLORIDA POWER & LIGHT COMPANY	Depreciation Expense	Federal Executive Agencies
3/21/2016	OK	PUD 201500273	OKLAHOMA GAS AND ELECTRIC COMPANY	Depreciation Expense	Federal Executive Agencies
1/29/2016	NM	15-00261-UT	PUBLIC SERVICE COMPANY OF NEW MEXICO	Depreciation Expense	New Mexico Industrial Energy Consumers
1/22/2016	IN	44688	NORTHERN INDIANA PUBLIC SERVICE COMPANY	Depreciation Expense	NIPSCO Industrial Group
12/7/2015	TX	44837	AEP TEXAS CENTRAL COMPANY	Transmission Line Routing	Coastal Prairie Alliance
10/27/2015	AR	98-349-C	C&L ELECTRIC COOPERATIVE CORPORATION	Interim Rates; Final Rate Agreement	Little Rock District, U.S. Army Corps of Engineers
7/9/2015	KS	15-WSEE-115-RTS	WESTAR ENERGY, INC. AND KANSAS GAS AND ELECTRIC COMPANY	Cost of Service; Rate Design	Kansas Industrial Consumers Group, Inc.; Occidental Chemical Corporation; CCPS Transportation, LLC; Spirit AeroSystems, Inc.; Coffeyville Resources Refining & Marketing, LLC; The Goodyear Tire & Rubber Company; Unified School District #259 and Kansas Association of School Boards
12/5/2014	MO	ER-2014-0258	UNION ELECTRIC COMPANY d/b/a AMEREN MISSOURI	Net Fuel Cost; Net Base Energy Cost	Missouri Industrial Energy Consumers

AMEREN MISSOURI
Case No. ER-2019-0335
MIEC Production Plant Depreciation Reserve Analysis

LINE NO.		ACCOUNT (1)	BOOK RESERVE (2)	CALCULATED ACCRUED DEPRECIATION (3)	RESERVE IMBALANCE (4)=(2)-(3)	IMBALANCE PERCENTAGE (5)=(4)÷(3)
		STEAM PRODUCTION PLANT				
		MERAMEC STEAM PRODUCTION PLANT				
(1)	311.00	STRUCTURES AND IMPROVEMENTS	38,429,334	40,627,955	(2,198,621)	-5.4%
(2)	312.00	BOILER PLANT EQUIPMENT	314,483,961	355,899,560	(41,415,599)	-11.6%
(3)	314.00	TURBOGENERATOR UNITS	65,939,703	68,780,219	(2,840,516)	-3.2%
(4)	315.00	ACCESSORY ELECTRIC EQUIPMENT	39,417,839	43,487,471	(4,069,582)	-9.4%
(5)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	3,902,321	7,039,528	(3,137,207)	-44.6%
(6)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE	221,470	235,971	(14,501)	-6.1%
(7)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE EQUIPMENT	177,236	197,090	(19,854)	-10.1%
(8)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	21,661	112,592	(90,931)	-80.8%
(9)		**TOTAL MERAMEC STEAM PRODUCTION PLANT**	482,593,575	536,380,386	(53,786,811)	-10.0%
		SIOUX STEAM PRODUCTION PLANT				
(10)	311.00	STRUCTURES AND IMPROVEMENTS	27,148,740	27,725,517	(576,777)	-2.1%
(11)	312.00	BOILER PLANT EQUIPMENT	383,351,769	396,961,127	(13,609,358)	-3.4%
(12)	314.00	TURBOGENERATOR UNITS	65,966,975	74,107,163	(8,120,188)	-11.0%
(13)	315.00	ACCESSORY ELECTRIC EQUIPMENT	40,291,485	53,857,521	(13,566,036)	-25.2%
(14)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	2,482,303	4,926,435	(2,444,132)	-49.6%
(15)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE	244,615	267,790	(23,175)	-8.7%
(16)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE EQUIPMENT	342,559	227,874	114,685	50.3%
(17)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	288,466	304,782	(16,316)	-5.4%
(18)		**TOTAL SIOUX STEAM PRODUCTION PLANT**	520,136,912	558,378,209	(38,241,297)	-6.8%
		LABADIE STEAM PRODUCTION PLANT				
(19)	311.00	STRUCTURES AND IMPROVEMENTS	42,259,673	38,295,246	3,964,427	10.4%
(20)	312.00	BOILER PLANT EQUIPMENT	354,096,680	337,317,011	16,779,669	5.0%
(21)	312.03	BOILER PLANT EQUIPMENT - ALUMINUM COAL CARS	54,520,806	34,914,913	19,605,893	56.2%
(22)	314.00	TURBOGENERATOR UNITS	107,784,102	105,583,848	2,200,254	2.1%
(23)	315.00	ACCESSORY ELECTRIC EQUIPMENT	49,590,782	46,243,024	3,347,758	7.2%
(24)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	4,782,936	6,402,241	(1,619,255)	-25.3%
(25)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE	239,393	257,298	(17,905)	-7.0%
(26)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	217,409	220,538	(3,129)	-1.4%
(27)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS	319,348	536,019	(216,671)	-40.4%
(28)		**TOTAL LABADIE STEAM PRODUCTION PLANT**	613,811,179	569,770,138	44,041,041	7.7%
		RUSH ISLAND STEAM PRODUCTION PLANT				
(29)	311.00	STRUCTURES AND IMPROVEMENTS	36,605,064	31,728,462	4,876,602	15.4%
(30)	312.00	BOILER PLANT EQUIPMENT	203,384,684	183,242,775	20,141,909	11.0%
(31)	314.00	TURBOGENERATOR UNITS	65,813,092	66,769,995	(956,903)	-1.4%
(32)	315.00	ACCESSORY ELECTRIC EQUIPMENT	23,877,111	21,279,245	2,597,866	12.2%
(33)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	2,235,645	3,886,334	(1,650,689)	-42.5%
(34)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE	258,921	275,814	(16,893)	-6.1%
(35)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE EQUIPMENT	272,333	189,403	82,930	43.8%
(36)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	202,279	252,577	(50,298)	-19.9%
(37)		**TOTAL RUSH ISLAND STEAM PRODUCTION PLANT**	332,649,129	307,624,605	25,024,524	8.1%
		COMMON- ALL STEAM PLANTS				
(38)	311.00	STRUCTURES AND IMPROVEMENTS	805,929	837,199	(31,270)	-3.7%
(39)	312.00	BOILER PLANT EQUIPMENT	17,936,242	15,187,209	2,749,033	18.1%
(40)	315.00	ACCESSORY ELECTRIC EQUIPMENT	1,318,122	1,348,568	(30,446)	-2.3%
(41)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	6,124	6,869	(745)	-10.8%
(42)		**TOTAL COMMON - ALL STEAM PLANTS**	20,066,417	17,379,845	2,686,572	15.5%
(43)		**TOTAL STEAM PRODUCTION PLANT**	1,969,257,212	1,989,533,183	(20,275,971)	-1.0%
		NUCLEAR PRODUCTION PLANT				
		CALLAWAY NUCLEAR PRODUCTION PLANT				
(44)	321.00	STRUCTURES AND IMPROVEMENTS	610,816,910	500,792,369	110,024,521	22.0%
(45)	322.00	REACTOR PLANT EQUIPMENT	554,452,543	563,669,096	(9,216,553)	-1.6%
(46)	323.00	TURBOGENERATOR UNITS	264,842,023	266,813,549	(1,971,526)	-0.7%
(47)	324.00	ACCESSORY ELECTRIC EQUIPMENT	141,537,331	122,691,253	18,846,078	15.4%
(48)	325.00	MISCELLANEOUS POWER PLANT EQUIPMENT	24,634,349	54,690,645	(30,056,296)	-55.0%
(49)	325.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE	3,059,115	3,230,020	(170,905)	-5.3%
(50)	325.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	2,018,762	2,172,874	(154,112)	-7.1%
(51)	325.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS	2,091,492	2,588,720	(497,228)	-19.2%
(52)		**TOTAL NUCLEAR PRODUCTION PLANT**	1,603,452,525	1,516,648,546	86,803,979	5.7%

AMEREN MISSOURI
Case No. ER-2019-0335
MIEC Production Plant Depreciation Reserve Analysis

LINE NO.		ACCOUNT (1)	BOOK RESERVE (2)	CALCULATED ACCRUED DEPRECIATION (3)	RESERVE IMBALANCE (4)=(2)-(3)	IMBALANCE PERCENTAGE (5)=(4)÷(3)
		HYDRAULIC PRODUCTION PLANT				
		OSAGE HYDRAULIC PRODUCTION PLANT				
(53)	331.00	STRUCTURES AND IMPROVEMENTS	1,232,595	2,473,536	(1,240,941)	-50.2%
(54)	332.00	RESERVOIRS, DAMS AND WATERWAYS	19,088,541	19,432,145	(345,604)	-1.8%
(55)	333.00	WATER WHEELS, TURBINES, AND GENERATORS	20,634,254	20,669,167	(34,913)	-0.2%
(56)	334.00	ACCESSORY ELECTRIC EQUIPMENT	6,011,729	6,459,071	(446,342)	-6.9%
(57)	335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	-234,831	672,580	(907,411)	-134.9%
(58)	335.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE	25,881	28,327	(2,446)	-8.6%
(59)	335.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	37,489	42,342	(4,853)	-11.5%
(60)	335.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	107,984	143,157	(35,173)	-24.6%
(61)	336.00	ROADS, RAILROADS AND BRIDGES	124,170	53,778	70,392	130.9%
(62)		**TOTAL OSAGE HYDRAULIC PRODUCTION PLANT**	**47,025,812**	**49,973,103**	**(2,947,291)**	**-5.9%**
		TAUM SAUK HYDRAULIC PRODUCTION PLANT				
(63)	331.00	STRUCTURES AND IMPROVEMENTS	4,330,384	3,516,256	814,128	23.2%
(64)	332.00	RESERVOIRS, DAMS AND WATERWAYS	-6,633,668	3,591,402	(10,225,070)	-284.7%
(65)	333.00	WATER WHEELS, TURBINES, AND GENERATORS	10,808,665	17,636,469	(6,827,804)	-38.7%
(66)	334.00	ACCESSORY ELECTRIC EQUIPMENT	1,741,961	2,202,617	(460,656)	-20.9%
(67)	335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	2,937	661,766	(658,829)	-99.6%
(68)	335.21	MISCELLANEOUS POWER PLANT EQUIPMENT-OFFICE FURNITURE	33,658	35,066	(1,408)	-4.0%
(69)	335.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	295,871	318,958	(23,087)	-7.2%
(70)	335.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	262,981	265,208	(2,227)	-0.8%
(71)	336.00	ROADS, RAILROADS AND BRIDGES	94,365	47,578	46,807	98.4%
(72)		**TOTAL TAUM SAUK HYDRAULIC PRODUCTION PLANT**	**10,937,114**	**28,275,320**	**(17,338,206)**	**-61.3%**
		KEOKUK HYDRAULIC PRODUCTION PLANT				
(73)	331.00	STRUCTURES AND IMPROVEMENTS	2,142,658	2,444,659	(302,001)	-12.4%
(74)	332.00	RESERVOIRS, DAMS AND WATERWAYS	7,831,984	7,486,361	345,623	4.6%
(75)	333.00	WATER WHEELS, TURBINES, AND GENERATORS	29,075,101	33,406,860	(4,331,759)	-13.0%
(76)	334.00	ACCESSORY ELECTRIC EQUIPMENT	3,501,249	4,036,794	(535,545)	-13.3%
(77)	335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	591,681	1,033,184	(441,503)	-42.7%
(78)	335.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE	45,964	48,215	(2,251)	-4.7%
(79)	335.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	53,915	58,755	(4,840)	-8.2%
(80)	335.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS	31,558	56,184	(24,626)	-43.8%
(81)	336.00	ROADS, RAILROADS AND BRIDGES	80,560	56,520	24,060	42.6%
(82)		**TOTAL KEOKUK HYDRAULIC PRODUCTION PLANT**	**43,354,690**	**48,627,532**	**(5,272,842)**	**-10.8%**
(83)		**TOTAL HYDRAULIC PRODUCTION PLANT**	**101,317,616**	**126,875,955**	**(25,558,339)**	**-20.1%**
		OTHER PRODUCTION PLANT				
(84)	341.00	STRUCTURES AND IMPROVEMENTS	19,039,271	16,608,028	2,431,243	14.6%
(85)	342.00	FUEL HOLDERS, PRODUCERS AND ACCESSORIES	18,170,505	14,404,559	3,765,946	26.1%
(86)	344.00	GENERATORS - OTHER CTS	561,600,934	380,331,328	181,269,606	47.7%
(87)	344.10	MARYLAND HEIGHTS LANDFILL CTG	4,185,509	2,834,540	1,350,969	47.7%
(88)	344.20	SOLAR	3,897,117	2,639,233	1,257,884	47.7%
(89)	345.00	ACCESSORY ELECTRIC EQUIPMENT	61,618,283	46,015,400	15,602,883	33.9%
(90)	346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	4,113,135	3,131,511	981,624	31.3%
(91)	346.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE	190,405	202,955	(12,550)	-6.2%
(92)	346.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	246,784	268,495	(21,701)	-8.1%
(93)	346.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS	45,183	97,895	(52,712)	-53.8%
(94)		**TOTAL OTHER PRODUCTION PLANT**	**673,107,136**	**466,533,944**	**206,573,192**	**44.3%**
(95)		**TOTAL PRODUCTION PLANT**	**4,347,134,483**	**4,099,591,628**	**247,542,851**	**6.0%**

