Exhibit No.: 217
Issue: Depreciation
Witness: Arthur W. Rice, PE
Sponsoring Party: MoPSC Staff
Type of Exhibit: Surrebuttal Testimony
Case No.: ER-2010-0036
Date Testimony Prepared: March 5, 2010

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

SURREBUTTAL TESTIMONY

OF

ARTHUR W. RICE, PE

UNION ELECTRIC COMPANY
d/b/a AmerenUE

CASE NO. ER-2010-0036

Jefferson City, Missouri
March 5, 2010

TABLE OF CONTENTS OF

SURREBUTTAL TESTIMONY OF

ARTHUR W. RICE, PE

UNION ELECTRIC COMPANY
d/b/a AmerenUE

CASE NO. ER-2010-0036

SURREBUTTAL TESTIMONY

OF

ARTHUR W. RICE, PE

UNION ELECTRIC COMPANY
d/b/a AmerenUE

CASE NO. ER-2010-0036

1. INTRODUCTION

A. Witness Identification

Q. Please state your name and business address.

A. Arthur W. Rice, P.O. Box 360, Jefferson City, Missouri, 65102.

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

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

Q. Are you the same Arthur W. Rice who previously filed testimony in this proceeding?

A. Yes. I submitted the depreciation section of direct testimony as reflected in the Staff's Revenue Requirement Cost of Service Report, and rebuttal testimony.

B. Purpose and Scope

Q. Please state the purpose of your Surrebuttal testimony.

A. The purpose of my rebuttal testimony is to offer my position in response to the rebuttal testimonies filed by James T. Selecky and William W. Dunkel on behalf of Missouri Industry Energy Consumers ("MIEC") and John Wiedmayer on behalf of

Union Electric Company, d/b/a AmerenUE ("AmerenUE" or Company) in this case, regarding proposed depreciation rates for AmerenUE.

C. Identification of Schedules

Q. Will you be sponsoring any schedules with your Surrebuttal testimony?

A. Yes, I am attaching and sponsoring the following schedules.

- Schedule AWR-SUR-1 Life Span versus Mass Property Method Comparison
- Schedules AWR-1B to -5B Updates of Depreciation Recommendations and Comparisons Schedules Presented in Direct and Rebuttal Testimony

2. SUMMARY OF TESTIMONY

Q. What effect will your recommendation have on overall depreciation expense?

A. Staff's recommended overall plant depreciation rate in this case is higher than the overall plant depreciation rate the Commission ordered in AmerenUE's last rate case. For the depreciable plant balances at the end of 2008, the depreciation expense increases from approximately $325.1 million to $329.6 million, an increase of $4.6 million, or 1.4%.

The depreciation rates AmerenUE proposes would increase the currently ordered annual depreciation expense from approximately $325.1 million to $343.9 million, an increase of approximately $18.8 million, or 5.8%

Q. Does Staff have any corrections or adjustments to its recommendation?

A. Yes. After review of Mr. Wiedmayer's testimony, Staff is adjusting its recommendations as follows:

1) **Aluminum coal cars**: Based on additional information concerning third party reimbursements contained in Mr. Wiedmayer's rebuttal testimony, Staff adjusted its net salvage recommendation from a positive 72% to the positive 30% recommended by Mr. Wiedmayer.

2) **Underground services:** Based on information provided in Mr. Wiedmayer's rebuttal testimony, Staff is adopting the survivor curve for account 369.02 recommended by Mr. Wiedmayer.

3) **Other production plant account:** Based on information provided in Mr. Wiedmayer's rebuttal testimony, Staff is adopting the Company's average service life and net salvage recommendations for accounts 341 through 345. Staff has also modified its recommended reserve variance amortization associated with these accounts to be consistent with this change. This amortization amount is a negative $7,188,174

Q. Are there any other issues are you responding to in this testimony?

A. Yes. I will present Staff's response to the following depreciation issues presented in rebuttal testimony:

1) Mr. Wiedmayer's claim that Staff used inappropriate service lives for account 356 (Overhead Conductors and Devices).

2) Mr. Wiedmayer's claim that Staff's whole life mass property treatment for steam generating facilities and for hydro facilities is inappropriate.

3) Mr. Selecky's claim that Staff should have excluded certain units from Staff's steam production mortality study.

4) Mr. Selecky's claim that Staff inappropriately treated Transmission and Distribution net salvage.

5) Mr. Dunkel's claim that Staff inappropriately calculated terminal net salvage for steam production accounts.

6) Mr. Selecky's inclusion of Callaway steam generator replacement in his life study (account 322).

3. SURREBUTTAL ISSUES RESPONSE

Issue 1: Mr. Wiedmayer's claim that Staff used inappropriate service lives for account 356 (Overhead Conductors and Devices).

Q. Do you agree with Mr. Wiedmayer's claim that Staff used inappropriate service lives for Overhead Conductors and Devices?

A. No. Mr. Wiedmayer, at rebuttal page 33 lines 9 - 10, claims that I fit data through age 60 years which is not true. I selected the 65-R3 curve for its fit of data through age 42 years and equally as well at age 53 years.

Q. Does Staff agree with Mr. Weidmayer's curve selection for data through his recommended age?

A. No. Mr. Wiedmayer recommended a 55-R4 curve which he claims he fit through age 40 years. Staff disagrees that the 55-R4 curve is a better fit at 40 years than the 65-R3 curve staff chose. .

Q. Do you agree with Mr. Wiedmayer's comments at rebuttal page 34, lines 1 -2 that overhead transmission conductors should have similar average service lives as overhead distribution conductors?

A. No. Overhead distribution conductors are more likely to suffer damage from trees during storms, vehicle mishaps, construction activity, and abandonment than transmission overhead conductors. Transmission overhead conductors are generally more robust, more remotely located from close human daily activity, and often situated at or above tree tops. AmerenUE's data show a 14 year longer service life for overhead transmission conductors than overhead distribution conductors, which is consistent with what I would expect.

Issue 2: Mr. Wiedmayer's claim that Staff's whole life mass property treatment for steam generating facilities and for hydro facilities is inappropriate.

Q. Did Staff assume that steam production plants have an indefinite life, as alleged by Mr. Wiedmayer in his rebuttal testimony at page 7 lines 15 to 29?

A. No. Staff's whole life study for steam production plant includes final retirements from previously shut down plants which are recorded in the AmerenUE retirement data base.

Q. Is Mr. Wiedmayer's example of the effect on depreciation accruals of large capital additions and life extensions to existing power plants over-simplified and misleading?

A. Yes. On pages 15 and 16, and Schedule JFW - ER9 pages 1 and 2, Mr. Wiedmayer provides an over-simplified example of depreciation rates over the life of a hypothetical plant that has a large addition to plant at mid-life of the plant, which by his hypothetical example results in a very large depreciation accrual during the final five years of plant life. Mr. Wiedmayer's implies that if the life span method of depreciation analysis is not used, then a very large depreciation accrual during the final five years of plant life will occur.

However, Mr. Wiedmayer's model does not include expected interim and final retirements which are normally included in a depreciation analysis to derive average service lives. A reasonable average service life estimate of 60% of his example physical plant life of 45 years would be a 27 year average service life. Again, later in life, when a large addition is made to the plant and the plant life is extended to 60 years, the equivalent average service life is 36 years. This simple assumption would remove the step increase in accruals shown in his graph.

Q. Is Mr. Wiedmayer's oversimplified graph helpful in comparing use of life span analysis and Staff's recommended mass property analysis for steam production plant?

A. No. The rates portrayed in this oversimplified model may not return all of the investments made to plant, and does not accurately depict Staff's actual practice of employing mass property analysis.

Q. In Staff's view, is there an overall general test to check for reasonableness of either the life span or mass property method?

A. Yes. Staff conducted a direct comparison of the results of the two methods. The method Staff used is shown in attached Schedule AWR-SUR-1.

Q. What differences did you find in the annual deprecation accruals for steam and hydraulic production when a direct comparison of life span versus mass property analysis was conducted?

A. The table below has been prepared to give an "apples to apples" estimate of the difference between the life span and mass property models applied to AmerenUE. It shows a comparison of depreciation accrual results using AmerenUE's plant balances for the end of 2008, does not amortize reserve variance over the remaining life, uses AmerenUE estimated plant retirement dates and interim survivor curves for the life span model, uses the Staff's whole life survivor curves for the mass property model, and uses the same net salvage analysis results conducted by Staff for both models.

	Life Span Rate	Mass Prop Rate	Life Span Accrual Method	Mass Prop Accrual Method	Difference Between Methods	
	%	%	$	$	$	%
Steam	3.55	2.61	103,853,871	76,246,453	27,607,418	26.6%
Hydraulic	2.45	1.86	6,034,281	4,566,215	1,468,066	24.3%

There is approximately a 25% difference between the use of life span versus the use of mass property, for both steam and hydraulic production plant.

Q. What is the cause of this 25% difference?

A. The difference is that Staff has relied on the AmerenUE historical data versus the Company study which bases its projected retirement dates on engineering projections.

Q. What is the harm on relying on the Company's projections?

A. For AmerenUE's steam production plant, current book reserves have accumulated approximately $250,000,000 in excess reserves. This over accrual of book reserves suggests that the Commission's traditional method of using mass property analysis (the $76,246,453 current Staff proposal) is sufficient. Further, the Company's method of analysis indicates approximately $200,000,000 in excess reserves. Switching to the life span method as proposed by the Company would significantly add to the steam plant depreciation accruals.

Q. In general, to what do you attribute the differences that are seen between the life span and mass property methods?

A. In general, it is the variables used to represent the final retirement of plant. For the life span method, the variable is the dates chosen to truncate the survivor curves. For the mass property method, the variable is the historical final retirement data from pre-existing plant.

Q. Are there other AmerenUE production plant accounts where Mr. Wiedmayer agrees with Staff's whole life mass property treatment?

A. Yes. Both Staff and the Company used whole life mass property treatment for combustion turbine generators (Other Production Equipment). These accounts are also over accrued by approximately $250,000,000. These accounts are similar to the steam production accounts in that both contain multiple independent production units which

together comprise a fleet for generation and should be treated as mass property for depreciation purposes.

Q. What causes the differences between the Company's and Staff's studies for the steam production plant?

A. For the steam production plant, for either method, neither the Staff nor the Company has historical steam plant final retirement data which represent the large steam production facilities operated by AmerenUE. (Rice rebuttal pages 2 and 3). Staff believes that if the Staff and the Company each had a historical database which represented the current large AmerenUE steam plants in service, then the analysis results by either method would have been much closer than the 25% difference seen. The retirement data would inform the choice of a date at which to truncate the survivor curve for a life span study, and would also provide retirement data to fit the curve to for a whole life study.

For example, Staff has included the final retirement experience at Venice in its mortality study. This treatment recognizes that individual plants do get shut down.

Q. Does the Staff's method allow the Company to recover the costs associated with short lived equipment in steam production plants that have been shut down?

A. Yes. Existing depreciation rates for steam production equipment have been ordered as general plant accounts using mass property analysis. Different depreciation rates for different plant facilities have not been ordered. The production equipment depreciation rates have been ordered from analysis which treated all steam production equipment as one large steam production facility. Staff makes no distinction between interim and final retirements in its mass property analysis. For example, final retirement amounts related to the

Venice facility are treated like any other retirement or net salvage and simply recorded in the general plant accounts, and charged against the reserves in the general plant accounts.

Q. What does Staff recommend at this time as the best available estimate of future retirements in the steam production plant accounts?

A. For steam production plant, Staff continues to recommend the inclusion of final retirements from preexisting plant with a mass property retirement analysis method to estimate whole live survivor curves. This method uses past retirement history to estimate future retirement patterns. As plants are taken out of service in the future, these retirement patterns will be updated with additional and more recent data

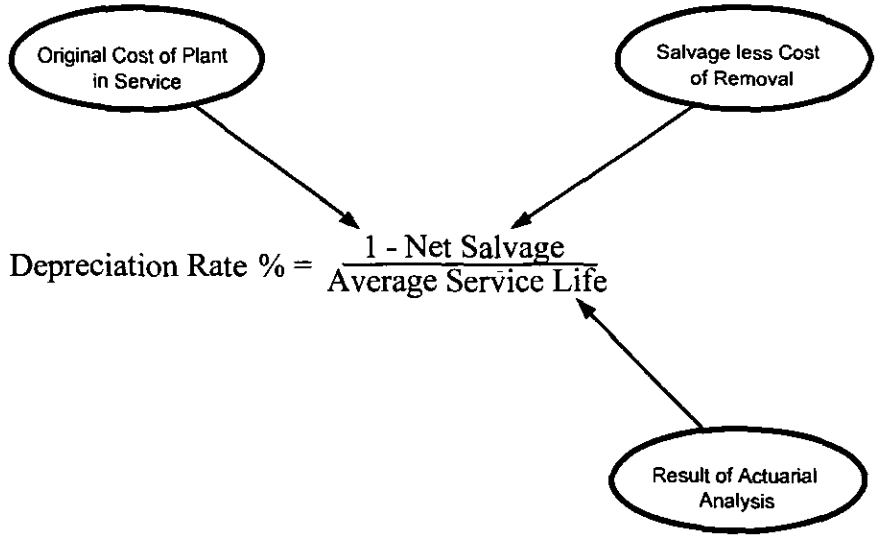
Q. What does Staff recommend in this Surrebuttal testimony as the best available estimate of future retirements in the hydraulic production plant accounts?

Q. For hydraulic production plant, for reasons stated below, Staff continues to recommend the use of the mass property method even though final retirement of hydraulic production plant is not contained in the data base. For current depreciation purposes, these facilities do appear to have an infinite life. That is, the FERC 40 year operating licenses, with license modifications, are expected to be repeatedly renewed into the future. The Company's use of the FERC license renewal dates, (or equivalent for Keokuk which operates without a FERC license), as a retirement date is not reasonable. We can only speculate when these facilities will be removed or replaced. For example, the Company has presented no evidence that Bagnell Dam will be retired and removed for many generations.

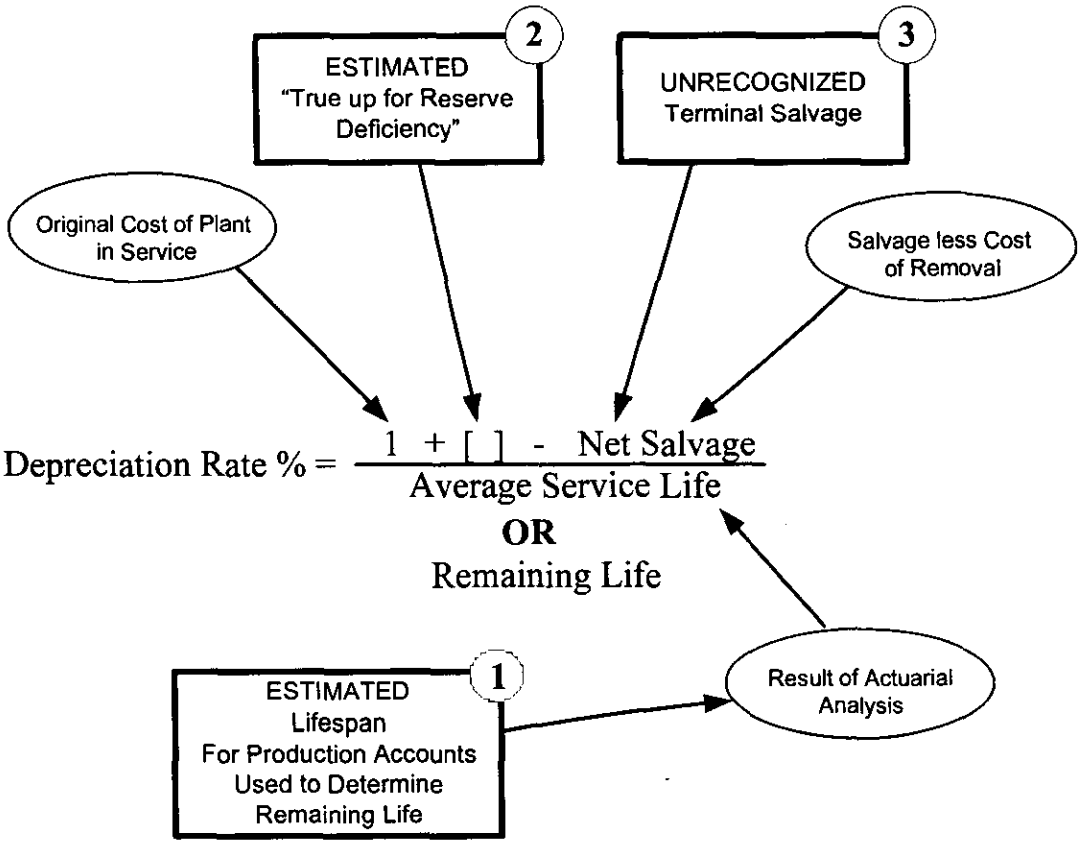
Q. Why are there differences in the results between PSC Staff and Company proposed depreciation rates in this case?

A. These differences are mainly attributable to AmerenUE adding assumptions and variables to their determination of the depreciable rates that have not previously been used by the Commission for the determination of AmerenUE's depreciation rates. The diagram below compares the differences between the Staff's and AmerenUE's calculation of depreciation rates. (1) AmerenUE assumes final retirement dates or Lifespan for production plant accounts. (2) AmerenUE adds a remaining life amortization of the reserve variance, or "True-up for Reserve Deficiency", to compensate for differences between book and theoretical accrued depreciation. (3) AmerenUE has modified net salvage analysis such that the Company is not seeking recovery for Net Salvage occurring at Final retirement. Mr. Wiedmayer's Direct testimony states that the Company is not seeking recovery at this time of Net Salvage at Final retirement, which indicates the Company would seek these amounts in the future. See the following figures outlining the differences.

Staff and Commission Policy for Computation of Depreciation Rate
(Per Commission Order in Case No. ER-2004-0570)



Company Interpretation of Computation of Depreciation Rate:



Issue 3: Mr. Selecky's claim that Staff should have excluded certain units from Staff's steam production mortality study.

Q. Do you agree with Mr. Selecky's claim that the retirement data contained within the AmerenUE data base representing prior existing steam plant should not be used by Staff in its mass property depreciation study?

A. No. If prior existing steam plant retirements are not included, all that remains in the data set to predict retirement of the whole plant unit is retirement of items which are

replaced during that plant unit's operation. This is equivalent to an assumption that individual steam production units will last forever, which is not true.

Issue 4: Mr. Selecky's claim that Staff inappropriately treated Transmission and Distribution net salvage.

Q. Do you agree with Mr. Selecky's rebuttal claims on pages 6 through 11 that the Staff proposed net salvage recommendation is excessive, and AmerenUE should not be allowed to collect the full amount estimated for future cost of removal?

A. No. Staff is following the method of treatment of net salvage the Commission ordered in The Empire District Electric Company's rate request, Case No. ER-2004-0570, Report and Order, page 54, which does not allow arbitrary truncation of net salvage. This method is understood by Staff to comply with CSR 240-20.030 which directs electrical corporations to use the Uniform System of Accounts (USOA) prescribed by the Federal Energy Regulatory Commission (18 CFR Part 101). The July 31, 2009 version of 18 CFR Part 101 in the General and Electrical Plant instructions for depreciation defines Method, Service Value, Service Life, and Net Salvage Value as:

Method: Utilities must use a method of depreciation that allocates in a systematic and rational manner the service value of depreciable property over the service life of the property.

Service Value: Service value means the difference between original cost and net salvage value of electric plant.

Service Life: Service life means the time between the date electric plant is included in electric plant service, and the date of its retirement.

Net Salvage Value: Net salvage value means the salvage value minus the cost of removal.

Thus, Staff does not arbitrarily truncate net salvage because this would not be consistent with allocation in a systematic and rational manner of net salvage over the service life of the property.

Issue 5: Mr. Dunkel's claim that Staff inappropriately calculated terminal net salvage for steam production accounts.

Q. Do you agree with Mr. Dunkel's rebuttal claim on page 22 that $5.8 million in accruals that Staff included for future terminal net salvage should be removed?

A. No. Mr. Dunkel is asking Staff to remove a portion of net salvage from the computation of depreciation rates. As in the issue cited above, Staff does not believe removal of a portion of net salvage from depreciation expense is consistent with the traditional method of net salvage allocation as specified in CSR 240-20.030 which directs electrical corporations to use the Uniform System of Accounts (USOA) prescribed by the Federal Energy Regulatory Commission (18 CFR Part 101).

Issue 6: Mr. Selecky's inclusion of Callaway steam generator replacement in his life study (account 322).

Q. Are the third party payments related to the Callaway steam generator replacement referred to in Mr. Selecky's rebuttal testimony on page 6, lines 17 to 20, relevant to depreciation analysis?

A. No. Data Requests responses from the Company detail the nature of these third party payments. All payment information received and reviewed by Staff show the payments were reimbursements for fuel and other expenses and other credits which were applied to the cost of the replacement generators. The installed cost of the replacement generators reflects the credits applied to the invoices. Adjustments to the retirements or depreciation analysis are not warranted.

4. CONCLUSION

Q. Please summarize your recommendations.

A. Staff's recommended overall plant depreciation rate in this case is higher than the overall plant depreciation rate the Commission ordered in AmerenUE's last rate case. For the depreciable plant balances at the end of 2008, the depreciation expense increases from approximately $325.1 million to $329.6 million, an increase of $4.6 million, or 1.4%.

The depreciation rates AmerenUE proposes would increase the currently ordered annual depreciation expense from approximately $325.1 million to $343.9 million, an increase of approximately $18.8 million, or 5.8%

Q. Does this conclude your testimony?

A. Yes.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a AmerenUE's Tariffs to Increase its Annual Revenues for Electric Service.	)))	Case No. ER-2010-0036

AFFIDAVIT OF ARTHUR W. RICE, PE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Arthur W. Rice, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Surrebuttal Testimony in question and answer form, consisting of _____ pages to be presented in the above case; that the answers in the foregoing Surrebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.

Arthur W. Rice, PE

Subscribed and sworn to before me this 5th day of March, 2010.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 08, 2012
Commission Number: 08412071