AMEREN MISSOURI
Case No. ER-2019-0335
MIEC Phase 1 Book Reserve Allocation

LINE NO.		ACCOUNT (1)	CALCULATED ACCRUED DEPRECIATION (2)	CAD DERIVED ALLOCATOR (3)	ALLOCATED BOOK RESERVE (4)	RESERVE IMBALANCE (5)=(4)-(2)	IMBALANCE PERCENTAGE (6)=(5)÷(4)
		STEAM PRODUCTION PLANT					
		MERAMEC STEAM PRODUCTION PLANT					
(1)	311.00	STRUCTURES AND IMPROVEMENTS	40,627,955	2.0%	40,213,902	(414,053)	-1.0%
(2)	312.00	BOILER PLANT EQUIPMENT	355,899,560	17.9%	352,272,473	(3,627,087)	-1.0%
(3)	314.00	TURBOGENERATOR UNITS	88,780,219	4.5%	87,875,431	(904,788)	-1.0%
(4)	315.00	ACCESSORY ELECTRIC EQUIPMENT	43,487,471	2.2%	43,044,276	(443,195)	-1.0%
(5)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	7,039,528	0.4%	6,967,786	(71,742)	-1.0%
(6)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE	235,971	0.0%	233,566	(2,405)	-1.0%
(7)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE EQUIPMENT	197,090	0.0%	195,081	(2,009)	-1.0%
(8)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	112,592	0.0%	111,445	(1,147)	-1.0%
(9)		**TOTAL MERAMEC STEAM PRODUCTION PLANT**	**536,380,386**	**27.0%**	**530,913,961**	**(5,466,425)**	**-1.0%**
		SIOUX STEAM PRODUCTION PLANT					
(10)	311.00	STRUCTURES AND IMPROVEMENTS	27,725,517	1.4%	27,442,957	(282,560)	-1.0%
(11)	312.00	BOILER PLANT EQUIPMENT	396,961,127	20.0%	392,915,569	(4,045,558)	-1.0%
(12)	314.00	TURBOGENERATOR UNITS	74,107,163	3.7%	73,351,913	(755,250)	-1.0%
(13)	315.00	ACCESSORY ELECTRIC EQUIPMENT	53,857,521	2.7%	53,308,642	(548,879)	-1.0%
(14)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	4,926,435	0.2%	4,876,228	(50,207)	-1.0%
(15)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE	267,790	0.0%	265,061	(2,729)	-1.0%
(16)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE EQUIPMENT	227,874	0.0%	225,552	(2,322)	-1.0%
(17)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	304,782	0.0%	301,676	(3,106)	-1.0%
(18)		**TOTAL SIOUX STEAM PRODUCTION PLANT**	**558,378,209**	**28.1%**	**552,687,598**	**(5,690,611)**	**-1.0%**
		LABADIE STEAM PRODUCTION PLANT					
(19)	311.00	STRUCTURES AND IMPROVEMENTS	38,295,246	1.9%	37,904,967	(390,279)	-1.0%
(20)	312.00	BOILER PLANT EQUIPMENT	337,317,011	17.0%	333,879,305	(3,437,706)	-1.0%
(21)	312.03	BOILER PLANT EQUIPMENT - ALUMINUM COAL CARS	34,914,913	1.8%	34,559,084	(355,829)	-1.0%
(22)	314.00	TURBOGENERATOR UNITS	105,583,848	5.3%	104,507,809	(1,076,039)	-1.0%
(23)	315.00	ACCESSORY ELECTRIC EQUIPMENT	46,243,024	2.3%	45,771,747	(471,277)	-1.0%
(24)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	6,402,241	0.3%	6,336,994	(65,247)	-1.0%
(25)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE	257,298	0.0%	254,676	(2,622)	-1.0%
(26)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	220,538	0.0%	218,290	(2,248)	-1.0%
(27)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS	536,019	0.0%	530,556	(5,463)	-1.0%
(28)		**TOTAL LABADIE STEAM PRODUCTION PLANT**	**569,770,138**	**28.6%**	**563,963,428**	**(5,806,710)**	**-1.0%**
		RUSH ISLAND STEAM PRODUCTION PLANT					
(29)	311.00	STRUCTURES AND IMPROVEMENTS	31,728,462	1.6%	31,405,107	(323,355)	-1.0%
(30)	312.00	BOILER PLANT EQUIPMENT	183,242,775	9.2%	181,375,289	(1,867,486)	-1.0%
(31)	314.00	TURBOGENERATOR UNITS	66,769,995	3.4%	66,089,521	(680,474)	-1.0%
(32)	315.00	ACCESSORY ELECTRIC EQUIPMENT	21,279,245	1.1%	21,062,381	(216,864)	-1.0%
(33)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	3,886,334	0.2%	3,846,727	(39,607)	-1.0%
(34)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE	275,814	0.0%	273,003	(2,811)	-1.0%
(35)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE EQUIPMENT	189,403	0.0%	187,473	(1,930)	-1.0%
(36)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	252,577	0.0%	250,003	(2,574)	-1.0%
(37)		**TOTAL RUSH ISLAND STEAM PRODUCTION PLANT**	**307,624,605**	**15.5%**	**304,489,504**	**(3,135,101)**	**-1.0%**
		COMMON- ALL STEAM PLANTS					
(38)	311.00	STRUCTURES AND IMPROVEMENTS	837,199	0.0%	828,667	(8,532)	-1.0%
(39)	312.00	BOILER PLANT EQUIPMENT	15,187,209	0.8%	15,032,431	(154,778)	-1.0%
(40)	315.00	ACCESSORY ELECTRIC EQUIPMENT	1,348,568	0.1%	1,334,824	(13,744)	-1.0%
(41)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	6,869	0.0%	6,799	(70)	-1.0%
(42)		**TOTAL COMMON- ALL STEAM PLANTS**	**17,379,845**	**0.9%**	**17,202,721**	**(177,124)**	**-1.0%**
(43)		**TOTAL STEAM PRODUCTION PLANT**	**1,989,533,183**	**100.0%**	**1,969,257,212**	**(20,275,971)**	**-1.0%**
		NUCLEAR PRODUCTION PLANT					
		CALLA WAY NUCLEAR PRODUCTION PLANT					
(44)	321.00	STRUCTURES AND IMPROVEMENTS	500,792,389	33.0%	529,454,779	28,662,390	5.7%
(45)	322.00	REACTOR PLANT EQUIPMENT	563,669,096	37.2%	595,930,176	32,261,080	5.7%
(46)	323.00	TURBOGENERATOR UNITS	266,813,549	17.6%	282,084,376	15,270,827	5.7%
(47)	324.00	ACCESSORY ELECTRIC EQUIPMENT	122,691,253	8.1%	129,713,374	7,022,121	5.7%
(48)	325.00	MISCELLANEOUS POWER PLANT EQUIPMENT	54,690,645	3.6%	57,820,814	3,130,169	5.7%
(49)	325.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE	3,230,020	0.2%	3,414,887	184,867	5.7%
(50)	325.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	2,172,874	0.1%	2,297,236	124,362	5.7%
(51)	325.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS	2,588,720	0.2%	2,736,883	148,163	5.7%
(52)		**TOTAL NUCLEAR PRODUCTION PLANT**	**1,516,648,546**	**100.0%**	**1,603,452,525**	**86,803,979**	**5.7%**

AMEREN MISSOURI
Case No. ER-2019-0335
MIEC Phase 1 Book Reserve Allocation

LINE NO.		ACCOUNT (1)	CALCULATED ACCRUED DEPRECIATION (2)	CAD DERIVED ALLOCATOR (3)	ALLOCATED BOOK RESERVE (4)	RESERVE IMBALANCE (5)=(4)-(2)	IMBALANCE PERCENTAGE (6)=(5)÷(4)
		HYDRAULIC PRODUCTION PLANT					
		OSAGE HYDRAULIC PRODUCTION PLANT					
(53)	331.00	STRUCTURES AND IMPROVEMENTS	2,473,536	1.9%	1,975,258	(498,278)	-20.1%
(54)	332.00	RESERVOIRS, DAMS AND WATERWAYS	19,432,145	15.3%	15,517,665	(3,914,480)	-20.1%
(55)	333.00	WATER WHEELS, TURBINES, AND GENERATORS	20,669,167	16.3%	16,505,497	(4,163,670)	-20.1%
(56)	334.00	ACCESSORY ELECTRIC EQUIPMENT	6,458,071	5.1%	5,157,134	(1,300,937)	-20.1%
(57)	335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	672,580	0.5%	537,093	(135,487)	-20.1%
(58)	335.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE	28,327	0.0%	22,621	(5,706)	-20.1%
(59)	335.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	42,342	0.0%	33,812	(8,530)	-20.1%
(60)	335.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	143,157	0.1%	114,319	(28,838)	-20.1%
(61)	336.00	ROADS, RAILROADS AND BRIDGES	53,778	0.0%	42,945	(10,833)	-20.1%
(62)		**TOTAL OSAGE HYDRAULIC PRODUCTION PLANT**	49,973,103	39.4%	39,906,345	(10,066,758)	-20.1%
		TAUM SAUK HYDRAULIC PRODUCTION PLANT					
(63)	331.00	STRUCTURES AND IMPROVEMENTS	3,516,256	2.8%	2,807,929	(708,327)	-20.1%
(64)	332.00	RESERVOIRS, DAMS AND WATERWAYS	3,591,402	2.8%	2,867,937	(723,465)	-20.1%
(65)	333.00	WATER WHEELS, TURBINES, AND GENERATORS	17,636,469	13.9%	14,083,717	(3,552,752)	-20.1%
(66)	334.00	ACCESSORY ELECTRIC EQUIPMENT	2,202,617	1.7%	1,758,914	(443,703)	-20.1%
(67)	335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	661,766	0.5%	528,458	(133,308)	-20.1%
(68)	335.21	MISCELLANEOUS POWER PLANT EQUIPMENT-OFFICE FURNITURE	35,066	0.0%	28,002	(7,064)	-20.1%
(69)	335.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	318,958	0.3%	254,706	(64,252)	-20.1%
(70)	335.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	265,208	0.2%	211,784	(53,424)	-20.1%
(71)	336.00	ROADS, RAILROADS AND BRIDGES	47,578	0.0%	37,994	(9,584)	-20.1%
(72)		**TOTAL TAUM SAUK HYDRAULIC PRODUCTION PLANT**	28,275,320	22.3%	22,579,440	(5,695,880)	-20.1%
		KEOKUK HYDRAULIC PRODUCTION PLANT					
(73)	331.00	STRUCTURES AND IMPROVEMENTS	2,444,659	1.9%	1,952,198	(492,461)	-20.1%
(74)	332.00	RESERVOIRS, DAMS AND WATERWAYS	7,486,361	5.9%	5,978,282	(1,508,079)	-20.1%
(75)	333.00	WATER WHEELS, TURBINES, AND GENERATORS	33,406,860	26.3%	26,677,265	(6,729,595)	-20.1%
(76)	334.00	ACCESSORY ELECTRIC EQUIPMENT	4,036,794	3.2%	3,223,608	(813,186)	-20.1%
(77)	335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	1,033,184	0.8%	825,056	(208,128)	-20.1%
(78)	335.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE	48,215	0.0%	38,502	(9,713)	-20.1%
(79)	335.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	58,755	0.0%	46,919	(11,836)	-20.1%
(80)	335.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS	56,184	0.0%	44,866	(11,318)	-20.1%
(81)	336.00	ROADS, RAILROADS AND BRIDGES	56,520	0.0%	45,134	(11,386)	-20.1%
(82)		**TOTAL KEOKUK HYDRAULIC PRODUCTION PLANT**	48,627,532	38.3%	38,831,831	(9,795,701)	-20.1%
(83)		**TOTAL HYDRAULIC PRODUCTION PLANT**	126,875,955	100.0%	101,317,616	(25,558,339)	-20.1%
		OTHER PRODUCTION PLANT					
(84)	341.00	STRUCTURES AND IMPROVEMENTS	16,608,028	3.6%	23,961,777	7,353,749	44.3%
(85)	342.00	FUEL HOLDERS, PRODUCERS AND ACCESSORIES	14,404,559	3.1%	20,782,650	6,378,091	44.3%
(86)	344.00	GENERATORS - OTHER CTS	380,331,328	81.5%	548,735,487	168,404,159	44.3%
(87)	344.10	MARYLAND HEIGHTS LANDFILL CTG	2,834,540	0.6%	4,089,625	1,255,085	44.3%
(88)	344.20	SOLAR	2,639,233	0.6%	3,807,840	1,168,607	44.3%
(89)	345.00	ACCESSORY ELECTRIC EQUIPMENT	46,015,400	9.9%	66,390,226	20,374,826	44.3%
(90)	346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	3,131,511	0.7%	4,518,090	1,386,579	44.3%
(91)	346.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE	202,955	0.0%	292,820	89,865	44.3%
(92)	346.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	268,495	0.1%	387,380	118,885	44.3%
(93)	346.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS	97,695	0.0%	141,241	43,346	44.3%
(94)		**TOTAL OTHER PRODUCTION PLANT**	466,533,944	100.0%	673,107,136	206,573,192	44.3%
(95)		**TOTAL PRODUCTION PLANT**	4,099,591,628	100.0%	4,347,134,489	247,542,861	6.0%