Notary Public

UNION ELECTRIC COMPANY
d/b/a AMERENUE
Case No. ER-2010-0036

LIFE SPAN VERSUS MASS PROPERTY COMPARISON SHEET

Account No.	Title	Company Mods Life Span 100% net Salvage & no amortization	Company Direct Life Span Partial Net Salvage & no amortization	PSC Direct Mass Prop 100% net Salvage & no amortization	Adjusted Plant Original Cost Dec-08 Staff	Annual Accruals using end 2008 Plant Balances: Company Mods Life Span 100% net Salvage & no amortization	Company Direct Life Span Partial Net Salvage & no amortization	PSC Direct Mass Prop 100% net Salvage & no amortization
		C	D	E	I	K = C * I	L	M = E * I
	Meramec Steam Production Plant							
311	Structures & Improvements	4.96%	3.49%	2.59%	$39,820,843	$1,975,621	$1,389,205	$1,031,360
312	Boiler Plant Equipment	5.73%	5.36%	2.73%	$415,492,860	$23,819,664	$22,255,707	$11,342,959
314	Turbogenerator Units	4.39%	4.15%	2.36%	$83,427,432	$3,660,081	$3,463,186	$1,968,887
315	Acessory Electric Equipment	4.73%	4.35%	2.20%	$43,146,199	$2,040,857	$1,874,969	$949,216
316	Misc. Power Plant Equipment	5.41%	5.41%	2.22%	$19,153,270	$1,036,192	$1,035,726	$425,203
					$601,040,604	$32,532,415	$30,018,795	$15,717,621
	Sioux Steam Production Plant							
311	Structures & Improvements	4.12%	2.90%	2.59%	$36,425,327	$1,501,652	$1,054,950	$943,416
312	Boiler Plant Equipment	3.90%	3.65%	2.73%	$392,050,516	$15,305,311	$14,296,957	$10,702,979
314	Turbogenerator Units	3.50%	3.31%	2.36%	$99,339,660	$3,476,037	$3,287,927	$2,344,416
315	Acessory Electric Equipment	3.31%	3.04%	2.20%	$34,536,592	$1,141,652	$1,049,565	$759,805
316	Misc. Power Plant Equipment	3.36%	3.36%	2.22%	$10,342,298	$347,501	$347,498	$229,599
					$572,694,393	$21,772,153	$20,036,897	$14,980,215
	Labadie Steam Production Plant							
311	Structures & Improvements	2.83%	1.99%	2.59%	$64,976,426	$1,838,132	$1,296,133	$1,682,889
312	Boiler Plant Equipment	2.97%	2.78%	2.73%	$594,753,745	$17,684,356	$16,561,293	$16,236,777
312.03	Aluminum Coal Cars	2.69%	2.69%	2.69%	$116,271,400	$3,127,701	$3,133,514	$3,127,701
314	Turbogenerator Units	2.80%	2.65%	2.36%	$208,376,677	$5,837,524	$5,517,616	$4,917,690
315	Acessory Electric Equipment	2.45%	2.25%	2.20%	$81,057,131	$1,983,149	$1,822,077	$1,783,257
316	Misc. Power Plant Equipment	2.64%	2.64%	2.22%	$19,334,388	$510,428	$510,654	$429,223
					$1,084,769,767	$30,981,286	$28,841,287	$28,177,537
	Rush Island Steam Production Plant							
311	Structures & Improvements	2.56%	1.80%	2.59%	$53,514,432	$1,369,340	$965,860	$1,386,024
312	Boiler Plant Equipment	2.89%	2.70%	2.73%	$385,943,531	$11,145,378	$10,431,293	$10,536,258
314	Turbogenerator Units	2.49%	2.36%	2.36%	$136,992,202	$3,417,760	$3,237,398	$3,233,016
315	Acessory Electric Equipment	2.38%	2.19%	2.20%	$37,966,123	$904,110	$833,110	$835,255
316	Misc. Power Plant Equipment	2.50%	2.50%	2.22%	$11,297,925	$282,448	$282,479	$250,814
					$625,714,213	$17,119,035	$15,750,140	$16,241,367
	Common Steam Production Plant							
311	Structures & Improvements	3.65%	2.57%	2.59%	$1,959,206	$71,578	$50,406	$50,743
312	Boiler Plant Equipment	3.48%	3.25%	2.73%	$36,983,418	$1,285,576	$1,201,114	$1,009,647
315	Accessory Electrical Equipment	2.91%	2.68%	2.20%	$3,129,974	$91,213	$83,853	$68,859
316	Misc. Power Plant Equipment	2.95%	2.95%	2.22%	$20,843	$615	$615	$463
					$42,093,441	$1,448,982	$1,335,988	$1,129,713
	Total Steam Production Plant				**$2,926,312,418**	**$103,863,871**	**$95,983,107**	**$76,246,453**
	Combined Steam Production Plant Units							
311	Structures & Improvements	3.44%	2.42%	2.59%	$196,696,234	$6,756,324	$4,756,554	$5,094,432
312	Boiler Plant Equipment	3.79%	3.55%	2.73%	$1,825,224,070	$69,240,285	$64,746,364	$49,828,617
312.03	Aluminum Coal Cars	2.69%	2.69%	2.69%	$116,271,400	$3,127,701	$3,133,514	$3,127,701
314	Turbogenerator Units	3.10%	2.94%	2.36%	$528,135,971	$16,391,401	$15,506,127	$12,464,009
315	Acessory Electric Equipment	3.08%	2.83%	2.20%	$199,836,019	$6,160,977	$5,663,574	$4,396,392
316	Misc. Power Plant Equipment	3.62%	3.62%	2.22%	$60,148,724	$2,177,184	$2,176,974	$1,335,302
	Total Steam Production Plant	**3.55%**	**3.28%**	**2.61%**	**$2,926,312,418**	**$103,863,871**	**$95,983,107**	**$76,246,453**

Schedule AWR-SUR 1 -1

UNION ELECTRIC COMPANY
d/b/a AMERENUE
Case No. ER-2010-0036

LIFE SPAN VERSUS MASS PROPERTY COMPARISON SPREADSHEET

Account No.	Title	AmerenUE Case ER-2010-0036 Company Proposed Remaining Life Amortization Adjustment					PSC Staff ER-2010-0036 Proposed Annual Accruals and Amortization		
		Total Reserve Variance (neg = over)	Remain Life Yr	Annual Reserve Amortization	Remain Life Depreciation Accrual	Adj %	Total Reserve Variance (neg = over)	Depr %	Annual Depreciation Accrual
		S	T	U = S / T	V = L + U	W=V / I	Y	Z	AA
	Meramec Steam Production Plant								
311	Structures & Improvements	-$4,573,947	12.9	-$354,570	$1,034,635	2.60	-$2,355,101	2.59%	$1,031,360
312	Boiler Plant Equipment	$80,441,108	12.4	$6,487,186	$28,742,893	6.92	-$645,746	2.73%	$11,342,955
314	Turbogenerator Units	-$9,575,577	12.5	-$766,046	$2,697,140	3.23	-$18,104,122	2.36%	$1,968,887
315	Acessory Electric Equipment	-$2,122,115	12.7	-$167,096	$1,707,873	3.96	-$7,344,470	2.20%	$949,216
316	Misc. Power Plant Equipment	$1,223,532	12.3	$99,474	$1,135,202	5.93	-$2,413,016	2.22%	$425,203
		$65,393,001		$5,298,949	$35,317,744	5.88	-$30,862,455	2.62%	$15,717,621
	Sioux Steam Production Plant								
311	Structures & Improvements	-$3,146,765	24.1	-$130,571	$924,379	2.54	$2,432	2.59%	$943,416
312	Boiler Plant Equipment	$10,398,448	22.0	$472,657	$14,769,614	3.77	-$13,938,833	2.73%	$10,702,979
314	Turbogenerator Units	-$3,972,734	22.7	-$175,010	$3,112,917	3.13	-$7,633,496	2.36%	$2,344,416
315	Acessory Electric Equipment	-$1,838,827	23.3	-$78,920	$970,645	2.81	-$2,878,021	2.20%	$759,805
316	Misc. Power Plant Equipment	-$174,193	21.9	-$7,954	$339,544	3.28	-$1,112,296	2.22%	$229,599
		$1,265,929		$80,202	$20,117,099	3.51	-$25,560,214	2.62%	$14,980,215
	Labadie Steam Production Plant								
311	Structures & Improvements	-$12,897,868	32.2	-$400,555	$895,578	1.38	-$1,083,036	2.59%	$1,682,889
312	Boiler Plant Equipment	-$79,830,840	27.3	-$2,924,207	$13,637,086	2.29	-$59,167,669	2.73%	$16,236,777
312.03	Aluminum Coal Cars	-$36,543,507	14.6	-$2,502,980	$630,534	0.54	-$57,939,455	2.69%	$3,127,701
314	Turbogenerator Units	-$15,487,602	29.4	-$526,789	$4,990,827	2.40	-$9,731,041	2.36%	$4,917,690
315	Acessory Electric Equipment	-$13,635,542	30.3	-$450,018	$1,372,059	1.69	-$9,630,847	2.20%	$1,783,257
316	Misc. Power Plant Equipment	-$3,721,271	28.3	-$131,494	$379,160	1.96	-$4,420,685	2.22%	$429,223
		-$162,116,630		-$6,936,042	$21,905,245	2.02	-$141,972,733	2.60%	$28,177,537
	Rush Island Steam Production Plant								
311	Structures & Improvements	-$14,476,595	35.7	-$405,507	$560,353	1.05	-$2,497,980	2.59%	$1,386,024
312	Boiler Plant Equipment	-$71,931,017	29.9	-$2,405,720	$8,025,573	2.08	-$53,249,954	2.73%	$10,536,258
314	Turbogenerator Units	-$15,838,921	31.6	-$501,232	$2,736,166	2.00	-$8,450,077	2.36%	$3,233,016
315	Acessory Electric Equipment	-$6,427,631	33.7	-$190,731	$642,379	1.69	-$4,376,437	2.20%	$835,255
316	Misc. Power Plant Equipment	-$2,460,959	31.0	-$79,386	$203,093	1.80	-$2,679,397	2.22%	$250,814
		-$111,135,123		-$3,582,575	$12,167,566	1.94	-$71,253,845	2.60%	$16,241,367
	Common Steam Production Plant								
311	Structures & Improvements	$22,285	32.6	$684	$51,090	2.61	$37,171	2.59%	$50,743
312	Boiler Plant Equipment	$517,322	28.8	$17,963	$1,219,077	3.30	-$1,303,299	2.73%	$1,009,647
315	Accessory Electrical Equipment	$73,044	31.3	$2,334	$86,187	2.75	-$46,605	2.20%	$68,859
316	Misc. Power Plant Equipment	-$771	28.7	-$27	$588	2.82	-$1,940	2.22%	$463
		$611,880		$20,953	$1,356,941	3.22	-$1,314,673	2.68%	$1,129,713
	Total Steam Production Plant	**-$205,980,943**		**-$5,118,514**	**$90,864,593**	3.11	**-$270,963,920**	2.61%	**$76,246,453**
	Combined Steam Production Plant Units								
311	Structures & Improvements	-$35,072,890		-$1,290,519	$3,466,035	1.76%	-$5,896,514	2.59%	$5,094,432
312	Boiler Plant Equipment	-$60,404,979		$1,647,879	$66,394,243	3.64%	-$128,305,501	2.73%	$49,828,617
312.03	Aluminum Coal Cars	-$36,543,507		-$2,502,980	$630,534	0.54%	-$57,939,455	2.69%	$3,127,701
314	Turbogenerator Units	-$44,874,834		-$1,969,077	$13,537,050	2.56%	-$43,918,736	2.36%	$12,464,009
315	Acessory Electric Equipment	-$23,951,071		-$884,430	$4,779,144	2.39%	-$24,276,380	2.20%	$4,396,392
316	Misc. Power Plant Equipment	-$5,133,662		-$119,386	$2,057,588	3.42%	-$10,627,334	2.22%	$1,335,302
	Total Steam Production Plant	**-$205,980,943**		**-$5,118,514**	**$90,864,593**	3.11%	**-$270,963,920**	2.61%	**$76,246,453**

UNION ELECTRIC COMPANY
d/b/a AMERENUE
Case No ER-2010-0036

SURREBUTTAL DEPRECIATION RATE & ACCRUAL SUMMARY COMPARISON SPREADSHEET

Accounting Group	Depreciation Rate Compare			Adjusted Plant	No Reserve Amortization Accruals		
	Case 2008-0318	Company 2010-0036	PSC Staff 2010-0036	Original Cost 31-Dec-2008	Case 2008-0318	Company 2010-0036	PSC Staff 2010-0036
Year Ordered -->	2007			Staff			
Steam Production Plant	2.00	3.11	2.61	2,926,312,418	58,640,359	95,983,107	76,311,062
Nuclear Production Plant	2.19	2.02	2.02	2,812,616,747	61,690,556	63,950,415	63,950,415
Hydraulic Production Plant	1.54	2.55	1.86	245,906,142	3,785,270	5,526,095	4,567,186
Other Production Plant	2.63	2.02	2.02	1,178,321,614	30,989,858	31,015,115	31,007,667
Total Production Plant	2.17	2.48	2.25	7,163,156,921	155,106,044	196,474,732	175,836,330
Transmission Plant	2.35	2.39	2.06	588,819,798	13,811,073	13,552,708	12,124,460
Distribution Plant	3.44	3.37	3.43	3,893,051,128	134,082,529	131,664,963	133,533,194
General Plant	5.07	4.81	5.17	435,447,175	22,065,547	22,205,026	22,514,482
Total Plant	2.69	2.85	2.73	12,080,475,022	325,065,194	363,897,429	344,008,466

UNION ELECTRIC COMPANY
d/b/a AMERENUE
Case No ER-2010-0036

SURREBUTTAL DEPRECIATION RATE & ACCRUAL SUMMARY COMPARISON SPREADSHEET

Accounting Group	AmerenUE Case ER-2010-0036 Proposal *Company Remaining Life Accruals*			PSC Staff ER-2010-0036 Proposal Staff Accruals with Amortization		
	Total Reserve *Variance*	Reserve *Remain Life*	Remain Life Depreciation	Total Reserve Variance	Reserve Annual	Annual Depreciation
Year Ordered --->	(neg = over)	Amortization	Accrual	(neg = over)	Amortization	Accrual
Steam Production Plant	-205,980,943	-5,118,514	90,864,593	-249,567,972	0	76,311,062
Nuclear Production Plant	-236,146,314	-7,199,461	56,750,954	-236,124,110	-7,199,461	56,750,954
Hydraulic Production Plant	28,849,994	740,964	6,267,059	26,426,852	0	4,567,186
Other Production Plant	-235,901,232	-7,196,933	23,818,182	-236,047,824	-5,000,000	23,819,493
Total Production Plant	-649,178,495	-18,773,943	177,700,789	-695,313,054	0	161,448,695
Transmission Plant	17,396,663	501,172	14,053,880	-9,545,105	0	12,124,460
Distribution Plant	-22,641,582	-472,855	131,192,108	17,686,870	0	133,533,194
General Plant	-5,456,960	-1,251,117	20,953,909	3,038,358	0	22,514,482
Total Plant	**-659,880,374**	**-19,996,744**	**343,900,685**	**-684,132,931**	**-12,199,461**	**329,620,831**
				Difference from company -->		-14,279,854
				Difference from current -->		4,555,638