AMEREN MISSOURI
Case No. ER-2019-0335
MIEC Phase One Depreciation Rates

LINE NO.		ACCOUNT (1)	PROBABLE RETIREMENT DATE (2)	SURVIVOR CURVE (3)	NET SALVAGE PERCENT (4)	ORIGINAL COST AS OF DECEMBER 31, 2018 (5)	ALLOCATED BOOK RESERVE (6)	FUTURE ACCRUALS (7)	CALCULATED ANNUAL ACCRUAL AMOUNT (8)	CALCULATED ANNUAL ACCRUAL RATE (9)=(8)/(5)	COMPOSITE REMAINING LIFE (10)
		STEAM PRODUCTION PLANT									
		MERAMEC STEAM PRODUCTION PLANT									
(1)	311.00	STRUCTURES AND IMPROVEMENTS	09-2022	90-R1.5	0	49,694,024	40,213,902	9,480,121	2,545,843	5.12	3.72
(2)	312.00	BOILER PLANT EQUIPMENT	09-2022	55-R0.5	(1)	449,450,037	352,272,473	101,672,064	27,623,876	6.15	3.68
(3)	314.00	TURBOGENERATOR UNITS	09-2022	60-S0.5	0	112,835,475	87,875,431	24,960,044	6,742,134	5.98	3.70
(4)	315.00	ACCESSORY ELECTRIC EQUIPMENT	09-2022	75-S0	0	57,843,695	43,044,276	14,799,419	3,981,821	6.88	3.72
(5)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	09-2022	40-L0	0	10,042,922	6,967,786	3,075,136	847,205	8.44	3.63
(6)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE		20-SQ	0	478,958	233,566	245,392	25,682	5.36	9.55
(7)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE EQUIPMENT		15-SQ	0	349,114	195,081	154,032	25,835	7.40	5.96
(8)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS		5-SQ	0	260,928	111,445	149,483	65,574	25.13	2.28
		TOTAL MERAMEC STEAM PRODUCTION PLANT				680,955,153	530,913,961	154,535,692	41,857,969	6.15	3.69
		SIOUX STEAM PRODUCTION PLANT									
(9)	311.00	STRUCTURES AND IMPROVEMENTS	09-2033	90-R1.5	(1)	57,644,417	27,442,957	30,777,904	2,136,242	3.71	14.41
(10)	312.00	BOILER PLANT EQUIPMENT	09-2033	55-R0.5	(3)	959,178,604	392,915,569	595,038,394	43,138,087	4.50	13.79
(11)	314.00	TURBOGENERATOR UNITS	09-2033	60-S0.5	(1)	164,593,128	73,351,913	92,887,146	6,592,038	4.01	14.09
(12)	315.00	ACCESSORY ELECTRIC EQUIPMENT	09-2033	75-S0	(1)	127,824,998	53,308,642	75,794,607	5,321,048	4.16	14.24
(13)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	09-2033	40-L0	0	13,764,462	4,876,228	8,888,234	687,188	4.99	12.93
(14)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE		20-SQ	0	1,153,502	265,061	888,441	59,444	5.15	14.95
(15)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE EQUIPMENT		15-SQ	0	404,152	225,552	178,600	16,085	3.98	11.10
(16)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS		5-SQ	0	505,484	301,676	203,808	84,241	16.67	2.42
(17)		**TOTAL SIOUX STEAM PRODUCTION PLANT**				1,325,068,747	552,687,596	804,657,133	58,034,373	4.38	13.87
		LABADIE STEAM PRODUCTION PLANT									
(18)	311.00	STRUCTURES AND IMPROVEMENTS	09-2042	90-R1.5	(2)	129,958,084	37,904,967	94,652,279	4,134,684	3.18	22.89
(19)	312.00	BOILER PLANT EQUIPMENT	09-2042	55-R0.5	(6)	1,019,643,582	333,879,305	746,942,892	35,527,761	3.48	21.02
(20)	312.03	BOILER PLANT EQUIPMENT - ALUMINUM COAL CARS		30-R2.5	25	78,356,568	34,559,084	24,208,342	1,761,074	2.25	13.75
(21)	314.00	TURBOGENERATOR UNITS	09-2042	60-S0.5	(2)	253,612,210	104,507,809	154,176,645	7,202,395	2.84	21.41
(22)	315.00	ACCESSORY ELECTRIC EQUIPMENT	09-2042	75-S0	(2)	117,531,789	45,771,747	74,110,679	3,349,197	2.85	22.13
(23)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	09-2042	40-L0	0	18,131,397	6,336,994	11,794,404	644,716	3.56	18.29
(24)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE		20-SQ	0	685,482	254,676	430,806	36,196	5.28	11.90
(25)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT		15-SQ	0	474,348	218,290	256,057	31,951	6.74	8.01
(26)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS		5-SQ	0	1,554,304	530,556	1,023,748	331,373	21.32	3.09
(27)		**TOTAL LABADIE STEAM PRODUCTION PLANT**				1,619,947,765	563,963,428	1,107,505,851	53,010,347	3.27	20.89
		RUSH ISLAND STEAM PRODUCTION PLANT									
(28)	311.00	STRUCTURES AND IMPROVEMENTS	09-2045	90-R1.5	(2)	97,508,417	31,405,197	68,053,478	2,661,463	2.73	25.57
(29)	312.00	BOILER PLANT EQUIPMENT	09-2045	55-R0.5	(7)	544,885,857	181,375,289	401,652,578	17,321,674	3.18	23.19
(30)	314.00	TURBOGENERATOR UNITS	09-2045	60-S0.5	(3)	168,172,021	66,089,521	107,127,661	4,532,507	2.70	23.64
(31)	315.00	ACCESSORY ELECTRIC EQUIPMENT	09-2045	75-S0	(2)	56,059,486	21,062,381	36,118,294	1,468,645	2.62	24.59
(32)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	09-2045	40-L0	0	14,402,183	3,846,727	10,555,456	517,758	3.59	20.39
(33)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE		20-SQ	0	548,415	273,003	275,411	29,375	5.36	9.38
(34)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE EQUIPMENT		15-SQ	0	471,772	187,473	284,300	25,743	5.46	11.04
(35)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS		5-SQ	0	1,305,162	250,003	1,055,159	265,553	20.35	3.97
(36)		**TOTAL RUSH ISLAND STEAM PRODUCTION PLANT**				883,353,313	304,489,504	625,122,337	26,822,718	3.04	23.31
		COMMON- ALL STEAM PLANTS									
(37)	311.00	STRUCTURES AND IMPROVEMENTS	09-2042	90-R1.5	(2)	1,978,445	828,667	1,187,307	52,074	2.63	22.80
(38)	312.00	BOILER PLANT EQUIPMENT	09-2042	55-R0.5	(6)	36,395,109	15,032,431	23,546,385	1,121,205	3.08	21.00
(39)	315.00	ACCESSORY ELECTRIC EQUIPMENT	09-2042	75-S0	(2)	3,129,975	1,334,824	1,857,750	84,517	2.70	21.98
(40)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	09-2042	40-L0	0	17,331	6,799	10,532	577	3.33	18.25
(41)		**TOTAL COMMON - ALL STEAM PLANTS**				41,518,860	17,202,721	26,601,973	1,258,373	3.03	21.14
(42)		**TOTAL STEAM PRODUCTION PLANT**				4,550,843,838	1,969,257,212	2,718,512,988	180,902,780	3.98	15.02