Schedule AWR-1B

UNION ELECTRIC COMPANY
d/b/a AMERENUE
Case No. ER-2010-0036

SURREBUTTAL DEPRECIATION RATE COMPARISON SPREADSHEET

Account No.	Title	Ordered EC-2002-1 Life (Yr.)	Net Salvage (%)	Deprec. Rate (%)	ER-2007-0002 and ER-2008-0318 Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)	Probable Retirement Year	ER-2010-0036 --> Company Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)	ER-2010-0036 --> Staff Mass Prop except Nuclear Account No.	Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)
	Steam Production Plant																Update	2/2/2010
	Meramec Steam Production Plant								Life Span									
311	Structures & Improvements	35	(1)	2.89%	115	R1.5	(21)	1.05%	01-2022	115	R1.5(a)	(2)	3.49%	311	56	R3	(45)	2.59%
312	Boiler Plant Equipment	32	(2)	3.19%	60	L0.5	(29)	2.15%	01-2022	60	L0.5(a)	(15)	5.36%	312	45	R1.5	(23)	2.73%
314	Turbogenerator Units	35	2	2.80%	63	L1	(7)	1.70%	01-2022	70	L0.5(a)	(5)	4.15%	314	47	R2	(11)	2.36%
315	Acessory Electric Equipment	35	3	2.77%	90	R1	(9)	1.21%	01-2022	80	S0(a)	(3)	4.35%	315	51	R2.5	(12)	2.20%
316	Misc. Power Plant Equipment	29	6	3.24%	60	O2	(6)	1.77%	01-2022	60	O1(a)	0	5.41%	316	45	R0.5	0	2.22%
	Sioux Steam Production Plant								Life Span									
311	Structures & Improvements	35	(1)	2.89%	115	R1.5	(21)	1.05%	09-2033	115	R1.5(a)	(2)	2.90%	311	56	R3	(45)	2.59%
312	Boiler Plant Equipment	32	(2)	3.19%	60	L0.5	(29)	2.15%	09-2033	60	L0.5(a)	(15)	3.65%	312	45	R1.5	(23)	2.73%
314	Turbogenerator Units	35	2	2.80%	63	L1	(7)	1.70%	09-2033	70	L0.5(a)	(5)	3.31%	314	47	R2	(11)	2.36%
315	Acessory Electric Equipment	35	3	2.77%	90	R1	(9)	1.21%	09-2033	80	S0(a)	(3)	3.04%	315	51	R2.5	(12)	2.20%
316	Misc. Power Plant Equipment	29	6	3.24%	60	O2	(6)	1.77%	09-2033	60	O1(a)	0	3.36%	316	45	R0.5	0	2.22%
	Labadie Steam Production Plant								Life Span									
311	Structures & Improvements	35	(1)	2.89%	115	R1.5	(21)	1.05%	09-2042	115	R1.5(a)	(2)	1.99%	311	56	R3	(45)	2.59%
312	Boiler Plant Equipment	32	(2)	3.19%	60	L0.5	(29)	2.15%	09-2042	60	L0.5(a)	(15)	2.78%	312	45	R1.5	(23)	2.73%
312.03	Aluminum Coal Cars	22	0	4.55%	22	R3	8	4.19%		26	R2.5	30	2.69%	312.03	26	R2.5	30	2.69%
314	Turbogenerator Units	35	2	2.80%	63	L1	(7)	1.70%	09-2042	70	L0.5(a)	(5)	2.65%	314	47	R2	(11)	2.36%
315	Acessory Electric Equipment	35	3	2.77%	90	R1	(9)	1.21%	09-2042	80	S0(a)	(3)	2.25%	315	51	R2.5	(12)	2.20%
316	Misc. Power Plant Equipment	29	6	3.24%	60	O2	(6)	1.77%	09-2042	60	O1(a)	0	2.64%	316	45	R0.5	0	2.22%
	Rush Island Steam Production Plant								Life Span									
311	Structures & Improvements	35	(1)	2.89%	115	R1.5	(21)	1.05%	09-2046	115	R1.5(a)	(2)	1.80%	311	56	R3	(45)	2.59%
312	Boiler Plant Equipment	32	(2)	3.19%	60	L0.5	(29)	2.15%	09-2046	60	L0.5(a)	(15)	2.70%	312	45	R1.5	(23)	2.73%
314	Turbogenerator Units	35	2	2.80%	63	L1	(7)	1.70%	09-2046	70	L0.5(a)	(5)	2.36%	314	47	R2	(11)	2.36%
315	Acessory Electric Equipment	35	3	2.77%	90	R1	(9)	1.21%	09-2046	80	S0(a)	(3)	2.19%	315	51	R2.5	(12)	2.20%
316	Misc. Power Plant Equipment	29	6	3.24%	60	O2	(6)	1.77%	09-2046	60	O1(a)	0	2.50%	316	45	R0.5	0	2.22%

UNION ELECTRIC COMPANY
d/b/a AMERENUE
Case No. ER-2010-0036

SURREBUTTAL DEPRECIATION RATE COMPARISON SPREADSHEET

Account No.	Title	Ordered EC-2002-1 Life (Yr.)	Net Salvage (%)	Deprec. Rate (%)	ER-2007-0002 and ER-2008-0318 Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)	Probable Retirement Year	ER-2010-0036 --> Company Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)	ER-2010-0036 --> Staff Mass Prop except Nuclear Account No.	Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)
	Common Steam Production Plant								Life Span									
311	Structures & Improvements				115	R1.5	(21)	1.05%	09-2042	115	R1.5(a)	(2)	2.57%	311	56	R3	(45)	2.59%
312	Boiler Plant Equipment				60	L0.5	(28)	2.15%	09-2042	60	L0.5(a)	(15)	3.25%	312	45	R1.5	(23)	2.73%
315	Accessory Electrical Equipment				90	R1	(9)	1.21%	09-2042	80	S0.5(a)	(3)	2.68%	315	51	R2.5	(12)	2.20%
316	Misc. Power Plant Equipment				60	O2	(6)	1.77%	09-2042	60	O1(a)	0	2.95%	316	45	R0.5	0	2.22%
	Nuclear Production Plant				60 yr Life Span				Life Span					60 yr Life Span				
321	Structures and Improvements	40	0	2.60%	100	R1(a)	0	1.97%	10-2044	100	R1(a)	(1)	1.95%	321	100	R1(a)	(1)	1.95%
322	Reactor Plant Equipment	40	4	2.60%	60	S0(a)	(9.0)	2.46%	10-2044	60	S0(a)	(10.0)	2.55%	322	60	S0(a)	(10.0)	2.55%
323	Turbogenerator Units	40	0	2.60%	100	S0(a)	0	2.08%	10-2044	60	S0.5(a)	(2)	2.28%	323	60	S0.5(a)	(2)	2.28%
324	Accessory Electric Equipment	40	1	2.60%	80	R2(a)	0	1.91%	10-2044	80	R2(a)	0	1.87%	324	80	R2(a)	0	1.87%
325	Misc. Power Plant Equipment	40	2	2.60%	80	O1(a)	0	2.49%	10-2044	60	O3(a)	0	2.88%	325	60	O3(a)	0	2.88%
	Osage Hydraulic Production Plant								Life Span									
331	Structures and Improvements	91	0	1.10%	150	R1.5	(41)	0.94%	06-2047	130	R1(a)	(20)	1.96%	331	130	R2	(20)	0.92%
332	Reservoirs, Dams, and Waterways	85	(1)	1.19%	180	R3	0	0.56%	06-2047	150	L2(a)	(20)	1.57%	332	91	R2	(43)	1.57%
333	Water Wheels, Turbines, and Generators	96	0	1.04%	125	S0	(161)	2.09%	06-2047	95	S0.5(a)	(30)	2.85%	333	85	R2.5	(75)	2.06%
334	Accessory Electric Equipment	90	(2)	1.13%	65	O1	(9)	1.68%	06-2047	65	R0.5(a)	(8)	2.45%	334	65	R0.5	(40)	2.15%
335	Misc. Power Plant Equipment	74	5	1.28%	60	O1	0	1.67%	06-2047	60	R0.5(a)	(5)	2.63%	335	60	R0.5	(25)	2.08%
336	Roads, Railroads, and Bridges	22	0	4.55%	60	SQ	0	1.63%	06-2047	40	O2(a)	0	2.57%	336	50	SQ	0	2.00%
	Keokuk Hydraulic Production Plant								Life Span									
331	Structures and Improvements	91	0	1.10%	150	R1.5	(41)	0.94%	06-2055	130	R1(a)	(20)	2.03%	331	130	R2	(20)	0.92%
332	Reservoirs, Dams, and Waterways	85	(1)	1.19%	180	R3	0	0.56%	06-2055	150	L2(a)	(20)	1.68%	332	91	R2	(43)	1.57%
333	Water Wheels, Turbines, and Generators	96	0	1.04%	125	S0	(161)	2.09%	06-2055	95	S0.5(a)	(30)	2.47%	333	85	R2.5	(75)	2.06%
334	Accessory Electric Equipment	90	(2)	1.13%	65	O1	(9)	1.68%	06-2055	65	R0.5(a)	(8)	2.33%	334	65	R0.5	(40)	2.15%
335	Misc. Power Plant Equipment	74	5	1.28%	60	O1	0	1.67%	06-2055	60	R0.5(a)	(5)	2.31%	335	60	R0.5	(25)	2.08%
336	Roads, Railroads, and Bridges	22	0	4.55%	60	SQ	0	1.63%	06-2055	40	O2(a)	0	2.73%	336	50	SQ	0	2.00%

UNION ELECTRIC COMPANY
d/b/a AMERENUE
Case No. ER-2010-0036

SURREBUTTAL DEPRECIATION RATE COMPARISON SPREADSHEET

Account No.	Title	Ordered EC-2002-1 Life (Yr.)	Net Salvage (%)	Deprec. Rate (%)	ER-2007-0002 and ER-2008-0318 Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)	Probable Retirement Year	ER-2010-0036 --> Company Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)	ER-2010-0036 --> Staff Mass Prop except Nuclear Account No.	Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)
	Taum Sauk Hydraulic Production Plant								Life Span									
331	Structures and Improvements	91	0	1.10%	150	R1.5	(41)	0.94%	06-2049	130	R1(a)	(20)	1.83%	331	130	R2	(20)	0.92%
332	Reservoirs, Dams, and Waterways	85	(1)	1.19%	180	R3	0	0.56%	06-2049	150	L2(a)	(20)	1.74%	332	91	R2	(43)	1.57%
333	Water Wheels, Turbines, and Generators	96	0	1.04%	125	S0	(161)	2.09%	06-2049	95	S0.5(a)	(30)	2.43%	333	85	R2.5	(75)	2.06%
334	Accessory Electric Equipment	90	(2)	1.13%	65	O1	(9)	1.68%	06-2049	65	R0.5(a)	(8)	2.21%	334	65	R0.5	(40)	2.15%
335	Misc. Power Plant Equipment	74	5	1.28%	60	O1	0	1.67%	06-2049	60	R0.5(a)	(5)	2.67%	335	80	R0.5	(25)	2.08%
336	Roads, Railroads, and Bridges	22	0	4.55%	60	SQ	0	1.63%	06-2049	40	O2(a)	0	2.63%	336	50	SQ	0	2.00%
	Other Production Plant																	
341	Structures and Improvements	25	0	4.00%	40	R4	(5)	2.63%		40	R4	(5)	2.60%	341	40	R4	(5)	2.63%
342	Fuel Holders, Products, and Accessories	25	0	4.00%	40	R4	(5)	2.63%		40	R4	(5)	2.63%	342	40	R4	(5)	2.63%
344	Generators	25	0	4.00%	40	R4	(5)	2.63%		40	R4	(5)	2.62%	344	40	R4	(5)	2.63%
345	Accessory Electric Equipment	25	0	4.00%	40	R4	(5)	2.63%		40	R4	(5)	2.62%	345	40	R4	(5)	2.63%
346	Misc. Power Plant Equipment	25	0	4.00%	40	R4	(5)	2.63%		25	R1	(5)	4.15%	346	25	L0.5	3	3.88%
	Transmission Plant																	
352	Structures and Improvements	79	(5)	1.33%	60	R2	(5)	1.75%		60	R2	0	1.67%	352	60	R2	0	1.67%
353	Station Equipment	50	0	2.00%	55	R2.5	0	1.82%		55	R2.5	0	1.82%	353	60	R2.5	5	1.58%
354	Tower and Fixtures	50	7	1.86%	65	R4	(10)	1.69%		70	R4	(14)	1.63%	354	70	R4	(14)	1.63%
355	Poles and Fixtures	43	(20)	2.79%	52	R4	(90)	3.65%		53	R4	(90)	3.58%	355	53	R4	(75)	3.30%
356	Overhead Conductors and Devices	60	13	1.45%	55	R4	(25)	2.27%		55	R4	(20)	2.18%	356	65	R2.5	(20)	1.85%
359	Roads and Trails	50	0	2.00%	50	SQ	0	2.00%		50	SQ	0	2.00%	359	50	SQ	0	2.00%

UNION ELECTRIC COMPANY
d/b/a AMERENUE
Case No. ER-2010-0036

SURREBUTTAL DEPRECIATION RATE COMPARISON SPREADSHEET

Account No.	Title	Ordered EC-2002-1 Life (Yr.)	Net Salvage (%)	Deprec. Rate (%)	ER-2007-0002 and ER-2008-0318 Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)	Probable Retirement Year	ER-2010-0036 --> Company Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)	ER-2010-0036 --> Staff Mass Prop except Nuclear Account No.	Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)
	Distribution Plant																	
361	Structures and Improvements	61	10	1.48%	60	R2	(5)	1.75%		60	R2.5	0	1.67%	361	60	R2.5	0	1.67%
362	Station Equipment	44	(5)	2.39%	55	R2.5	0	1.82%		60	R2.5	(10)	1.84%	362	62	R2	(17)	1.89%
364	Poles, Towers, and Fixtures	34	(127)	6.68%	43	R3	(135)	5.47%		45	R2.5	(150)	5.55%	364	44	R3	(150)	5.68%
365	Overhead Conductors and Devices	36	(15)	3.19%	47	R1	(50)	3.19%		49	R1	(53)	3.12%	365	51	R1	(65)	3.24%
366	Underground Conduit	84	(45)	1.73%	65	R3	(50)	2.31%		70	R3	(40)	2.00%	366	70	R3	(40)	2.00%
367	Underground Conductors and Devices	45	22	1.73%	53	R2	(25)	2.36%		54	R2	(25)	2.31%	367	55	R2	(25)	2.27%
368	Line Transformers	40	17	2.08%	42	R2.5	(1)	2.40%		42	R2.5	0	2.38%	368	43	S1.5	0	2.33%
369.001	Overhead Services	36	(197)	8.25%	37	R2.5	(200)	8.11%		40	R2.5	(215)	7.87%	369.001	40	R2.5	(215)	7.88%
369.002	Underground Services	45	(17)	2.60%	45	R3	(80)	4.00%		55	R3	(80)	3.28%	369.002	55	R3	(80)	3.27%
370	Meters	38	1	2.75%	28	L2.5	0	3.57%		29	L2.5	0	3.85%	370	26	L2.5	0	3.85%
371	Installations on Customer Premises	46	(1)	2.20%	20	O1	0	5.00%		20	O1	0	3.13%	371	20	O1	(2)	5.10%
373.00	Street Lighting and Signal Systems	23	(36)	5.91%	33	L1	(45)	4.39%		36	L1	(43)	3.88%	373	36	L1	(43)	3.97%
	General Plant																	
390.0	Structures and Improvements	41	6	2.29%	45	S0	(5)	2.33%		45	R1.5	(10)	2.44%	390.0	45	R1.5	(22)	2.71%
391.0	Office Furniture and Equipment	28	8	3.29%	15	SQ	0	6.67%		15	SQ	0	6.67%	391.0	15	SQ	10	6.00%
391.1	Mainframe Computers	*	*	3.29%	5	SQ	0	0.00%		5	SQ	0	20.00%	391.1	5	SQ	0	20.00%
391.2	Personal Computers	*	*	3.29%	5	SQ	0	20.00%		5	SQ	0	20.00%	391.2	5	SQ	0	20.00%
392.0	Transportation Equipment	11	12	8.00%	11	S0	9	8.27%		11	R1.5	9	8.20%	392.0	11	R1.5	9	8.27%
393.0	Stores Equipment	32	12	2.75%	20	SQ	0	5.00%		20	SQ	0	5.00%	393.0	20	SQ	0	5.00%
394.00	Tools, Shop and Garage Equipment	45	18	1.82%	20	SQ	0	5.00%		20	SQ	0	5.00%	394.00	20	SQ	0	5.00%
395.00	Laboratory Equipment	52	2	1.88%	20	SQ	0	5.00%		20	SQ	0	5.00%	395.00	20	SQ	0	5.00%
396.00	Power Operated Equipment	18	23	4.28%	15	L2	15	5.67%		15	L2	15	5.66%	396.00	15	L2	15	5.67%
397.00	Communication Equipment	30	(5)	3.50%	15	SQ	0	6.67%		15	SQ	0	6.67%	397.00	15	SQ	0	6.67%
398.00	Miscellaneous Equipment	20	5	4.75%	20	SQ	0	5.00%		20	SQ	0	5.00%	398.00	20	SQ	0	5.00%

UNION ELECTRIC COMPANY
d/b/a AMERENUE
Case No. ER-2010-0036

SURREBUTTAL DEPRECIATION ACCRUAL COMPARISON SPREADSHEET

		Depreciation Rate Compare (no amortization)							Annual Accrual Compare (no amortization)			
Account No.	Title	Case 2002-1	Case 2007-0002	Case 2008-0318	Company 2010-0036	PSC Staff 2010-0036	Plant Company Books	Adjusted Plant Original Cost 31-Dec-2008	Case 2002-1	Case 2008-0318	Company 2010-0036	PSC Staff 2010-0036
	Year Ordered --->	1983	2007	2007				Staff				
	Steam Production Plant	Whole life	Whole life	Whole life	Lifespan	Whole life						
311	Structures & Improvements	2.89%	1.05%	1.05%	2.42%	2.59%		196,696,234	5,627,900	2,065,310	4,756,554	5,093,027
312	Boiler Plant Equipment	3.19%	2.15%	2.15%	3.55%	2.73%		1,625,224,070	57,044,877	39,242,318	64,746,364	49,889,458
312.03	Aluminum Coal Cars	4.55%	4.19%	4.19%	2.69%	2.69%		116,271,400	5,290,349	4,871,772	3,133,514	3,130,384
314	Turbogenerator Units	2.80%	1.70%	1.70%	2.94%	2.36%		528,135,971	14,787,807	8,978,312	15,506,127	12,472,998
315	Acessory Electric Equipment	2.77%	1.21%	1.21%	2.83%	2.20%		199,836,019	5,448,757	2,418,016	5,663,574	4,388,556
316	Misc. Power Plant Equipment	3.24%	1.77%	1.77%	3.62%	2.22%		60,148,724	1,948,143	1,064,632	2,176,974	1,336,638
	Total Steam Production Plant							**2,926,312,418**	**90,147,834**	**58,640,359**	**95,983,107**	**76,311,062**
	Nuclear Production Plant											
321	Structures and Improvements	2.60%	1.97%	1.97%	1.95%	1.95%		908,912,210	23,631,717	17,905,571	17,684,720	17,684,720
322	Reactor Plant Equipment	2.60%	2.46%	2.46%	2.55%	2.55%		1,011,169,315	26,290,402	24,874,765	25,754,339	25,754,339
323	Turbogenerator Units	2.60%	2.08%	2.08%	2.28%	2.28%		509,558,176	13,248,513	10,598,810	11,601,424	11,601,424
324	Accessory Electric Equipment	2.60%	1.91%	1.91%	1.87%	1.87%		211,158,284	5,490,115	4,033,123	3,953,640	3,953,640
325	Misc. Power Plant Equipment	2.60%	2.49%	2.49%	2.88%	2.88%		171,818,762	4,467,288	4,278,287	4,956,292	4,956,292
	Annual Amortization											
	Total Nuclear Production Plant							**2,812,616,747**	**73,128,035**	**61,690,556**	**63,950,415**	**63,950,415**
	Hydraulic Production Plant	Whole life	Whole life	Whole life	Lifespan	Whole life						
331	Structures and Improvements	1.10%	0.94%	0.94%	1.94%	0.92%		16,032,698	176,360	150,707	310,334	147,984
332	Reservoirs, Dams, and Waterways	1.19%	0.56%	0.56%	1.66%	1.57%		68,738,872	817,993	384,938	1,140,918	1,080,182
333	Water Wheels, Turbines, and Generators	1.04%	2.09%	2.09%	2.56%	2.06%		132,538,567	1,378,401	2,770,056	3,388,578	2,728,735
334	Accessory Electric Equipment	1.13%	1.68%	1.68%	2.34%	2.15%		20,781,938	234,836	349,137	487,216	447,611
335	Misc. Power Plant Equipment	1.28%	1.67%	1.67%	2.52%	2.08%		7,658,363	98,027	127,895	192,731	159,549
336	Roads, Railroads, and Bridges	4.55%	1.63%	1.63%	4.06%	2.00%	237,941	155,704	7,085	2,536	6,318	3,114
	Total Hydraulic Production Plant							**246,906,142**	**2,712,701**	**3,785,270**	**5,526,095**	**4,567,186**
	Other Production Plant											
341	Structures and Improvements	4.00%	2.63%	2.63%	2.60%	2.63%		25,892,740	1,035,710	680,979	673,636	679,684
342	Fuel Holders, Products, and Accessories	4.00%	2.63%	2.63%	2.63%	2.63%		24,520,526	980,821	644,890	643,664	643,664
344	Generators	4.00%	2.63%	2.63%	2.62%	2.63%		1,051,873,156	42,074,926	27,664,264	27,609,348	27,611,670
345	Accessory Electric Equipment	4.00%	2.63%	2.63%	2.62%	2.63%		69,921,659	2,796,866	1,838,940	1,834,518	1,835,444
346	Misc. Power Plant Equipment	4.00%	2.63%	2.63%	4.15%	3.88%		6,113,533	244,541	160,786	253,949	237,205
	Annual Amortization											
	Total Other Production Plant							**1,178,321,614**	**47,132,865**	**30,989,858**	**31,015,115**	**31,007,667**
	Total Production Plant							**7,163,156,921**	**213,121,434**	**155,108,044**	**196,474,732**	**175,836,330**