AMEREN MISSOURI
Case No. ER-2019-0335
MIEC Phase One Depreciation Rates

LINE NO.		ACCOUNT	PROBABLE RETIREMENT DATE	SURVIVOR CURVE	NET SALVAGE PERCENT	ORIGINAL COST AS OF DECEMBER 31, 2018	ALLOCATED BOOK RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)/(5)	(10)
		NUCLEAR PRODUCTION PLANT									
		CALLAWAY NUCLEAR PRODUCTION PLANT									
(43)	321.00	STRUCTURES AND IMPROVEMENTS	10-2044	90-R2	(1)	966,505,827	529,454,779	446,716,106	18,166,179	1.88	24.59
(44)	322.00	REACTOR PLANT EQUIPMENT	10-2044	50-S0.5	(6)	1,308,617,665	595,930,176	791,204,549	36,648,665	2.80	21.59
(45)	323.00	TURBOGENERATOR UNITS	10-2044	50-S1	(4)	547,183,008	282,084,376	286,985,953	13,719,360	2.51	20.92
(46)	324.00	ACCESSORY ELECTRIC EQUIPMENT	10-2044	75-R2	(1)	276,478,610	129,713,374	149,530,022	6,155,006	2.23	24.29
(47)	325.00	MISCELLANEOUS POWER PLANT EQUIPMENT	10-2044	35-L0.5	0	145,202,535	57,820,814	87,381,722	4,951,664	3.41	17.65
(48)	325.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE		20-SQ	0	7,784,414	3,414,887	4,369,527	385,873	4.96	11.32
(49)	325.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT		15-SQ	0	4,374,774	2,297,236	2,077,538	292,621	6.69	7.10
(50)	325.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS		5-SQ	0	6,755,517	2,736,883	4,018,634	1,335,561	19.77	3.01
(51)		TOTAL NUCLEAR PRODUCTION PLANT				3,262,902,351	1,603,452,525	1,772,284,051	81,654,929	2.50	21.70
(52)		HYDRAULIC PRODUCTION PLANT									
		OSAGE HYDRAULIC PRODUCTION PLANT									
(53)	331.00	STRUCTURES AND IMPROVEMENTS	06-2047	125-R1	(2)	8,949,981	1,975,258	7,153,722	262,565	2.93	27.25
(54)	332.00	RESERVOIRS, DAMS AND WATERWAYS	06-2047	150-R2.5	(1)	86,430,152	15,517,665	71,776,789	2,546,230	2.95	28.19
(55)	333.00	WATER WHEELS, TURBINES, AND GENERATORS	06-2047	95-S0	(8)	63,276,661	16,505,497	51,833,296	1,922,514	3.04	26.96
(56)	334.00	ACCESSORY ELECTRIC EQUIPMENT	06-2047	65-R1	(1)	30,561,496	5,157,134	25,709,976	986,585	3.23	26.06
(57)	335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2047	50-R0.5	0	2,910,936	537,093	2,373,842	98,907	3.40	24.00
(58)	335.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE		20-SQ	0	82,651	22,621	60,030	4,574	5.53	13.12
(59)	335.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT		15-SQ	0	97,613	33,812	63,801	7,645	7.83	8.35
(60)	335.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS		5-SQ	0	865,748	114,319	751,430	184,648	21.33	4.07
(61)	336.00	ROADS, RAILROADS AND BRIDGES	06-2047	50-R0.5	0	77,445	42,945	34,500	0	-	-
(62)		TOTAL OSAGE HYDRAULIC PRODUCTION PLANT				193,252,683	39,906,345	159,757,387	6,013,668	3.11	26.57
		TAUM SAUK HYDRAULIC PRODUCTION PLANT									
(63)	331.00	STRUCTURES AND IMPROVEMENTS	06-2089	125-R1	(5)	22,210,082	2,807,929	20,512,658	326,113	1.47	62.90
(64)	332.00	RESERVOIRS, DAMS AND WATERWAYS	06-2089	150-R2.5	(3)	10,271,817	2,867,937	7,712,034	119,056	1.16	64.78
(65)	333.00	WATER WHEELS, TURBINES, AND GENERATORS	06-2089	95-S0	(26)	73,722,396	14,063,717	78,806,502	1,380,128	1.87	57.10
(66)	334.00	ACCESSORY ELECTRIC EQUIPMENT	06-2089	65-R1	(3)	13,146,539	1,758,914	11,782,021	239,516	1.82	49.19
(67)	335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2089	50-R0.5	0	4,763,369	528,458	4,234,911	102,911	2.16	41.15
(68)	335.21	MISCELLANEOUS POWER PLANT EQUIPMENT-OFFICE FURNITURE		20-SQ	0	139,273	28,002	111,271	7,499	5.38	14.84
(69)	335.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT		15-SQ	0	605,689	254,706	350,983	49,954	8.25	7.03
(70)	335.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS		5-SQ	0	330,425	211,784	118,642	69,599	21.06	1.70
(71)	336.00	ROADS, RAILROADS AND BRIDGES	06-2089	50-R0.5	0	232,752	37,994	194,758	4,552	1.96	42.79
(72)		TOTAL TAUM SAUK HYDRAULIC PRODUCTION PLANT				125,422,342	22,579,440	123,823,779	2,299,330	1.83	53.85
		KEOKUK HYDRAULIC PRODUCTION PLANT									
(73)	331.00	STRUCTURES AND IMPROVEMENTS	06-2055	125-R1	(3)	8,808,412	1,952,198	7,120,467	206,777	2.35	34.44
(74)	332.00	RESERVOIRS, DAMS AND WATERWAYS	06-2055	150-R2.5	(1)	18,410,282	5,978,282	12,616,103	354,642	1.93	35.57
(75)	333.00	WATER WHEELS, TURBINES, AND GENERATORS	06-2055	95-S0	(10)	132,187,416	26,877,285	118,728,894	3,501,753	2.65	33.91
(76)	334.00	ACCESSORY ELECTRIC EQUIPMENT	06-2055	65-R1	(1)	19,861,916	3,223,908	16,836,927	529,211	2.66	31.82
(77)	335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2055	50-R0.5	0	4,327,860	825,056	3,502,804	123,175	2.85	28.44
(78)	335.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE		20-SQ	0	77,136	38,502	38,634	5,205	6.75	7.42
(79)	335.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT		15-SQ	0	121,176	46,919	74,257	9,803	8.09	7.58
(80)	335.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS		5-SQ	0	86,657	44,866	41,791	24,838	28.66	1.68
(81)	336.00	ROADS, RAILROADS AND BRIDGES	06-2055	50-R0.5	0	114,926	45,134	69,792	2,644	2.30	26.40
(82)		TOTAL KEOKUK HYDRAULIC PRODUCTION PLANT				183,995,782	38,831,831	159,020,667	4,758,048	2.59	33.42
(83)		TOTAL HYDRAULIC PRODUCTION PLANT				502,670,806	101,317,616	442,610,833	13,071,046	2.60	33.86

AMEREN MISSOURI
Case No. ER-2019-0335
MIEC Phase One Depreciation Rates

LINE NO.		ACCOUNT	PROBABLE RETIREMENT DATE	SURVIVOR CURVE	NET SALVAGE PERCENT	ORIGINAL COST AS OF DECEMBER 31, 2018	ALLOCATED BOOK RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)/(5)	(10)
		OTHER PRODUCTION PLANT									
(84)	341.00	STRUCTURES AND IMPROVEMENTS		40-R3	(5)	49,364,453	23,961,777	27,870,899	1,010,336	2.05	27.59
(85)	342.00	FUEL HOLDERS, PRODUCERS AND ACCESSORIES		45-R3	(5)	48,668,825	20,782,650	30,319,617	920,783	1.89	32.93
(86)	344.00	GENERATORS - OTHER CTS		45-R4	(5)	1,000,351,750	548,735,487	501,633,850	17,035,826	1.70	29.45
(87)	344.10	MARYLAND HEIGHTS LANDFILL CTG		8-S2.5	40	8,417,406	4,089,625	980,819	173,747	2.06	5.53
(88)	344.20	SOLAR		20-S2.5	0	10,680,919	3,807,840	6,873,079	453,557	4.25	15.15
(89)	345.00	ACCESSORY ELECTRIC EQUIPMENT		40-R2.5	(5)	130,267,614	66,390,226	70,390,978	2,589,269	1.99	27.18
(90)	346.00	MISCELLANEOUS POWER PLANT EQUIPMENT		22-L2.5	0	7,864,056	4,518,090	3,345,966	231,509	2.94	14.45
(91)	346.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE		20-SQ	0	278,700	292,820	(14,120)	(2,760)	(0.99)	5.12
(92)	346.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT		15-SQ	0	464,779	387,380	77,399	13,137	2.83	5.89
(93)	346.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS		5-SQ	0	198,558	141,241	57,317	24,205	12.19	2.37
(94)		**TOTAL OTHER PRODUCTION PLANT**				1,256,557,262	673,107,136	641,515,805	22,450,610	1.79	28.57
(95)		**TOTAL PRODUCTION PLANT**				9,572,974,258	4,347,134,489	5,574,023,677	298,169,365	3.11	18.70

AMEREN MISSOURI
Case No. ER-2019-0335
Comparison of MIEC Phase One and Ameren Missouri Depreciation Rates and Accruals

LINE NO.		ACCOUNT	MIEC PHASE ONE ANNUAL ACCRUAL AMOUNT	MIEC PHASE ONE ANNUAL ACCRUAL RATE	AMEREN PROPOSED ANNUAL ACCRUAL AMOUNT	AMEREN PROPOSED ANNUAL ACCRUAL RATE	DELTA ANNUAL ACCRUAL AMOUNT	DELTA ANNUAL ACCRUAL RATE
		STEAM PRODUCTION PLANT						
		MERAMEC STEAM PRODUCTION PLANT						
(1)	311.00	STRUCTURES AND IMPROVEMENTS	2,545,843	5.12	3,025,081	6.09	(479,238)	(0.97)
(2)	312.00	BOILER PLANT EQUIPMENT	27,623,876	6.15	37,890,857	8.43	(10,266,981)	(2.28)
(3)	314.00	TURBOGENERATOR UNITS	6,742,134	5.98	7,265,007	6.44	(522,873)	(0.46)
(4)	315.00	ACCESSORY ELECTRIC EQUIPMENT	3,981,821	6.83	4,957,509	8.57	(975,688)	(1.69)
(5)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	847,205	8.44	1,691,746	16.85	(844,541)	(8.41)
(6)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE	25,682	5.36	26,948	5.63	(1,266)	(0.27)
(7)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE EQUIPMENT	25,835	7.40	28,828	8.26	(2,993)	(0.86)
(8)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	65,574	25.13	104,959	40.23	(39,385)	(15.10)
(9)		**TOTAL MERAMEC STEAM PRODUCTION PLANT**	**41,857,969**		**54,990,935**		**(13,132,966)**	
		SIOUX STEAM PRODUCTION PLANT						
(10)	311.00	STRUCTURES AND IMPROVEMENTS	2,136,242	3.71	2,156,663	3.74	(20,421)	(0.03)
(11)	312.00	BOILER PLANT EQUIPMENT	43,138,087	4.50	43,831,427	4.57	(693,340)	(0.07)
(12)	314.00	TURBOGENERATOR UNITS	6,592,038	4.01	7,114,715	4.32	(522,677)	(0.31)
(13)	315.00	ACCESSORY ELECTRIC EQUIPMENT	5,321,048	4.15	6,234,898	4.88	(913,850)	(0.72)
(14)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	687,188	4.99	872,273	6.34	(185,085)	(1.35)
(15)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE	59,444	5.15	60,812	5.27	(1,368)	(0.12)
(16)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE EQUIPMENT	16,085	3.93	5,547	1.37	10,538	2.61
(17)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	84,241	16.67	89,718	17.75	(5,477)	(1.08)
(18)		**TOTAL SIOUX STEAM PRODUCTION PLANT**	**58,034,373**		**60,366,053**		**(2,331,680)**	
		LABADIE STEAM PRODUCTION PLANT						
(19)	311.00	STRUCTURES AND IMPROVEMENTS	4,134,684	3.18	3,944,458	3.04	190,226	0.14
(20)	312.00	BOILER PLANT EQUIPMENT	35,527,761	3.48	34,566,137	3.39	961,624	0.09
(21)	312.03	BOILER PLANT EQUIPMENT - ALUMINUM COAL CARS	1,761,074	2.25	308,927	0.39	1,452,147	1.86
(22)	314.00	TURBOGENERATOR UNITS	7,202,395	2.84	7,049,342	2.78	153,053	0.06
(23)	315.00	ACCESSORY ELECTRIC EQUIPMENT	3,349,197	2.85	3,176,608	2.70	172,589	0.15
(24)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	644,716	3.56	729,663	4.02	(84,947)	(0.46)
(25)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE	36,196	5.28	37,480	5.47	(1,284)	(0.19)
(26)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	31,951	6.74	32,061	6.76	(110)	(0.02)
(27)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS	331,373	21.32	399,738	25.72	(68,365)	(4.40)
(28)		**TOTAL LABADIE STEAM PRODUCTION PLANT**	**53,019,347**		**50,244,414**		**2,774,933**	
		RUSH ISLAND STEAM PRODUCTION PLANT						
(29)	311.00	STRUCTURES AND IMPROVEMENTS	2,661,463	2.73	2,458,101	2.52	203,362	0.21
(30)	312.00	BOILER PLANT EQUIPMENT	17,321,674	3.18	16,372,497	3.00	949,177	0.18
(31)	314.00	TURBOGENERATOR UNITS	4,532,507	2.70	4,544,203	2.70	(11,696)	(0.00)
(32)	315.00	ACCESSORY ELECTRIC EQUIPMENT	1,468,645	2.62	1,354,192	2.42	114,453	0.20
(33)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	517,758	3.59	596,783	4.14	(79,025)	(0.55)
(34)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE	29,375	5.35	30,877	5.63	(1,502)	(0.27)
(35)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE EQUIPMENT	25,743	5.46	18,059	3.83	7,684	1.63
(36)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	265,553	20.35	277,564	21.27	(12,011)	(0.92)
(37)		**TOTAL RUSH ISLAND STEAM PRODUCTION PLANT**	**26,822,718**		**25,652,276**		**1,170,442**	
		COMMON- ALL STEAM PLANTS						
(38)	311.00	STRUCTURES AND IMPROVEMENTS	52,074	2.63	53,071	2.69	(997)	(0.06)
(39)	312.00	BOILER PLANT EQUIPMENT	1,121,205	3.08	982,935	2.70	138,270	0.38
(40)	315.00	ACCESSORY ELECTRIC EQUIPMENT	84,517	2.70	85,277	2.72	(760)	(0.02)
(41)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	577	3.33	614	3.54	(37)	(0.21)
(42)		**TOTAL COMMON - ALL STEAM PLANTS**	**1,258,373**		**1,121,897**		**136,476**	
(43)		**TOTAL STEAM PRODUCTION PLANT**	**180,992,780**		**192,375,575**		**(11,382,795)**	
		NUCLEAR PRODUCTION PLANT						
		CALLAWAY NUCLEAR PRODUCTION PLANT						
(44)	321.00	STRUCTURES AND IMPROVEMENTS	18,166,179	1.88	14,857,503	1.54	3,308,676	0.34
(45)	322.00	REACTOR PLANT EQUIPMENT	36,648,665	2.60	38,569,913	2.95	(1,921,248)	(0.15)
(46)	323.00	TURBOGENERATOR UNITS	13,719,360	2.51	14,543,630	2.66	(824,270)	(0.15)
(47)	324.00	ACCESSORY ELECTRIC EQUIPMENT	6,155,006	2.23	5,668,304	2.05	486,702	0.18
(48)	325.00	MISCELLANEOUS POWER PLANT EQUIPMENT	4,951,664	3.41	6,832,243	4.71	(1,880,579)	(1.30)
(49)	325.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE	355,873	4.96	417,291	5.36	(31,418)	(0.40)
(50)	325.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	292,621	6.69	331,844	7.59	(39,223)	(0.90)
(51)	325.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS	1,335,561	19.77	1,550,051	22.94	(214,490)	(3.17)
(52)		**TOTAL NUCLEAR PRODUCTION PLANT**	**81,654,929**		**82,770,779**		**(1,115,850)**	