Schedule AWR-3B

UNION ELECTRIC COMPANY
d/b/a AMERENUE
Case No. ER-2010-0036

SURREBUTTAL DEPRECIATION ACCRUAL COMPARISON SPREADSHEET

		AmerenUE Case ER-2010-0036					PSC Staff ER-2010-0036		
		Company Proposed Remaining Life Amortization Adjustment					Proposed Annual Accruals and Amortization		
Account No.	Title	Total Reserve Variance	Remain Life	Annual Reserve Amortization	Remain Life Accrual	Adj %	Total Reserve Variance	Depr %	Annual Acrual
	Year Ordered --->	(neg = over)	Yr	Amortiztion	Depreciation		(neg = over)		
	Steam Production Plant								
311	Structures & Improvements	-35,072,890		-1,290,519	3,466,035	1.76%	-5,896,514	2.59%	5,093,027
312	Boiler Plant Equipment	-60,404,979		1,647,879	66,394,243	3.64%	-128,305,501	2.73%	49,889,458
312.03	Aluminum Coal Cars	-36,543,507		-2,502,980	630,534	0.54%	-36,543,507	2.69%	3,130,364
314	Turbogenerator Units	-44,874,834		-1,969,077	13,537,050	2.56%	-43,918,736	2.36%	12,472,998
315	Acessory Electric Equipment	-23,951,071		-884,430	4,779,144	2.39%	-24,276,380	2.20%	4,388,556
316	Misc. Power Plant Equipment	-5,133,662		-119,386	2,057,588	3.42%	-10,627,334	2.22%	1,336,638
	Total Steam Production Plant	**-205,980,943**		**-5,118,514**	**90,864,593**	3.11%	**-249,567,972**	2.61%	76,311,062
	Nuclear Production Plant								
321	Structures and Improvements	-168,862,832	33.2	-5,086,230	12,598,490	1.39	-168,862,832	1.95%	17,684,720
322	Reactor Plant Equipment	5,378,725	29.8	180,494	25,934,833	2.56	5,398,303	2.55%	25,754,339
323	Turbogenerator Units	-34,335,970	29.9	-1,148,360	10,453,064	2.05	-34,333,344	2.28%	11,601,424
324	Accessory Electric Equipment	-41,334,066	32.9	-1,256,355	2,697,285	1.28	-41,334,066	1.87%	3,953,640
325	Misc. Power Plant Equipment	3,007,829	27.1	110,990	5,067,282	2.95	3,007,829	2.88%	4,956,292
	Annual Amortization						**Amortization**	--->	-7,199,461
	Total Nuclear Production Plant	**-236,146,314**		**-7,199,461**	**56,750,954**	2.02	**-238,124,110**	2.02%	**56,750,954**
	Hydraulic Production Plant								
331	Structures and Improvements	3,059,606		81,036	391,370	2.44%	437,046	0.92%	147,994
332	Reservoirs, Dams, and Waterways	10,172,109		263,746	1,404,664	2.04%	9,508,505	1.57%	1,080,182
333	Water Wheels, Turbines, and Generators	15,073,915		385,151	3,773,729	2.85%	16,119,383	2.06%	2,728,735
334	Accessory Electric Equipment	994,646		26,531	513,747	2.47%	970,544	2.15%	447,611
335	Misc. Power Plant Equipment	-299,766		-8,467	184,264	2.41%	-543,905	2.08%	159,549
336	Roads, Railroads, and Bridges	-150,516		-7,033	-715	-0.46%	-64,721	2.00%	3,114
	Total Hydraulic Production Plant	**28,849,994**		**740,964**	**6,267,059**	2.55%	**26,426,852**	1.86%	**4,567,186**
	Other Production Plant								
341	Structures and Improvements	-1,607,120	31.7	-50,698	622,938	2.41	-1,607,120	2.63%	629,684
342	Fuel Holders, Products, and Accessories	29,261	31.4	932	644,596	2.63	29,261	2.63%	541,664
344	Generators	-235,363,144	32.8	-7,175,706	20,433,642	1.94	-235,363,144	2.63%	27,611,679
345	Accessory Electric Equipment	1,283,018	31.8	40,346	1,874,864	2.68	1,283,018	2.63%	1,935,444
346	Misc. Power Plant Equipment	-243,247	20.6	-11,808	242,141	3.96	-389,839	3.88%	237,205
	Annual Amortization						**Amortization**	--->	-7,162,174
	Total Other Production Plant	**-235,901,232**		**-7,196,933**	**23,818,182**	2.02	**-236,047,824**	2.02%	**23,819,493**
	Total Production Plant	**-649,178,495**		**-18,773,943**	**177,700,789**	2.48	**-695,313,054**	2.25%	**161,448,695**

Schedule AWR-3B

UNION ELECTRIC COMPANY
d/b/a AMERENUE
Case No. ER-2010-0036

SURREBUTTAL DEPRECIATION ACCRUAL COMPARISON SPREADSHEET

Account No.	Title	Depreciation Rate Compare (no amortization) Case 2002-1	Case 2007-0002	Case 2008-0318	Company 2010-0036	PSC Staff 2010-0036	Plant Company Books	Adjusted Plant Original Cost 31-Dec-2008	Annual Accrual Compare (no amortization) Case 2002-1	Case 2008-0318	Company 2010-0036	PSC Staff 2010-0036
	Transmission Plant											
352	Structures and Improvements	1.33%	1.75%	1.75%	1.67%	1.67%		6,271,634	83,413	109,754	104,736	104,527
353	Station Equipment	2.00%	1.82%	1.82%	1.82%	1.58%		228,351,122	4,567,022	4,155,990	4,155,990	3,615,559
354	Tower and Fixtures	1.86%	1.69%	1.69%	1.63%	1.63%		70,394,133	1,309,331	1,189,661	1,147,565	1,146,419
355	Poles and Fixtures	2.79%	3.65%	3.65%	3.59%	3.30%		138,655,625	3,868,492	5,060,930	4,979,080	4,578,252
356	Overhead Conductors and Devices	1.45%	2.27%	2.27%	2.18%	1.85%		145,108,058	2,104,067	3,293,953	3,164,552	2,678,918
359	Roads and Trails	2.00%	2.00%	2.00%	2.00%	2.00%	71,789	39,226	785	785	785	785
	Total Transmission Plant							**588,819,788**	**11,933,109**	**13,811,073**	**13,552,708**	**12,124,460**
	Distribution Plant											
361	Structures and Improvements	1.48%	1.75%	1.75%	1.67%	1.67%		15,366,771	227,428	268,918	256,625	256,113
362	Station Equipment	2.39%	1.82%	1.82%	1.84%	1.69%		598,830,057	14,312,038	10,898,707	11,000,508	11,300,503
364	Poles, Towers, and Fixtures	6.68%	5.47%	5.47%	5.55%	5.68%		767,060,219	51,239,623	41,958,194	42,568,665	43,582,967
365	Overhead Conductors and Devices	3.19%	3.19%	3.19%	3.12%	3.24%		856,325,270	27,316,776	27,316,776	26,727,624	27,704,641
366	Underground Conduit	1.73%	2.31%	2.31%	2.00%	2.00%		223,547,546	3,867,373	5,163,948	4,475,422	4,470,951
367	Underground Conductors and Devices	1.73%	2.36%	2.36%	2.31%	2.27%		527,667,832	9,128,653	12,452,961	12,202,319	11,992,451
368	Line Transformers	2.08%	2.40%	2.40%	2.38%	2.33%		401,240,245	8,345,797	9,629,766	9,546,050	9,331,168
369.001	Overhead Services	8.25%	8.11%	8.11%	7.87%	7.88%		153,326,209	12,649,412	12,434,756	12,061,060	12,074,439
369.002	Underground Services	2.60%	4.00%	4.00%	3.28%	3.27%		134,153,521	3,487,992	5,366,141	4,394,352	4,390,479
370	Meters	2.75%	3.57%	3.57%	3.85%	3.85%		106,165,932	2,919,563	3,790,124	4,085,925	4,083,305
371	Installations on Customer Premises	2.20%	5.00%	5.00%	3.13%	5.10%		164,611	3,621	8,231	5,160	8,395
373.00	Street Lighting and Signal Systems	5.91%	4.39%	4.39%	3.98%	3.97%		109,202,915	8,453,892	4,794,008	4,341,253	4,337,782
	Total Distribution Plant							**3,693,051,128**	**139,952,169**	**134,082,529**	**131,664,963**	**133,633,194**
	General Plant											
390.0	Structures and Improvements	2.29%	2.33%	2.33%	2.44%	2.71%		189,663,144	4,343,286	4,419,151	4,629,015	5,141,979
391.0	Office Furniture and Equipment	3.29%	6.67%	6.67%	6.67%	6.00%	55,554,783	42,993,873	1,414,498	2,867,691	2,867,691	2,579,632
391.1	Mainframe Computers	3.29%	0.00%	0.00%	20.00%	20.00%		0	0	0	0	0
391.2	Personal Computers	3.29%	20.00%	20.00%	20.00%	20.00%	2,077,726	1,527,337	50,249	305,467	305,467	305,467
392.0	Transportation Equipment	8.00%	8.27%	8.27%	8.20%	8.27%		94,534,723	7,562,778	7,818,022	7,748,088	7,820,600
393.0	Stores Equipment	2.75%	5.00%	5.00%	5.00%	5.00%	2,924,509	2,304,698	63,379	115,235	115,235	115,235
394.00	Tools, Shop and Garage Equipment	1.82%	5.00%	5.00%	5.00%	5.00%	13,425,316	12,071,031	219,693	603,552	603,552	603,552
395.00	Laboratory Equipment	1.88%	5.00%	5.00%	5.00%	5.00%	7,788,726	6,627,517	124,597	331,376	331,376	331,376
396.00	Power Operated Equipment	4.28%	5.67%	5.67%	5.66%	5.67%		8,575,690	367,040	486,242	485,790	485,956
397.00	Communication Equipment	3.50%	6.67%	6.67%	6.67%	6.67%	135,601,034	76,393,686	2,673,779	5,081,038	5,081,038	5,092,912
398.00	Miscellaneous Equipment	4.75%	5.00%	5.00%	5.00%	5.00%	780,241	755,476	35,885	37,774	37,774	37,774
	Total General Plant							**435,447,175**	**16,855,186**	**22,065,547**	**22,205,026**	**22,514,482**
Column Totals								**12,080,475,022**	**381,861,897**	**325,065,194**	**363,897,429**	**344,008,465**

* Sub-account did not exist when the last depreciation rates were ordered in 1983

UNION ELECTRIC COMPANY
d/b/a AMERENUE
Case No. ER-2010-0036

SURREBUTTAL DEPRECIATION ACCRUAL COMPARISON SPREADSHEET

Account No.	Title	AmerenUE Case ER-2010-0036 Company Proposed Remaining Life Amortization Adjustment: Total Reserve Variance	Remain Life	Annual Reserve Amortization	Remain Life Accrual	Adj %	PSC Staff ER-2010-0036 Proposed Annual Accruals and Amortization: Total Reserve Variance	Depr %	Annual Accrual
	Transmission Plant								
352	Structures and Improvements	-65,960	38.3	-1,722	103,014	1.64	-65,960	1.67%	104,527
353	Station Equipment	-6,936,261	41.5	-167,139	3,988,851	1.75	-14,360,181	1.58%	3,615,559
354	Tower and Fixtures	-7,800,144	38.3	-203,659	943,906	1.34	-9,793,136	1.63%	1,146,419
355	Poles and Fixtures	16,828,618	39.2	429,301	5,408,381	3.90	9,856,569	3.30%	4,578,252
356	Overhead Conductors and Devices	15,382,639	34.4	447,170	3,611,722	2.49	4,829,532	1.85%	2,678,918
359	Roads and Trails	-12,229	4.4	-2,779	-1,994	-5.08	-11,929	2.00%	785
	Total Transmission Plant	**17,396,663**		**501,172**	**14,053,880**	2.39	**-9,545,105**	2.06%	**12,124,460**
	Distribution Plant								
361	Structures and Improvements	62,810	39.5	1,590	258,215	1.68	62,810	1.67%	256,113
362	Station Equipment	-3,744,321	43.0	-87,077	10,913,431	1.82	-7,508,242	1.89%	11,300,503
364	Poles, Towers, and Fixtures	-17,899,650	31.4	-570,053	41,998,612	5.48	20,482,623	5.68%	43,582,967
365	Overhead Conductors and Devices	14,813,931	38.2	387,799	27,115,423	3.17	26,337,951	3.24%	27,704,641
366	Underground Conduit	-8,372,363	56.4	-148,446	4,326,976	1.94	-8,372,363	2.00%	4,470,951
367	Underground Conductors and Devices	1,825,218	41.3	44,194	12,246,513	2.32	-688,831	2.27%	11,992,451
368	Line Transformers	12,629,752	27.9	452,679	9,998,729	2.49	9,327,302	2.33%	9,331,168
369.001	Overhead Services	-4,937,085	26.2	-188,438	11,872,622	7.74	-4,937,085	7.88%	12,074,439
369.002	Underground Services	-13,292,881	38.6	-344,375	4,049,977	3.02	-13,292,881	3.27%	4,393,475
370	Meters	5,196,297	15.8	328,880	4,414,805	4.16	5,196,297	3.85%	4,083,305
371	Installations on Customer Premises	-10,041	7.0	-1,434	3,726	2.26	-7,462	5.10%	8,395
373.00	Street Lighting and Signal Systems	-8,913,249	25.6	-348,174	3,993,079	3.66	-8,913,249	3.97%	4,337,782
	Total Distribution Plant	**-22,841,552**		**-472,855**	**131,192,108**	3.37	**17,686,870**	3.43%	133,533,191
	General Plant								
390.0	Structures and Improvements	4,058,443	32.4	125,261	4,754,276	2.51	10,475,760	2.71%	5,141,979
391.0	Office Furniture and Equipment	-2,933,706	8.3	-353,459	2,514,232	5.85	-2,933,706	6.00%	2,579,632
391.1	Mainframe Computers	-332,101	0.0	0	0	0.00	-332,101	20.00%	0
391.2	Personal Computers	-167,459	2.4	-69,775	235,692	15.43	-167,459	20.00%	305,467
392.0	Transportation Equipment	-2,901,126	6.9	-420,453	7,327,635	7.75	-510,058	8.27%	7,820,600
393.0	Stores Equipment	-18,858	12.3	-1,533	113,702	4.93	-18,858	5.00%	115,235
394.00	Tools, Shop and Garage Equipment	-3,263	11.4	-286	603,266	5.00	-3,263	5.00%	603,552
395.00	Laboratory Equipment	147,427	11.0	13,402	344,778	5.20	147,427	5.00%	331,376
396.00	Power Operated Equipment	220,055	8.6	25,588	511,378	5.96	220,055	5.67%	485,956
397.00	Communication Equipment	-3,539,509	6.2	-570,889	4,510,149	5.90	-3,852,576	6.67%	5,092,912
398.00	Miscellaneous Equipment	13,137	12.8	1,026	38,800	5.14	13,137	5.00%	37,774
	Total General Plant	**-5,456,960**		**-1,261,117**	**20,953,909**	4.81	**3,038,358**	5.17%	**22,514,482**
Column Totals		**-659,880,374**		**-19,996,744**	**343,900,685**	2.85	-684,132,931	2.73%	329,620,831
							Difference from company -->		-14,279,894
							Difference from current -->		4,959,638