AMEREN MISSOURI
Case No. ER-2019-0335
Comparison of MIEC Phase One and Ameren Missouri Depreciation Rates and Accruals

LINE NO.		ACCOUNT	MIEC PHASE ONE ANNUAL ACCRUAL AMOUNT	MIEC PHASE ONE ANNUAL ACCRUAL RATE	AMEREN PROPOSED ANNUAL ACCRUAL AMOUNT	AMEREN PROPOSED ANNUAL ACCRUAL RATE	DELTA ANNUAL ACCRUAL AMOUNT	DELTA ANNUAL ACCRUAL RATE
		HYDRAULIC PRODUCTION PLANT						
		OSAGE HYDRAULIC PRODUCTION PLANT						
(53)	331 00	STRUCTURES AND IMPROVEMENTS	262,565	2 93	289,823	3 24	(27,258)	(0.31)
(54)	332 00	RESERVOIRS, DAMS AND WATERWAYS	2,546,230	2 95	2,419,627	2 80	126,603	0.15
(55)	333 00	WATER WHEELS, TURBINES, AND GENERATORS	1,922,514	3 04	1,769,377	2 80	153,137	0 24
(56)	334 00	ACCESSORY ELECTRIC EQUIPMENT	956,585	3 23	953,791	3 12	32,794	0.11
(57)	335 00	MISCELLANEOUS POWER PLANT EQUIPMENT	98,907	3 40	131,069	4 50	(32,162)	(1.10)
(58)	335 21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE	4,574	5 53	4,326	5 23	248	0 30
(59)	335 22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	7,645	7 83	7,204	7 38	441	0.45
(60)	335 23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	184,648	21 33	186,205	21 51	(1,557)	(0.18)
(61)	336 00	ROADS, RAILROADS AND BRIDGES	0	-	0	-	0	-
(62)		**TOTAL OSAGE HYDRAULIC PRODUCTION PLANT**	6,013,668		5,761,422		252,246	
		TAUM SAUK HYDRAULIC PRODUCTION PLANT						
(63)	331 00	STRUCTURES AND IMPROVEMENTS	326,113	1.47	301,909	1.36	24,204	0.11
(64)	332 00	RESERVOIRS, DAMS AND WATERWAYS	119,056	1.16	265,739	2 59	(146,683)	(1.43)
(65)	333 00	WATER WHEELS, TURBINES, AND GENERATORS	1,380,128	1 87	1,437,485	1 95	(57,357)	(0 08)
(66)	334 00	ACCESSORY ELECTRIC EQUIPMENT	239,516	1 82	239,861	1 82	(345)	0 00
(67)	335 00	MISCELLANEOUS POWER PLANT EQUIPMENT	102,911	2.16	115,682	2 43	(12,771)	(0 27)
(68)	335 21	MISCELLANEOUS POWER PLANT EQUIPMENT-OFFICE FURNITURE	7,499	5 35	7,118	5 11	381	0 27
(69)	335 22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	49,954	8 25	44,095	7 28	5,859	0 97
(70)	335 23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	69,599	21 06	39,565	11 97	30,034	9 09
(71)	336 00	ROADS, RAILROADS AND BRIDGES	4,552	1 96	3,234	1 39	1,318	0 57
(72)		**TOTAL TAUM SAUK HYDRAULIC PRODUCTION PLANT**	2,299,330		2,454,688		(155,358)	
		KEOKUK HYDRAULIC PRODUCTION PLANT						
(73)	331 00	STRUCTURES AND IMPROVEMENTS	206,777	2 35	201,246	2 28	5,531	0 07
(74)	332 00	RESERVOIRS, DAMS AND WATERWAYS	354,642	1 93	302,534	1 64	52,108	0 29
(75)	333 00	WATER WHEELS, TURBINES, AND GENERATORS	3,501,753	2 65	3,431,032	2 60	70,721	0 05
(76)	334 00	ACCESSORY ELECTRIC EQUIPMENT	529,211	2 66	520,484	2 62	8,727	0.04
(77)	335 00	MISCELLANEOUS POWER PLANT EQUIPMENT	123,175	2 85	131,382	3 04	(8,207)	(0.19)
(78)	335 21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE	5,205	6 75	4,200	5.44	1,005	1 31
(79)	335 22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	9,803	8 09	8,879	7 33	924	0.76
(80)	335 23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS	24,838	28 66	32,748	37.79	(7,910)	(9.13)
(81)	336 00	ROADS, RAILROADS AND BRIDGES	2,644	2 30	1,301	1.13	1,343	1.17
(82)		**TOTAL KEOKUK HYDRAULIC PRODUCTION PLANT**	4,758,048		4,633,806		124,242	
(83)		**TOTAL HYDRAULIC PRODUCTION PLANT**	13,071,046		12,849,916		221,130	
		OTHER PRODUCTION PLANT						
(84)	341 00	STRUCTURES AND IMPROVEMENTS	1,010,336	2 05	1,188,780	2.41	(178,444)	(0 36)
(85)	342 00	FUEL HOLDERS, PRODUCERS AND ACCESSORIES	920,783	1 89	1,000,112	2 05	(79,329)	(0 16)
(86)	344 00	GENERATORS - OTHER CTS	17,035,826	1.70	16,598,907	1 66	436,919	0 04
(87)	344.10	MARYLAND HEIGHTS LANDFILL CTG	173,747	2 06	156,408	1 86	17,339	0 20
(88)	344 20	SOLAR	453,557	4 25	447,666	4.19	5,891	0 06
(89)	345 00	ACCESSORY ELECTRIC EQUIPMENT	2,590,259	1 99	2,765,858	2.12	(175,599)	(0.13)
(90)	346 00	MISCELLANEOUS POWER PLANT EQUIPMENT	231,509	2 94	259,528	3 30	(28,019)	(0 36)
(91)	346 21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE	(2,760)	(0.99)	17,257	6 19	(20,017)	(7.18)
(92)	346 22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	13,137	2 83	36,999	7 96	(23,862)	(5.13)
(93)	346 23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS	24,205	12.19	64,770	32 62	(40,565)	(20.43)
(94)		**TOTAL OTHER PRODUCTION PLANT**	22,450,610		22,536,295		(85,685)	
(95)		**TOTAL PRODUCTION PLANT**	298,169,365		310,532,565		(12,363,200)	

AMEREN MISSOURI
Case No. ER-2019-0335
MIEC Phase Two Book Reserve Allocation

LINE NO.		ACCOUNT (1)	CALCULATED ACCRUED DEPRECIATION (2)	CAD DERIVED ALLOCATOR (3)	ALLOCATED BOOK RESERVE (4)	RESERVE IMBALANCE (5)=(4)-(2)	IMBALANCE PERCENTAGE (6)=(5)÷(4)
		STEAM PRODUCTION PLANT					
		MERAMEC STEAM PRODUCTION PLANT					
(1)	311.00	STRUCTURES AND IMPROVEMENTS	40,627,955	2%	43,200,852	2,572,897	6.3%
(2)	312.00	BOILER PLANT EQUIPMENT	355,899,560	18%	378,438,053	22,538,493	6.3%
(3)	314.00	TURBOGENERATOR UNITS	88,780,219	4%	94,402,514	5,622,295	6.3%
(4)	315.00	ACCESSORY ELECTRIC EQUIPMENT	43,487,471	2%	46,241,456	2,753,985	6.3%
(5)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	7,039,528	0%	7,485,329	445,801	6.3%
(6)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE	235,971	0%	250,915	14,944	6.3%
(7)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE EQUIPMENT	197,090	0%	209,571	12,481	6.3%
(8)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	112,592	0%	119,722	7,130	6.3%
(9)		**TOTAL MERAMEC STEAM PRODUCTION PLANT**	536,380,386	27.0%	570,348,412	33,968,026	6.3%
		SIOUX STEAM PRODUCTION PLANT					
(10)	311.00	STRUCTURES AND IMPROVEMENTS	27,725,517	1%	29,481,325	1,755,808	6.3%
(11)	312.00	BOILER PLANT EQUIPMENT	396,961,127	20%	422,099,977	25,138,850	6.3%
(12)	314.00	TURBOGENERATOR UNITS	74,107,163	4%	78,800,239	4,693,076	6.3%
(13)	315.00	ACCESSORY ELECTRIC EQUIPMENT	53,857,521	3%	57,268,223	3,410,702	6.3%
(14)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	4,926,435	0%	5,238,417	311,982	6.3%
(15)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE	267,790	0%	284,749	16,959	6.3%
(16)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE EQUIPMENT	227,874	0%	242,305	14,431	6.3%
(17)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	304,782	0%	324,083	19,301	6.3%
(18)		**TOTAL SIOUX STEAM PRODUCTION PLANT**	558,378,209	28.1%	593,739,318	35,361,109	6.3%
		LABADIE STEAM PRODUCTION PLANT					
(19)	311.00	STRUCTURES AND IMPROVEMENTS	38,295,246	2%	40,720,417	2,425,171	6.3%
(20)	312.00	BOILER PLANT EQUIPMENT	337,317,011	17%	358,678,704	21,361,693	6.3%
(21)	312.03	BOILER PLANT EQUIPMENT - ALUMINUM COAL CARS	34,914,913	2%	37,126,013	2,211,100	6.3%
(22)	314.00	TURBOGENERATOR UNITS	105,583,848	5%	112,270,287	6,686,439	6.3%
(23)	315.00	ACCESSORY ELECTRIC EQUIPMENT	46,243,024	2%	49,171,513	2,928,489	6.3%
(24)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	6,402,241	0%	6,807,684	405,443	6.3%
(25)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE	257,298	0%	273,592	16,294	6.3%
(26)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	220,538	0%	234,504	13,966	6.3%
(27)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS	536,019	0%	569,964	33,945	6.3%
(28)		**TOTAL LABADIE STEAM PRODUCTION PLANT**	569,770,138	28.6%	605,852,678	36,082,540	6.3%
		RUSH ISLAND STEAM PRODUCTION PLANT					
(29)	311.00	STRUCTURES AND IMPROVEMENTS	31,728,462	2%	33,737,770	2,009,308	6.3%
(30)	312.00	BOILER PLANT EQUIPMENT	183,242,775	9%	194,847,217	11,604,442	6.3%
(31)	314.00	TURBOGENERATOR UNITS	66,769,995	3%	70,993,421	4,223,426	6.3%
(32)	315.00	ACCESSORY ELECTRIC EQUIPMENT	21,279,245	1%	22,626,822	1,347,577	6.3%
(33)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	3,886,334	0%	4,132,449	246,115	6.3%
(34)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE	275,814	0%	293,281	17,467	6.3%
(35)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE EQUIPMENT	189,403	0%	201,398	11,995	6.3%
(36)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	252,577	0%	268,572	15,995	6.3%
(37)		**TOTAL RUSH ISLAND STEAM PRODUCTION PLANT**	307,624,605	15.5%	327,105,930	19,481,325	6.3%
		COMMON- ALL STEAM PLANTS					
(38)	311.00	STRUCTURES AND IMPROVEMENTS	837,199	0%	890,217	53,018	6.3%
(39)	312.00	BOILER PLANT EQUIPMENT	15,187,209	1%	16,148,988	961,779	6.3%
(40)	315.00	ACCESSORY ELECTRIC EQUIPMENT	1,348,568	0%	1,433,970	85,402	6.3%
(41)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	6,869	0%	7,304	435	6.3%
(42)		**TOTAL COMMON- ALL STEAM PLANTS**	17,379,845	0.9%	18,480,480	1,100,635	6.3%
(43)		**TOTAL STEAM PRODUCTION PLANT**	1,989,533,183	100.0%	2,115,526,818	125,993,635	6.3%
		NUCLEAR PRODUCTION PLANT					
		CALLA WAY NUCLEAR PRODUCTION PLANT					
(44)	321.00	STRUCTURES AND IMPROVEMENTS	500,792,389	33%	529,454,779	28,662,390	5.7%
(45)	322.00	REACTOR PLANT EQUIPMENT	563,669,096	37%	595,930,176	32,261,080	5.7%
(46)	323.00	TURBOGENERATOR UNITS	266,813,549	18%	282,084,376	15,270,827	5.7%
(47)	324.00	ACCESSORY ELECTRIC EQUIPMENT	122,691,253	8%	129,713,374	7,022,121	5.7%
(48)	325.00	MISCELLANEOUS POWER PLANT EQUIPMENT	54,690,645	4%	57,820,814	3,130,169	5.7%
(49)	325.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE	3,230,020	0%	3,414,887	184,867	5.7%
(50)	325.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	2,172,874	0%	2,297,236	124,362	5.7%
(51)	325.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS	2,588,720	0%	2,736,883	148,163	5.7%
(52)		**TOTAL NUCLEAR PRODUCTION PLANT**	1,516,648,546	100.0%	1,603,452,525	86,803,979	5.7%