* Sub-account did not exist when the last depreciation rates were ordered in 1983

Schedule AWR-3B

UNION ELECTRIC COMPANY
d/b/a AMERENUE
Case No. ER-2010-0036

ACCUMULATED RESERVE, THEORETICAL RESERVE, and ADJUSTMENTS FOR ACCOUNTS USING SQUARE CURVE TYPE DEPRECIATION

Account No.	Title	Adjusted Plant Balance 31-Dec-2008	Adjusted Book Reserve Bal 31-Dec-2008	Theoretical Reserve Calc Company	Theoretical Reserve Calc Staff	Difference	Book % Reserve	Theoretical % Reserve	Company Book Reserve	Staff Plant/Reserve Adjustment
			Rice		Rice				Wiedmayer	Rice
		(1)	(2 = 7-8)		(3)	(4=3-2)	(5=2/1)	(6=3/1)	(7)	(8)
	Steam Production Plant									
	Meramec Steam Production Plant									
311	Structures & Improvements	39,820,843	27,298,716	22,724,769	24,943,615	-2,355,101	68.6%	62.6%	27,298,716	
312	Boiler Plant Equipment	415,492,860	120,665,532	201,106,640	120,019,786	-645,746	29.0%	28.9%	120,665,532	
314	Turbogenerator Units	83,427,432	53,936,048	44,360,471	35,831,926	-18,104,122	64.7%	42.9%	53,936,048	
315	Acessory Electric Equipment	43,146,199	22,694,796	20,572,681	15,350,326	-7,344,470	52.6%	35.6%	22,694,796	
316	Misc. Power Plant Equipment	19,153,270	5,178,962	6,402,494	2,765,946	-2,413,016	27.0%	14.4%	5,178,962	
	SUM	601,040,604	229,774,054	295,167,055	198,911,599	-30,862,455	38.2%	33.1%	229,774,054	
	Sioux Steam Production Plant									
311	Structures & Improvements	36,425,327	14,911,056	11,764,291	14,913,488	2,432	40.9%	40.9%	14,911,056	
312	Boiler Plant Equipment	392,050,516	126,135,289	136,533,737	112,196,456	-13,938,833	32.2%	28.6%	126,135,289	
314	Turbogenerator Units	99,339,660	33,708,197	29,735,463	26,074,701	-7,633,496	33.9%	26.2%	33,708,197	
315	Acessory Electric Equipment	34,536,592	12,920,664	11,081,837	10,042,643	-2,878,021	37.4%	29.1%	12,920,664	
316	Misc. Power Plant Equipment	10,342,298	2,901,958	2,727,765	1,789,662	-1,112,296	28.1%	17.3%	2,901,958	
	SUM	572,694,393	190,577,164	191,843,093	165,016,950	-25,560,214	33.3%	28.8%	190,577,164	
	Labadie Steam Production Plant									
311	Structures & Improvements	64,976,426	37,436,347	24,538,479	36,353,311	-1,083,036	57.6%	55.9%	37,436,347	
312	Boiler Plant Equipment	594,753,745	311,792,182	231,961,342	252,624,513	-59,167,669	52.4%	42.5%	311,792,182	
312.03	Aluminum Coal Cars	116,271,400	72,203,419	35,659,912	35,659,912	-36,543,507	62.1%	30.7%	72,203,419	
314	Turbogenerator Units	208,376,677	72,315,621	56,828,019	62,584,580	-9,731,041	34.7%	30.0%	72,315,621	
315	Acessory Electric Equipment	81,057,131	41,876,752	28,241,210	32,245,905	-9,630,847	51.7%	39.8%	41,876,752	
316	Misc. Power Plant Equipment	19,334,388	8,615,370	4,894,099	4,194,685	-4,420,685	44.6%	21.7%	8,615,370	
	SUM	1,084,769,767	544,239,691	382,123,061	423,662,906	-120,576,785	50.2%	39.1%	544,239,691	
	Rush Island Steam Production Plant									
311	Structures & Improvements	53,514,432	34,602,766	20,126,171	32,104,786	-2,497,980	64.7%	60.0%	34,602,766	
312	Boiler Plant Equipment	385,943,531	203,577,879	131,646,862	150,327,925	-53,249,954	52.7%	39.0%	203,577,879	
314	Turbogenerator Units	136,992,202	57,396,310	41,557,389	48,946,233	-8,450,077	41.9%	35.7%	57,396,310	
315	Acessory Electric Equipment	37,966,123	17,479,208	11,051,577	13,102,771	-4,376,437	46.0%	34.5%	17,479,208	
316	Misc. Power Plant Equipment	11,297,925	5,014,763	2,553,804	2,335,366	-2,679,397	44.4%	20.7%	5,014,763	
	SUM	625,714,213	318,070,926	206,935,803	246,817,081	-71,253,845	50.8%	39.4%	318,070,926	

UNION ELECTRIC COMPANY
d/b/a AMERENUE
Case No. ER-2010-0036

ACCUMULATED RESERVE, THEORETICAL RESERVE, and ADJUSTMENTS FOR ACCOUNTS USING SQUARE CURVE TYPE DEPRECIATION

Account No.	Title	Adjusted Plant Balance 31-Dec-2008	Adjusted Book Reserve Bal 31-Dec-2008	Theoretical Reserve Calc Company	Theoretical Reserve Calc Staff	Difference	Book % Reserve	Theoretical % Reserve	Company Book Reserve	Staff Plant/Reserve Adjustment
	Common Steam Production Plant									
311	Structures & Improvements	1,959,206	332,348	354,633	369,519	37,171	17.0%	18.9%	332,348	
312	Boiler Plant Equipment	36,983,418	7,388,179	7,905,501	6,084,880	-1,303,299	20.0%	16.5%	7,388,179	
315	Accessory Electrical Equipment	3,129,974	525,483	598,527	478,878	-46,605	16.8%	15.3%	525,483	
316	Misc. Power Plant Equipment	20,843	3,979	3,208	2,039	-1,940	19.1%	9.8%	3,979	
	SUM	42,093,441	8,249,989	8,861,869	6,935,316	-1,314,673	19.6%	16.5%	8,249,989	
	Total Steam Production Plant	**2,926,312,418**	**1,290,911,824**	**1,084,930,881**	1,041,243,352	**-249,567,972**	44.1%	35.6%	**1,290,911,824**	
	Nuclear Production Plant									
321	Structures and Improvements	908,912,210	499,975,655	331,112,823	331,112,823	-168,862,832	55.0%	36.4%	499,975,655	
322	Reactor Plant Equipment	1,011,169,315	339,507,647	344,886,372	344,905,950	5,398,303	33.6%	34.1%	339,507,647	
323	Turbogenerator Units	509,558,176	207,370,797	173,034,827	173,037,453	-34,333,344	40.7%	34.0%	207,370,797	
324	Accessory Electric Equipment	211,158,284	122,373,296	81,039,230	81,039,230	-41,334,066	58.0%	38.4%	122,373,296	
325	Misc. Power Plant Equipment	171,818,762	34,394,723	37,402,552	37,402,552	3,007,829	20.0%	21.8%	34,394,723	
	Total Nuclear Production Plant	**2,812,616,747**	**1,203,622,118**	**967,475,804**	**967,498,008**	**-236,124,110**	42.8%	34.4%	**1,203,622,118**	
	Osage Hydraulic Production Plant									
331	Structures and Improvements	4,388,345	1,281,529	2,172,985	1,412,646	131,117	29.2%	32.2%	1,281,529	
332	Reservoirs, Dams, and Waterways	26,340,018	14,092,445	16,628,238	16,873,892	2,781,447	53.5%	64.1%	14,092,445	
333	Water Wheels, Turbines, and Generators	33,927,129	6,731,356	9,153,528	10,153,892	3,422,536	19.8%	29.9%	6,731,356	
334	Accessory Electric Equipment	6,077,560	1,768,215	1,872,635	1,823,549	55,334	29.1%	30.0%	1,768,215	
335	Misc. Power Plant Equipment	2,257,999	440,953	462,903	367,577	-73,376	19.5%	16.3%	440,953	
336	Roads, Railroads, and Bridges	11,214	52,927	37,202	9,348	-43,579	472.0%	83.4%	119,158	(66,231)
	SUM	73,002,265	24,367,425	30,327,491	30,640,904	6,273,479	33.4%	42.0%	24,433,656	
	Keokuk Hydraulic Production Plant									
331	Structures and Improvements	5,643,621	1,491,331	1,819,559	1,264,774	-226,557	26.4%	22.4%	1,491,331	
332	Reservoirs, Dams, and Waterways	14,294,537	6,039,483	6,603,215	7,127,920	1,088,437	42.3%	49.9%	6,039,483	
333	Water Wheels, Turbines, and Generators	59,286,459	8,113,053	14,426,493	14,335,024	6,221,971	13.7%	24.2%	8,113,053	
334	Accessory Electric Equipment	10,757,362	1,212,775	2,241,976	2,228,932	1,016,157	11.3%	20.7%	1,212,775	
335	Misc. Power Plant Equipment	2,986,736	745,634	599,485	523,038	-222,596	25.0%	17.5%	745,634	
336	Roads, Railroads, and Bridges	98,920	48,470	34,757	49,656	1,186	49.0%	50.2%	64,476	(16,006)
	SUM	93,067,635	17,650,746	25,725,485	25,529,344	7,878,598	19.0%	27.4%	17,666,752	