AMEREN MISSOURI
Case No. ER-2019-0335
MIEC Phase Two Book Reserve Allocation

LINE NO.		ACCOUNT (1)	CALCULATED ACCRUED DEPRECIATION (2)	CAD DERIVED ALLOCATOR (3)	ALLOCATED BOOK RESERVE (4)	RESERVE IMBALANCE (5)=(4)-(2)	IMBALANCE PERCENTAGE (6)=(5)÷(4)
		HYDRAULIC PRODUCTION PLANT					
		OSAGE HYDRAULIC PRODUCTION PLANT					
(53)	331.00	STRUCTURES AND IMPROVEMENTS	2,473,536	2%	2,657,608	184,072	7.4%
(54)	332.00	RESERVOIRS, DAMS AND WATERWAYS	19,432,145	15%	20,878,217	1,446,072	7.4%
(55)	333.00	WATER WHEELS, TURBINES, AND GENERATORS	20,669,167	16%	22,207,293	1,538,126	7.4%
(56)	334.00	ACCESSORY ELECTRIC EQUIPMENT	6,458,071	5%	6,938,658	480,587	7.4%
(57)	335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	672,580	1%	722,631	50,051	7.4%
(58)	335.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE	28,327	0%	30,435	2,108	7.4%
(59)	335.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	42,342	0%	45,493	3,151	7.4%
(60)	335.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	143,157	0%	153,810	10,653	7.4%
(61)	336.00	ROADS, RAILROADS AND BRIDGES	53,778	0%	57,780	4,002	7.4%
(62)		**TOTAL OSAGE HYDRAULIC PRODUCTION PLANT**	49,973,103	39.4%	53,691,925	3,718,822	7.4%
		TAUM SAUK HYDRAULIC PRODUCTION PLANT					
(63)	331.00	STRUCTURES AND IMPROVEMENTS	3,516,256	3%	3,777,923	261,667	7.4%
(64)	332.00	RESERVOIRS, DAMS AND WATERWAYS	3,591,402	3%	3,858,661	267,259	7.4%
(65)	333.00	WATER WHEELS, TURBINES, AND GENERATORS	17,636,469	14%	18,948,913	1,312,444	7.4%
(66)	334.00	ACCESSORY ELECTRIC EQUIPMENT	2,202,617	2%	2,366,528	163,911	7.4%
(67)	335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	661,766	1%	711,012	49,246	7.4%
(68)	335.21	MISCELLANEOUS POWER PLANT EQUIPMENT-OFFICE FURNITURE	35,066	0%	37,675	2,609	7.4%
(69)	335.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	318,958	0%	342,694	23,736	7.4%
(70)	335.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	265,208	0%	284,944	19,736	7.4%
(71)	336.00	ROADS, RAILROADS AND BRIDGES	47,578	0%	51,119	3,541	7.4%
(72)		**TOTAL TAUM SAUK HYDRAULIC PRODUCTION PLANT**	28,275,320	22.3%	30,379,470	2,104,150	7.4%
		KEOKUK HYDRAULIC PRODUCTION PLANT					
(73)	331.00	STRUCTURES AND IMPROVEMENTS	2,444,659	2%	2,626,582	181,923	7.4%
(74)	332.00	RESERVOIRS, DAMS AND WATERWAYS	7,486,361	6%	8,043,470	557,109	7.4%
(75)	333.00	WATER WHEELS, TURBINES, AND GENERATORS	33,406,860	26%	35,892,881	2,486,021	7.4%
(76)	334.00	ACCESSORY ELECTRIC EQUIPMENT	4,036,794	3%	4,337,198	300,404	7.4%
(77)	335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	1,033,184	1%	1,110,070	76,886	7.4%
(78)	335.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE	48,215	0%	51,803	3,588	7.4%
(79)	335.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	58,755	0%	63,127	4,372	7.4%
(80)	335.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS	56,184	0%	60,365	4,181	7.4%
(81)	336.00	ROADS, RAILROADS AND BRIDGES	56,520	0%	60,726	4,206	7.4%
(82)		**TOTAL KEOKUK HYDRAULIC PRODUCTION PLANT**	48,627,532	38.3%	52,246,221	3,618,689	7.4%
(83)		**TOTAL HYDRAULIC PRODUCTION PLANT**	126,875,955	100.0%	136,317,616	9,441,661	7.4%
		OTHER PRODUCTION PLANT					
(84)	341.00	STRUCTURES AND IMPROVEMENTS	16,608,028	4%	17,508,804	900,776	5.4%
(85)	342.00	FUEL HOLDERS, PRODUCERS AND ACCESSORIES	14,404,559	3%	15,185,825	781,266	5.4%
(86)	344.00	GENERATORS - OTHER CTS	380,331,328	82%	400,959,509	20,628,181	5.4%
(87)	344.10	MARYLAND HEIGHTS LANDFILL CTG	2,834,540	1%	2,988,278	153,738	5.4%
(88)	344.20	SOLAR	2,639,233	1%	2,782,378	143,145	5.4%
(89)	345.00	ACCESSORY ELECTRIC EQUIPMENT	46,015,400	10%	48,511,155	2,495,755	5.4%
(90)	346.00	MISCELLANEOUS POWER PLANT EQUIPMENT	3,131,511	1%	3,301,356	169,845	5.4%
(91)	346.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE	202,955	0%	213,963	11,008	5.4%
(92)	346.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	268,495	0%	283,057	14,562	5.4%
(93)	346.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS	97,895	0%	103,205	5,310	5.4%
(94)		**TOTAL OTHER PRODUCTION PLANT**	466,533,944	100.0%	491,837,530	25,303,586	5.4%
(95)		**TOTAL PRODUCTION PLANT**	4,099,591,628	100.0%	4,347,134,489	247,542,861	6.0%

AMEREN MISSOURI
Case No. ER-2019-0335
MIEC Phase Two Depreciation Rates

LINE NO.	ACCOUNT		PROBABLE RETIREMENT DATE	SURVIVOR CURVE	NET SALVAGE PERCENT	ORIGINAL COST AS OF DECEMBER 31, 2018	ALLOCATED BOOK RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)/(5)	(10)
		STEAM PRODUCTION PLANT									
		MERAMEC STEAM PRODUCTION PLANT									
(1)	311.00	STRUCTURES AND IMPROVEMENTS	09-2022	90-R1.5	0	49,694,024	43,200,852	6,493,172	1,743,712	3.51	3.72
(2)	312.00	BOILER PLANT EQUIPMENT	09-2022	55-R0.5	(1)	449,450,037	378,438,053	75,506,485	20,514,797	4.56	3.68
(3)	314.00	TURBOGENERATOR UNITS	09-2022	60-S0.5	0	112,835,475	94,402,514	18,432,961	4,979,057	4.41	3.70
(4)	315.00	ACCESSORY ELECTRIC EQUIPMENT	09-2022	75-S0	0	57,843,695	46,241,456	11,602,239	3,121,611	5.40	3.72
(5)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	09-2022	40-L0	0	10,042,922	7,485,329	2,557,593	704,621	7.02	3.63
(6)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE		20-SQ	0	478,958	250,915	228,044	23,866	4.98	9.55
(7)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE EQUIPMENT		15-SQ	0	349,114	209,571	139,542	23,405	6.70	5.96
(8)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS		5-SQ	0	260,928	119,722	141,206	61,942	23.74	2.28
(9)		**TOTAL MERAMEC STEAM PRODUCTION PLANT**				680,955,153	570,348,412	115,101,242	31,173,012	4.58	3.69
		SIOUX STEAM PRODUCTION PLANT									
(10)	311.00	STRUCTURES AND IMPROVEMENTS	09-2033	90-R1.5	(1)	57,644,417	29,481,325	28,739,536	1,994,762	3.46	14.41
(11)	312.00	BOILER PLANT EQUIPMENT	09-2033	55-R0.5	(3)	959,178,604	422,099,977	565,853,986	41,022,325	4.28	13.79
(12)	314.00	TURBOGENERATOR UNITS	09-2033	60-S0.5	(1)	164,593,128	78,800,239	87,438,820	6,205,380	3.77	14.09
(13)	315.00	ACCESSORY ELECTRIC EQUIPMENT	09-2033	75-S0	(1)	127,824,998	57,268,223	71,835,025	5,043,071	3.95	14.24
(14)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	09-2033	40-L0	0	13,764,462	5,238,417	8,526,045	659,186	4.79	12.93
(15)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE		20-SQ	0	1,153,502	284,749	868,753	58,127	5.04	14.95
(16)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE EQUIPMENT		15-SQ	0	404,152	242,305	161,847	14,576	3.61	11.10
(17)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS		5-SQ	0	505,484	324,083	181,400	74,979	14.83	2.42
(18)		**TOTAL SIOUX STEAM PRODUCTION PLANT**				1,325,068,747	593,739,318	763,605,413	55,072,406	4.16	13.87
		LABADIE STEAM PRODUCTION PLANT									
(19)	311.00	STRUCTURES AND IMPROVEMENTS	09-2042	90-R1.5	(2)	129,958,084	40,720,417	91,836,829	4,011,697	3.09	22.89
(20)	312.00	BOILER PLANT EQUIPMENT	09-2042	55-R0.5	(6)	1,019,643,582	356,678,704	722,143,493	34,348,197	3.37	21.02
(21)	312.03	BOILER PLANT EQUIPMENT - ALUMINUM COAL CARS		30-R2.5	25	78,358,568	37,126,013	21,641,413	1,574,338	2.01	13.75
(22)	314.00	TURBOGENERATOR UNITS	09-2042	60-S0.5	(2)	253,612,210	112,270,287	146,414,167	6,839,769	2.70	21.41
(23)	315.00	ACCESSORY ELECTRIC EQUIPMENT	09-2042	75-S0	(2)	117,531,789	49,171,513	70,710,912	3,195,556	2.72	22.13
(24)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	09-2042	40-L0	0	18,131,397	6,807,684	11,323,714	618,987	3.41	18.29
(25)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE		20-SQ	0	685,482	273,592	411,890	34,607	5.05	11.90
(26)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT		15-SQ	0	474,348	234,504	239,844	29,928	6.31	8.01
(27)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS		5-SQ	0	1,554,304	569,964	984,340	318,617	20.50	3.09
(28)		**TOTAL LABADIE STEAM PRODUCTION PLANT**				1,619,947,765	605,852,678	1,065,706,001	50,971,695	3.15	20.91
		RUSH ISLAND STEAM PRODUCTION PLANT									
(29)	311.00	STRUCTURES AND IMPROVEMENTS	09-2045	90-R1.5	(2)	97,508,417	33,737,770	65,720,816	2,570,236	2.64	25.57
(30)	312.00	BOILER PLANT EQUIPMENT	09-2045	55-R0.5	(7)	544,885,857	194,847,217	388,180,649	16,740,684	3.07	23.19
(31)	314.00	TURBOGENERATOR UNITS	09-2045	60-S0.5	(3)	168,172,021	70,998,421	102,218,760	4,324,815	2.57	23.64
(32)	315.00	ACCESSORY ELECTRIC EQUIPMENT	09-2045	75-S0	(2)	56,059,486	22,626,822	34,553,854	1,405,031	2.51	24.59
(33)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	09-2045	40-L0	0	14,402,183	4,132,449	10,269,734	503,743	3.50	20.39
(34)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE		20-SQ	0	548,415	293,281	255,134	27,212	4.96	9.38
(35)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE EQUIPMENT		15-SQ	0	471,772	201,398	270,375	24,482	5.19	11.04
(36)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS		5-SQ	0	1,305,162	268,572	1,036,590	260,880	19.99	3.97
(37)		**TOTAL RUSH ISLAND STEAM PRODUCTION PLANT**				883,353,313	327,105,930	602,505,911	25,857,083	2.93	23.30
		COMMON- ALL STEAM PLANTS									
(38)	311.00	STRUCTURES AND IMPROVEMENTS	09-2042	90-R1.5	(2)	1,976,445	890,217	1,125,756	49,374	2.50	22.80
(39)	312.00	BOILER PLANT EQUIPMENT	09-2042	55-R0.5	(6)	36,395,109	16,148,988	22,429,828	1,068,038	2.93	21.00
(40)	315.00	ACCESSORY ELECTRIC EQUIPMENT	09-2042	75-S0	(2)	3,129,975	1,433,970	1,758,604	80,007	2.56	21.98
(41)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	09-2042	40-L0	0	17,331	7,304	10,027	549	3.17	18.25
(42)		**TOTAL COMMON - ALL STEAM PLANTS**				41,518,860	18,480,480	25,324,215	1,197,969	2.89	21.14
(43)		**TOTAL STEAM PRODUCTION PLANT**				4,550,843,838	2,115,526,818	2,572,243,382	164,272,165	3.61	15.66