UNION ELECTRIC COMPANY
d/b/a AMERENUE
Case No. ER-2010-0036

ACCUMULATED RESERVE, THEORETICAL RESERVE, and ADJUSTMENTS FOR ACCOUNTS USING SQUARE CURVE TYPE DEPRECIATION

Account No.	Title	Adjusted Plant Balance 31-Dec-2008	Adjusted Book Reserve Bal 31-Dec-2008	Theoretical Reserve Calc Company	Theoretical Reserve Calc Staff	Difference	Book % Reserve	Theoretical % Reserve	Company Book Reserve	Staff Plant/Reserve Adjustment
	Taum Sauk Hydraulic Production Plant									
331	Structures and Improvements	6,000,732	1,217,598	3,057,520	1,750,084	532,486	20.3%	29.2%	1,217,598	
332	Reservoirs, Dams, and Waterways	28,104,317	7,598,016	14,670,600	13,236,637	5,638,621	27.0%	47.1%	7,598,016	
333	Water Wheels, Turbines, and Generators	39,324,979	9,289,242	15,627,545	15,764,118	6,474,876	23.6%	40.1%	9,289,242	
334	Accessory Electric Equipment	3,947,016	1,588,236	1,449,261	1,487,289	-100,947	40.2%	37.7%	1,588,236	
335	Misc. Power Plant Equipment	2,413,628	523,926	348,359	275,993	-247,933	21.7%	11.4%	523,926	
336	Roads, Railroads, and Bridges	45,570	58,773	19,932	36,445	-22,328	129.0%	80.0%	58,773	0
	SUM	79,836,242	20,275,791	35,173,217	32,550,566	12,274,775	25.4%	40.8%	20,275,791	
	Total Hydraulic Production Plant	**245,906,142**	**62,293,962**	**91,226,193**	**88,720,614**	**26,426,852**	25.3%	36.1%	**62,376,199**	(82,237)
	Other Production Plant									
341	Structures and Improvements	25,892,740	7,436,994	5,829,874	5,829,874	-1,607,120	28.7%	22.5%	7,436,994	
342	Fuel Holders, Products, and Accessories	24,520,526	5,486,183	5,515,444	5,515,444	29,261	22.4%	22.5%	5,486,183	
344	Generators	1,051,873,156	433,024,882	197,661,738	197,661,738	-235,363,144	41.2%	18.8%	433,024,882	
345	Accessory Electric Equipment	69,921,659	13,833,369	15,116,387	15,116,387	1,283,018	19.8%	21.6%	13,833,369	
346	Misc. Power Plant Equipment	6,113,533	1,433,017	1,189,770	1,043,178	-389,839	23.4%	17.1%	1,433,017	
	Total Other Production Plant	**1,178,321,614**	**461,214,445**	**225,313,213**	225,166,621	**-236,047,824**	39.1%	19.1%	**461,214,445**	
	Transmission Plant									
352	Structures and Improvements	6,271,634	2,327,929	2,261,969	2,261,969	-65,960	37.1%	36.1%	2,327,929	
353	Station Equipment	228,351,122	62,940,658	56,004,397	48,580,477	-14,360,181	27.6%	21.3%	62,940,658	
354	Tower and Fixtures	70,394,133	44,155,918	36,355,774	34,362,782	-9,793,136	62.7%	48.8%	44,155,918	
355	Poles and Fixtures	138,655,625	51,679,866	68,508,484	61,536,435	9,856,569	37.3%	44.4%	51,679,866	
356	Overhead Conductors and Devices	145,108,058	49,972,709	65,355,348	54,802,241	4,829,532	34.4%	37.8%	49,972,709	
359	Roads and Trails	39,226	48,009	68,343	36,080	-11,929	122.4%	92.0%	80,572	(32,563)
	Total Transmission Plant	**588,819,798**	**211,125,089**	**228,554,316**	**201,579,984**	**-9,545,105**	35.9%	34.2%	**211,157,652**	(32,563)
	Distribution Plant									
361	Structures and Improvements	15,366,771	5,180,137	5,242,947	5,242,947	62,810	33.7%	34.1%	5,180,137	
362	Station Equipment	598,830,057	189,119,546	185,375,225	181,611,304	-7,508,242	31.6%	30.3%	189,119,546	
364	Poles, Towers, and Fixtures	767,060,219	597,821,521	579,921,871	618,304,144	20,482,623	77.9%	80.6%	597,821,521	
365	Overhead Conductors and Devices	856,325,270	273,417,973	288,231,904	299,755,924	26,337,951	31.9%	35.0%	273,417,973	
366	Underground Conduit	223,547,546	68,816,867	60,444,504	60,444,504	-8,372,363	30.8%	27.0%	68,816,867	
367	Underground Conductors and Devices	527,667,832	153,703,427	155,528,645	153,014,596	-688,831	29.1%	29.0%	153,703,427	
368	Line Transformers	401,240,245	121,966,245	134,595,997	131,293,547	9,327,302	30.4%	32.7%	121,966,245	
369.001	Overhead Services	153,326,209	171,826,238	166,889,153	166,889,153	-4,937,085	112.1%	108.8%	171,826,238	
369.002	Underground Services	134,153,521	85,139,432	71,846,551	71,846,551	-13,292,881	63.5%	53.6%	85,139,432	
370	Meters	106,165,932	36,289,818	41,486,115	41,486,115	5,196,297	34.2%	39.1%	36,289,818	
371	Installations on Customer Premises	164,611	138,509	128,468	131,047	-7,462	84.1%	79.6%	138,509	
373.00	Street Lighting and Signal Systems	109,202,915	54,093,400	45,180,151	45,180,151	-8,913,249	49.5%	41.4%	54,093,400	
	Total Distribution Plant	**3,893,051,128**	**1,767,513,113**	**1,734,871,531**	1,775,199,983	**17,686,870**	45.1%	45.6%	**1,767,513,113**	

UNION ELECTRIC COMPANY
d/b/a AMERENUE
Case No. ER-2010-0036

ACCUMULATED RESERVE, THEORETICAL RESERVE, and ADJUSTMENTS FOR ACCOUNTS USING SQUARE CURVE TYPE DEPRECIATION

Account No.	Title	Adjusted Plant Balance 31-Dec-2008	Adjusted Book Reserve Bal 31-Dec-2008	Theoretical Reserve Calc Company	Theoretical Reserve Calc Staff	Difference	Book % Reserve	Theoretical % Reserve	Company Book Reserve	Staff Plant/Reserve Adjustment
	General Plant									
390.0	Structures and Improvements	189,663,144	54,763,375	58,821,818	65,239,135	10,475,760	28.9%	34.4%	54,763,375	
391.0	Office Furniture and Equipment	42,993,873	22,150,764	31,777,968	19,217,058	-2,933,706	51.5%	44.7%	34,711,674	(12,560,910)
391.1	Mainframe Computers	0	332,101	0	0	-332,101	100.0%	100.0%	332,101	
391.2	Personal Computers	1,527,337	953,192	1,336,122	785,733	-167,459	62.4%	51.4%	1,503,581	(550,389)
392.0	Transportation Equipment	94,534,723	35,234,174	32,333,048	34,724,116	-510,058	37.3%	36.7%	35,234,174	
393.0	Stores Equipment	2,304,698	909,358	1,510,311	890,500	-18,858	39.5%	38.6%	1,529,169	(619,811)
394.00	Tools, Shop and Garage Equipment	12,071,031	5,171,883	6,522,905	5,168,620	-3,263	42.8%	42.8%	6,526,168	(1,354,285)
395.00	Laboratory Equipment	6,627,517	2,833,032	4,141,668	2,980,459	147,427	42.7%	45.0%	3,994,241	(1,161,209)
396.00	Power Operated Equipment	8,575,690	2,880,490	3,100,545	3,100,545	220,055	33.6%	36.2%	2,880,490	
397.00	Communication Equipment	76,393,686	48,590,738	104,258,577	44,738,162	-3,852,576	63.6%	58.6%	107,798,086	(59,207,348)
398.00	Miscellaneous Equipment	755,476	257,578	295,480	270,715	13,137	34.1%	35.8%	282,343	(24,765)
	Total General Plant	**435,447,175**	**174,076,685**	**244,098,442**	**177,115,043**	**3,038,368**	40.0%	40.7%	**249,555,402**	**(75,478,717)**
olumn Totals		**12,080,475,022**	**5,160,757,236**	**4,576,470,379**	4,476,624,305	**-684,132,931**	42.7%	37.1%	**5,236,350,763**	**(75,593,517)**

UNION ELECTRIC COMPANY
d/b/a AMERENUE
Case No. ER-2010-0036

Updated 3/1/2010

SURREBUTTAL STAFF PROPOSED DEPRECIATION RATE SCHEDULE

Account No.	Title	ER-2010-0036 --> Staff Mass Prop except Nuclear Life (Yr.)	Curve	Net Salvage (%)	Life Deprec. Rate (%)	Net Salvage Deprec. Rate (%)	Combined Deprec. Rate (%)
	Steam Production Plant						
311	Structures & Improvements	56	R3	(45)	1.79%	0.80%	2.59%
312	Boiler Plant Equipment	45	R1.5	(23)	2.22%	0.51%	2.73%
312.03	Aluminum Coal Cars	26	R2.5	30	3.85%	-1.15%	2.69%
314	Turbogenerator Units	47	R2	(11)	2.13%	0.23%	2.36%
315	Acessory Electric Equipment	51	R2.5	(12)	1.96%	0.24%	2.20%
316	Misc. Power Plant Equipment	45	R0.5	0	2.22%	0.00%	2.22%
	Nuclear Production Plant	60 yr Life Span					
321	Structures and Improvements	100	R1(a)	(1)	1.93%	0.02%	1.95%
322	Reactor Plant Equipment	60	S0(a)	(10.0)	2.32%	0.23%	2.55%
323	Turbogenerator Units	60	S0.5(a)	(2)	2.24%	0.04%	2.28%
324	Accessory Electric Equipment	80	R2(a)	0	1.87%	0.00%	1.87%
325	Misc. Power Plant Equipment	60	O3(a)	0	2.88%	0.00%	2.88%
	Hydraulic Production Plant						
331	Structures and Improvements	130	R2	(20)	0.77%	0.15%	0.92%
332	Reservoirs, Dams, and Waterways	91	R2	(43)	1.10%	0.47%	1.57%
333	Water Wheels, Turbines, and Generators	85	R2.5	(75)	1.18%	0.88%	2.06%
334	Accessory Electric Equipment	65	R0.5	(40)	1.54%	0.62%	2.15%
335	Misc. Power Plant Equipment	60	R0.5	(25)	1.67%	0.42%	2.08%
336	Roads, Railroads, and Bridges	50	SQ	0	2.00%	0.00%	2.00%
	Other Production Plant						
341	Structures and Improvements	40	R4	(5)	2.50%	0.13%	2.63%
342	Fuel Holders, Products, and Accessories	40	R4	(5)	2.50%	0.13%	2.63%
344	Generators	40	R4	(5)	2.50%	0.13%	2.63%
345	Accessory Electric Equipment	40	R4	(5)	2.50%	0.13%	2.63%
346	Misc. Power Plant Equipment	25	L0.5	3	4.00%	-0.12%	3.88%

UNION ELECTRIC COMPANY
d/b/a AMERENUE
Case No. ER-2010-0036

Updated 3/1/2010

SURREBUTTAL STAFF PROPOSED DEPRECIATION RATE SCHEDULE

Account No.	Title	ER-2010-0036 --> Staff Mass Prop except Nuclear					
		Life (Yr.)	Curve	Net Salvage (%)	Life Deprec. Rate (%)	Net Salvage Deprec. Rate (%)	Combined Deprec. Rate (%)
	Transmission Plant						
352	Structures and Improvements	60	R2	0	1.67%	0.00%	1.67%
353	Station Equipment	60	R2.5	5	1.67%	-0.08%	1.58%
354	Tower and Fixtures	70	R4	(14)	1.43%	0.20%	1.63%
355	Poles and Fixtures	53	R4	(75)	1.89%	1.42%	3.30%
356	Overhead Conductors and Devices	65	R2.5	(20)	1.54%	0.31%	1.85%
359	Roads and Trails	50	SQ	0	2.00%	0.00%	2.00%
	Distribution Plant						
361	Structures and Improvements	60	R2.5	0	1.67%	0.00%	1.67%
362	Station Equipment	62	R2	(17)	1.61%	0.27%	1.89%
364	Poles, Towers, and Fixtures	44	R3	(150)	2.27%	3.41%	5.68%
365	Overhead Conductors and Devices	51	R1	(65)	1.96%	1.27%	3.24%
366	Underground Conduit	70	R3	(40)	1.43%	0.57%	2.00%
367	Underground Conductors and Devices	55	R2	(25)	1.82%	0.45%	2.27%
368	Line Transformers	43	S1.5	0	2.33%	0.00%	2.33%
369.001	Overhead Services	40	R2.5	(215)	2.50%	5.38%	7.88%
369.002	Underground Services	55	R3	(80)	1.82%	1.45%	3.27%
370	Meters	26	L2.5	0	3.85%	0.00%	3.85%
371	Installations on Customer Premises	20	O1	(2)	5.00%	0.10%	5.10%
373.00	Street Lighting and Signal Systems	36	L1	(43)	2.78%	1.19%	3.97%
	General Plant						
390.0	Structures and Improvements	45	R1.5	(22)	2.22%	0.49%	2.71%
391.0	Office Furniture and Equipment	15	SQ	10	6.67%	-0.67%	6.00%
391.1	Mainframe Computers	5	SQ	0	20.00%	0.00%	20.00%
391.2	Personal Computers	5	SQ	0	20.00%	0.00%	20.00%
392.0	Transportation Equipment	11	R1.5	9	9.09%	-0.82%	8.27%
393.0	Stores Equipment	20	SQ	0	5.00%	0.00%	5.00%
394.00	Tools, Shop and Garage Equipment	20	SQ	0	5.00%	0.00%	5.00%
395.00	Laboratory Equipment	20	SQ	0	5.00%	0.00%	5.00%
396.00	Power Operated Equipment	15	L2	15	6.67%	-1.00%	5.67%
397.00	Communication Equipment	15	SQ	0	6.67%	0.00%	6.67%
398.00	Miscellaneous Equipment	20	SQ	0	5.00%	0.00%	5.00%