AMEREN MISSOURI
Case No. ER-2019-0335
MIEC Phase Two Depreciation Rates

LINE NO.		ACCOUNT	PROBABLE RETIREMENT DATE	SURVIVOR CURVE	NET SALVAGE PERCENT	ORIGINAL COST AS OF DECEMBER 31, 2018	ALLOCATED BOOK RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)/(5)	(10)
		NUCLEAR PRODUCTION PLANT									
		CALLAWAY NUCLEAR PRODUCTION PLANT									
(44)	321.00	STRUCTURES AND IMPROVEMENTS	10-2044	90-R2	(1)	966,505,827	529,454,779	446,716,106	18,166,179	1.88	24.59
(45)	322.00	REACTOR PLANT EQUIPMENT	10-2044	50-S0.5	(6)	1,308,617,665	595,930,176	791,204,549	36,648,665	2.80	21.59
(46)	323.00	TURBOGENERATOR UNITS	10-2044	50-S1	(4)	547,183,008	282,084,376	286,985,953	13,719,360	2.51	20.92
(47)	324.00	ACCESSORY ELECTRIC EQUIPMENT	10-2044	75-R2	(1)	276,478,610	129,713,374	149,530,022	6,155,006	2.23	24.29
(48)	325.00	MISCELLANEOUS POWER PLANT EQUIPMENT	10-2044	35-L0.5	0	145,202,535	57,820,814	87,381,722	4,951,664	3.41	17.65
(49)	325.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE		20-SQ	0	7,784,414	3,414,887	4,369,527	385,873	4.96	11.32
(50)	325.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT		15-SQ	0	4,374,774	2,297,236	2,077,538	292,621	6.69	7.10
(51)	325.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS		5-SQ	0	6,755,517	2,736,883	4,018,634	1,335,561	19.77	3.01
(52)		**TOTAL NUCLEAR PRODUCTION PLANT**				**3,262,902,351**	**1,603,452,525**	**1,772,284,051**	**81,654,929**	**2.50**	**21.70**
		HYDRAULIC PRODUCTION PLANT									
		OSAGE HYDRAULIC PRODUCTION PLANT									
(53)	331.00	STRUCTURES AND IMPROVEMENTS	06-2047	125-R1	(2)	8,949,981	2,857,608	6,471,372	237,520	2.65	27.25
(54)	332.00	RESERVOIRS, DAMS AND WATERWAYS	06-2047	150-R2.5	(1)	86,430,152	20,878,217	66,416,237	2,356,069	2.73	28.19
(55)	333.00	WATER WHEELS, TURBINES, AND GENERATORS	06-2047	95-S0	(8)	63,276,661	22,207,293	46,131,500	1,711,032	2.70	26.96
(56)	334.00	ACCESSORY ELECTRIC EQUIPMENT	06-2047	65-R1	(1)	30,561,498	6,938,658	23,928,453	918,221	3.00	26.06
(57)	335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2047	50-R0.5	0	2,910,936	722,631	2,188,305	91,176	3.13	24.00
(58)	335.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE		20-SQ	0	82,651	30,435	52,216	3,979	4.81	13.12
(59)	335.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT		15-SQ	0	97,613	45,493	52,120	6,245	6.40	8.35
(60)	335.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS		5-SQ	0	865,748	153,810	711,938	174,944	20.21	4.07
(61)	336.00	ROADS, RAILROADS AND BRIDGES	06-2047	50-R0.5	0	77,445	57,780	19,665	0	-	-
(62)		**TOTAL OSAGE HYDRAULIC PRODUCTION PLANT**				**193,252,683**	**53,691,925**	**145,971,807**	**5,499,187**	**2.85**	**26.54**
		TAUM SAUK HYDRAULIC PRODUCTION PLANT									
(63)	331.00	STRUCTURES AND IMPROVEMENTS	06-2089	125-R1	(5)	22,210,082	3,777,923	19,542,663	310,692	1.40	62.90
(64)	332.00	RESERVOIRS, DAMS AND WATERWAYS	06-2089	150-R2.5	(3)	10,271,817	3,858,661	6,721,310	103,762	1.01	64.78
(65)	333.00	WATER WHEELS, TURBINES, AND GENERATORS	06-2089	95-S0	(26)	73,722,396	18,948,913	73,941,306	1,294,925	1.76	57.10
(66)	334.00	ACCESSORY ELECTRIC EQUIPMENT	06-2089	65-R1	(3)	13,146,539	2,366,528	11,174,407	227,164	1.73	49.19
(67)	335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2089	50-R0.5	0	4,763,369	711,012	4,052,356	98,475	2.07	41.15
(68)	335.21	MISCELLANEOUS POWER PLANT EQUIPMENT-OFFICE FURNITURE		20-SQ	0	139,273	37,675	101,598	6,847	4.92	14.84
(69)	335.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT		15-SQ	0	605,689	342,694	262,996	37,431	6.18	7.03
(70)	335.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS		5-SQ	0	330,425	284,944	45,481	26,681	8.07	1.70
(71)	336.00	ROADS, RAILROADS AND BRIDGES	06-2089	50-R0.5	0	232,752	51,119	181,633	4,245	1.82	42.79
(72)		**TOTAL TAUM SAUK HYDRAULIC PRODUCTION PLANT**				**125,422,342**	**30,379,470**	**116,023,750**	**2,110,222**	**1.68**	**54.98**
		KEOKUK HYDRAULIC PRODUCTION PLANT									
(73)	331.00	STRUCTURES AND IMPROVEMENTS	06-2055	125-R1	(3)	8,808,412	2,626,582	6,446,083	187,193	2.13	34.44
(74)	332.00	RESERVOIRS, DAMS AND WATERWAYS	06-2055	150-R2.5	(1)	18,410,282	8,043,470	10,550,915	296,589	1.61	35.57
(75)	333.00	WATER WHEELS, TURBINES, AND GENERATORS	06-2055	95-S0	(10)	132,187,416	35,892,881	109,513,277	3,229,951	2.44	33.91
(76)	334.00	ACCESSORY ELECTRIC EQUIPMENT	06-2055	65-R1	(1)	19,861,916	4,337,198	15,723,337	494,209	2.49	31.82
(77)	335.00	MISCELLANEOUS POWER PLANT EQUIPMENT	06-2055	50-R0.5	0	4,327,860	1,110,070	3,217,790	113,153	2.61	28.44
(78)	335.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE		20-SQ	0	77,136	51,803	25,333	3,413	4.43	7.42
(79)	335.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT		15-SQ	0	121,176	63,127	58,049	7,663	6.32	7.58
(80)	335.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS		5-SQ	0	86,657	60,365	26,292	15,627	18.03	1.68
(81)	336.00	ROADS, RAILROADS AND BRIDGES	06-2055	50-R0.5	0	114,926	60,726	54,200	2,053	1.79	26.40
(82)		**TOTAL KEOKUK HYDRAULIC PRODUCTION PLANT**				**183,995,782**	**52,246,221**	**145,615,276**	**4,349,850**	**2.36**	**33.48**
(83)		**TOTAL HYDRAULIC PRODUCTION PLANT**				**502,670,806**	**136,317,616**	**407,610,833**	**11,959,260**	**2.38**	**34.08**

AMEREN MISSOURI
Case No. ER-2019-0335
MIEC Phase Two Depreciation Rates

LINE NO.		ACCOUNT (1)	PROBABLE RETIREMENT DATE (2)	SURVIVOR CURVE (3)	NET SALVAGE PERCENT (4)	ORIGINAL COST AS OF DECEMBER 31, 2018 (5)	ALLOCATED BOOK RESERVE (6)	FUTURE ACCRUALS (7)	CALCULATED ANNUAL ACCRUAL AMOUNT (8)	CALCULATED ANNUAL ACCRUAL RATE (9)=(8)/(5)	COMPOSITE REMAINING LIFE (10)
		OTHER PRODUCTION PLANT									
(84)	341.00	STRUCTURES AND IMPROVEMENTS		40-R3	(5)	49,364,453	17,508,804	34,323,871	1,244,260	2.52	27.59
(85)	342.00	FUEL HOLDERS, PRODUCERS AND ACCESSORIES		45-R3	(5)	48,668,825	15,185,825	35,916,441	1,090,754	2.24	32.93
(86)	344.00	GENERATORS - OTHER CTS		45-R4	(5)	1,000,351,750	400,959,509	649,409,829	22,054,399	2.20	29.45
(87)	344.10	MARYLAND HEIGHTS LANDFILL CTG		8-S2.5	40	8,417,408	2,988,278	2,062,167	372,905	4.43	5.53
(88)	344.20	SOLAR		20-S2.5	0	10,680,919	2,782,378	7,898,541	521,229	4.88	15.15
(89)	345.00	ACCESSORY ELECTRIC EQUIPMENT		40-R2.5	(5)	130,267,614	46,511,155	88,270,049	3,248,188	2.49	27.18
(90)	346.00	MISCELLANEOUS POWER PLANT EQUIPMENT		22-L2.5	0	7,864,056	3,301,356	4,562,700	315,695	4.01	14.45
(91)	346.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE		20-SQ	0	278,700	213,963	64,737	12,653	4.54	5.12
(92)	346.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT		15-SQ	0	464,779	283,057	181,722	30,844	6.64	5.89
(93)	346.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS		5-SQ	0	198,558	103,205	95,354	40,268	20.28	2.37
(94)		**TOTAL OTHER PRODUCTION PLANT**				1,256,557,262	491,837,530	822,785,411	28,931,195	2.30	28.44
(95)		**TOTAL PRODUCTION PLANT**				9,572,974,258	4,347,134,489	5,574,023,677	286,817,549	3.00	19.44

AMEREN MISSOURI
Case No. ER-2019-0335
Comparison of MIEC Proposed and Ameren Missouri Depreciation Rates and Accruals

LINE NO.		ACCOUNT	MIEC PROPOSED ANNUAL ACCRUAL AMOUNT	MIEC PROPOSED ANNUAL ACCRUAL RATE	AMEREN PROPOSED ANNUAL ACCRUAL AMOUNT	AMEREN PROPOSED ANNUAL ACCRUAL RATE	DELTA ANNUAL ACCRUAL AMOUNT	DELTA ANNUAL ACCRUAL RATE
		STEAM PRODUCTION PLANT						
		MERAMEC STEAM PRODUCTION PLANT						
(1)	311.00	STRUCTURES AND IMPROVEMENTS	1,743,712	3.51	3,025,031	6.09	(1,231,369)	(2.58)
(2)	312.00	BOILER PLANT EQUIPMENT	20,514,797	4.56	37,890,857	8.43	(17,376,060)	(3.87)
(3)	314.00	TURBOGENERATOR UNITS	4,979,057	4.41	7,265,007	6.44	(2,285,950)	(2.03)
(4)	315.00	ACCESSORY ELECTRIC EQUIPMENT	3,121,611	5.40	4,957,509	8.57	(1,835,898)	(3.17)
(5)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	704,621	7.02	1,691,746	16.85	(987,125)	(9.83)
(6)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE	23,866	4.93	26,948	5.63	(3,082)	(0.65)
(7)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE EQUIPMENT	23,405	6.70	28,828	8.26	(5,423)	(1.56)
(8)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	61,942	23.74	104,959	40.23	(43,017)	(16.49)
(9)		**TOTAL MERAMEC STEAM PRODUCTION PLANT**	**31,173,012**		**54,990,935**		**(23,817,923)**	
		SIOUX STEAM PRODUCTION PLANT						
(10)	311.00	STRUCTURES AND IMPROVEMENTS	1,994,762	3.46	2,156,663	3.74	(161,901)	(0.28)
(11)	312.00	BOILER PLANT EQUIPMENT	41,022,325	4.28	43,831,427	4.57	(2,809,102)	(0.29)
(12)	314.00	TURBOGENERATOR UNITS	6,205,350	3.77	7,114,715	4.32	(909,335)	(0.55)
(13)	315.00	ACCESSORY ELECTRIC EQUIPMENT	5,043,071	3.95	6,234,898	4.88	(1,191,827)	(0.93)
(14)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	659,166	4.79	872,273	6.34	(213,037)	(1.55)
(15)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE	58,127	5.04	60,812	5.27	(2,655)	(0.23)
(16)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE EQUIPMENT	14,576	3.61	5,547	1.37	9,029	2.24
(17)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	74,979	14.83	89,718	17.75	(14,739)	(2.92)
(18)		**TOTAL SIOUX STEAM PRODUCTION PLANT**	**55,072,406**		**60,366,053**		**(5,293,647)**	
		LABADIE STEAM PRODUCTION PLANT						
(19)	311.00	STRUCTURES AND IMPROVEMENTS	4,011,697	3.09	3,944,458	3.04	67,239	0.05
(20)	312.00	BOILER PLANT EQUIPMENT	34,348,197	3.37	34,566,137	3.39	(217,940)	(0.02)
(21)	312.03	BOILER PLANT EQUIPMENT - ALUMNUM COAL CARS	1,574,338	2.01	308,927	0.39	1,265,411	1.62
(22)	314.00	TURBOGENERATOR UNITS	6,839,769	2.70	7,049,342	2.78	(209,573)	(0.08)
(23)	315.00	ACCESSORY ELECTRIC EQUIPMENT	3,195,556	2.72	3,176,608	2.70	18,948	0.02
(24)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	618,987	3.41	729,663	4.02	(110,676)	(0.61)
(25)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE	34,607	5.05	37,480	5.47	(2,873)	(0.42)
(26)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	29,928	6.31	32,061	6.76	(2,133)	(0.45)
(27)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS	318,617	20.50	399,738	25.72	(81,121)	(5.22)
(28)		**TOTAL LABADIE STEAM PRODUCTION PLANT**	**50,971,695**	3.27	**50,244,414**		**727,281**	
		RUSH ISLAND STEAM PRODUCTION PLANT						
(29)	311.00	STRUCTURES AND IMPROVEMENTS	2,570,236	2.64	2,458,101	2.52	112,135	0.12
(30)	312.00	BOILER PLANT EQUIPMENT	16,740,684	3.07	16,372,497	3.00	368,187	0.07
(31)	314.00	TURBOGENERATOR UNITS	4,324,815	2.57	4,544,203	2.70	(219,388)	(0.13)
(32)	315.00	ACCESSORY ELECTRIC EQUIPMENT	1,405,031	2.51	1,354,192	2.42	50,839	0.09
(33)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	503,743	3.50	596,783	4.14	(93,040)	(0.64)
(34)	316.21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE	27,212	4.96	33,877	5.63	(3,665)	(0.67)
(35)	316.22	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE EQUIPMENT	24,482	5.19	18,059	3.83	6,423	1.36
(36)	316.23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	260,889	19.99	277,564	21.27	(16,684)	(1.28)
(37)		**TOTAL RUSH ISLAND STEAM PRODUCTION PLANT**	**25,857,083**		**25,652,276**		**204,807**	
		COMMON- ALL STEAM PLANTS						
(38)	311.00	STRUCTURES AND IMPROVEMENTS	49,374	2.50	53,071	2.69	(3,697)	(0.19)
(39)	312.00	BOILER PLANT EQUIPMENT	1,059,038	2.93	982,935	2.70	85,103	0.23
(40)	315.00	ACCESSORY ELECTRIC EQUIPMENT	80,007	2.56	85,277	2.72	(5,270)	(0.16)
(41)	316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	549	3.17	614	3.54	(65)	(0.37)
(42)		**TOTAL COMMON - ALL STEAM PLANTS**	**1,197,969**		**1,121,897**		**76,072**	
(43)		**TOTAL STEAM PRODUCTION PLANT**	**164,272,165**		**192,375,575**		**(28,103,410)**	
		NUCLEAR PRODUCTION PLANT						
		CALLAWAY NUCLEAR PRODUCTION PLANT						
(44)	321.00	STRUCTURES AND IMPROVEMENTS	18,166,179	1.88	14,857,503	1.54	3,308,676	0.34
(45)	322.00	REACTOR PLANT EQUIPMENT	36,648,665	2.80	38,569,913	2.95	(1,921,248)	(0.15)
(46)	323.00	TURBOGENERATOR UNITS	13,719,360	2.51	14,543,630	2.66	(824,270)	(0.15)
(47)	324.00	ACCESSORY ELECTRIC EQUIPMENT	6,155,006	2.23	5,668,304	2.05	486,702	0.18
(48)	325.00	MISCELLANEOUS POWER PLANT EQUIPMENT	4,951,664	3.41	6,832,243	4.71	(1,880,579)	(1.30)
(49)	325.21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE	385,873	4.99	417,291	5.36	(31,418)	(0.40)
(50)	325.22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	292,621	6.69	331,844	7.59	(39,223)	(0.90)
(51)	325.23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS	1,335,561	19.77	1,550,051	22.94	(214,490)	(3.17)
(52)		**TOTAL NUCLEAR PRODUCTION PLANT**	**81,654,929**		**82,770,779**		**(1,115,850)**	

AMEREN MISSOURI
Case No. ER-2019-0335
Comparison of MIEC Proposed and Ameren Missouri Depreciation Rates and Accruals

LINE NO.		ACCOUNT	MIEC PROPOSED ANNUAL ACCRUAL AMOUNT	MIEC PROPOSED ANNUAL ACCRUAL RATE	AMEREN PROPOSED ANNUAL ACCRUAL AMOUNT	AMEREN PROPOSED ANNUAL ACCRUAL RATE	DELTA ANNUAL ACCRUAL AMOUNT	DELTA ANNUAL ACCRUAL RATE
		HYDRAULIC PRODUCTION PLANT						
		OSAGE HYDRAULIC PRODUCTION PLANT						
(53)	331 00	STRUCTURES AND IMPROVEMENTS	237,520	2 65	289,823	3 24	(52,303)	(0 59)
(54)	332 00	RESERVOIRS, DAMS AND WATERWAYS	2,356,069	2 73	2,419,627	2 80	(63,558)	(0 07)
(55)	333 00	WATER WHEELS, TURBINES, AND GENERATORS	1,711,032	2 70	1,769,377	2 80	(58,345)	(0 10)
(56)	334 00	ACCESSORY ELECTRIC EQUIPMENT	918,221	3 00	953,791	3 12	(35,570)	(0 12)
(57)	335 00	MISCELLANEOUS POWER PLANT EQUIPMENT	91,176	3 13	131,069	4 50	(39,893)	(1 37)
(58)	335 21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE	3,979	4 81	4,326	5 23	(347)	(0 42)
(59)	335 22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	6,245	6 40	7,204	7 38	(959)	(0 98)
(60)	335 23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	174,944	20 21	186,205	21 51	(11,261)	(1 30)
(61)	336 00	ROADS, RAILROADS AND BRIDGES	0	-	0	-	0	-
(62)		**TOTAL OSAGE HYDRAULIC PRODUCTION PLANT**	5,499,187		5,761,422		(262,235)	
		TAUM SAUK HYDRAULIC PRODUCTION PLANT						
(63)	331 00	STRUCTURES AND IMPROVEMENTS	310,692	1 40	301,909	1 36	8,783	0 04
(64)	332 00	RESERVOIRS, DAMS AND WATERWAYS	103,782	1 01	265,739	2 59	(161,977)	(1 58)
(65)	333 00	WATER WHEELS, TURBINES, AND GENERATORS	1,294,925	1 76	1,437,485	1 95	(142,560)	(0 19)
(66)	334 00	ACCESSORY ELECTRIC EQUIPMENT	227,164	1 73	239,861	1 82	(12,697)	(0 09)
(67)	335 00	MISCELLANEOUS POWER PLANT EQUIPMENT	98,475	2 07	115,682	2 43	(17 207)	(0 36)
(68)	335 21	MISCELLANEOUS POWER PLANT EQUIPMENT-OFFICE FURNITURE	6,847	4 92	7,118	5 11	(271)	(0 19)
(69)	335 22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	37,431	6 18	44,095	7 28	(6,664)	(1 10)
(70)	335 23	MISCELLANEOUS POWER PLANT EQUIPMENT- COMPUTERS	26,631	8 07	39,565	11 97	(12,854)	(3 90)
(71)	336 00	ROADS, RAILROADS AND BRIDGES	4,245	1 82	3,234	1 39	1,011	0 43
(72)		**TOTAL TAUM SAUK HYDRAULIC PRODUCTION PLANT**	2,110,222		2,454,688		(344,466)	
		KEOKUK HYDRAULIC PRODUCTION PLANT						
(73)	331 00	STRUCTURES AND IMPROVEMENTS	187,193	2 13	201,246	2 28	(14,053)	(0 15)
(74)	332 00	RESERVOIRS, DAMS AND WATERWAYS	296,589	1 61	302,534	1 64	(5,945)	(0 03)
(75)	333 00	WATER WHEELS, TURBINES, AND GENERATORS	3,229,951	2 44	3,431,032	2 60	(201,081)	(0 16)
(76)	334 00	ACCESSORY ELECTRIC EQUIPMENT	494,209	2 49	520,484	2 62	(26,275)	(0 13)
(77)	335 00	MISCELLANEOUS POWER PLANT EQUIPMENT	113,153	2 61	131,382	3 04	(18,229)	(0 43)
(78)	335 21	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE FURNITURE	3,413	4 43	4,200	5 44	(787)	(1 01)
(79)	335 22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	7,663	6 32	8,879	7 33	(1,216)	(1 01)
(80)	335 23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS	15,627	18 03	32,748	37 79	(17,121)	(19 76)
(81)	336 00	ROADS, RAILROADS AND BRIDGES	2,053	1 79	1,301	1 13	752	0 66
(82)		**TOTAL KEOKUK HYDRAULIC PRODUCTION PLANT**	4,349,850		4,633,806		(283,956)	
(83)		**TOTAL HYDRAULIC PRODUCTION PLANT**	11,959,260		12,849,916		(890,656)	
		OTHER PRODUCTION PLANT						
(84)	341 00	STRUCTURES AND IMPROVEMENTS	1,244,260	2 52	1,188,780	2 41	55,480	0 11
(85)	342 00	FUEL HOLDERS, PRODUCERS AND ACCESSORIES	1,090,754	2 24	1,000,112	2 05	90,642	0 19
(86)	344 00	GENERATORS - OTHER CTS	22,054,399	2 20	16,598,907	1 66	5,455,492	0 54
(87)	344 10	MARYLAND HEIGHTS LANDFILL CTG	372,905	4 43	156,408	1 86	216,497	2 57
(88)	344 20	SOLAR	521,228	4 88	447,666	4 19	73,562	0 69
(89)	345 00	ACCESSORY ELECTRIC EQUIPMENT	3,248,188	2 49	2,765,868	2 12	482,320	0 37
(90)	346 00	MISCELLANEOUS POWER PLANT EQUIPMENT	315,695	4 01	259,528	3 30	56,167	0 71
(91)	346 21	MISCELLANEOUS POWER PLANT EQUIPMENT - OFFICE FURNITURE	12,653	4 54	17,257	6 19	(4,604)	(1 65)
(92)	346 22	MISCELLANEOUS POWER PLANT EQUIPMENT- OFFICE EQUIPMENT	30,844	6 64	36,999	7 96	(6,155)	(1 32)
(93)	346 23	MISCELLANEOUS POWER PLANT EQUIPMENT - COMPUTERS	40,268	20 28	64,770	32 62	(24,502)	(12 34)
(94)		**TOTAL OTHER PRODUCTION PLANT**	28,931,195		22,536,295		6,394,900	
(95)		**TOTAL PRODUCTION PLANT**	286,817,549		310,532,565		(23,715,016)	