BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

In the Matter of the Application of The Empire District Electric Company for Approval of the Commission to Make Certain Changes in its Charges for Electric Service.	**Docket No. 19-EPDE-223-RTS**

DIRECT TESTIMONY AND SCHEDULES

OF

ROXIE MCCULLAR

ON BEHALF OF

KANSAS CORPORATION COMMISSION STAFF

May 13, 2019

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Introduction

Q. Please state your name and business address.

A. My name is Roxie McCullar. My business address is 8625 Farmington Cemetery Road, Pleasant Plains, Illinois 62677.

Q. What is your present occupation?

A. Since 1997, I have been employed as a consultant with the firm of William Dunkel and Associates and have regularly provided consulting services in regulatory proceedings throughout the country.

Q. Please describe your educational and professional background.

A. I have 20 years of experience consulting in regulatory rate cases and have addressed depreciation rate issues in over 20 proceedings in numerous jurisdictions nationwide. I am a Certified Public Accountant licensed in the state of Illinois. I am a Certified Depreciation Professional through the Society of Depreciation Professionals. I received my Master of Arts degree in Accounting from the University of Illinois in Springfield. I received my Bachelor of Science degree in Mathematics from Illinois State University in Normal.

Q. Have you prepared an appendix that describes your previous experience?

A. Yes. My previous experiences are shown on the attached Appendix A.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of the Staff of the Kansas Corporation Commission ("Staff").

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to address depreciation issues related to The Empire District Electric Company ("Empire" or "Company") in Kansas.

Q. Did you participate in a field visit of Empire's facilities?

A. Yes. On April 4-5, 2019, I participated in field visits of several different Empire locations.[1] At each location, Company personnel discussed the facilities and ongoing projects with me.

Summary

Q. Can you summarize your recommendations regarding depreciation rates for Empire?

A. Yes. I recommend that the Staff proposed depreciation rates shown on Schedule RMM-1 be approved for Empire in Kansas.

The Staff proposed depreciation rates compared to the Empire proposed depreciation rates are summarized below:

[1] I visited the Kodiak Operations Center, Energy Center Plant, State Line Plant, two substations, and a location where Empire had recently completed an overhead project.

Table 1: Comparison of Composite Annual Depreciation Rates

Functional Category	12/31/14 Investment	Current	Empire Proposed Annual Depreciation Rate	Empire Proposed Difference from Current	Staff Proposed Annual Depreciation Rate	Staff Difference from Current	Staff Difference from Empire Proposed
Production							
Steam	793,621,632	1.78%	3.84%	2.06%	3.36%	1.58%	-0.48%
Hydro	9,215,852	1.60%	2.64%	1.04%	2.02%	0.42%	-0.62%
Other	350,038,353	2.50%	2.39%	-0.11%	2.05%	-0.45%	-0.34%
Transmission	276,933,230	2.48%	2.41%	-0.07%	2.26%	-0.22%	-0.15%
Distribution	836,026,959	3.58%	3.15%	-0.43%	2.76%	-0.82%	-0.39%
General Plant	77,685,687	5.98%	5.96%	-0.02%	5.00%	-0.98%	-0.96%
Total	2,343,521,713	2.75%	3.27%	0.52%	2.87%	0.12%	-0.40%

The annualized accrual based on December 31, 2014, investments using the Staff proposed depreciation rates compared to Empire's proposed depreciation rates are summarized below:[2]

Table 2: Comparison of Annual Accrual Based on December 31, 2014 Investments

Function	12/31/14 Investment	Current	Empire Proposed Annual Depreciation Rate	Empire Proposed Difference from Current	Staff Proposed Annual Depreciation Rate	Staff Difference from Current	Staff Difference from Empire Proposed
Production							
Steam	793,621,632	14,117,935	30,496,035	16,378,100	26,654,284	12,536,349	(3,841,751)
Nuclear	9,215,852	147,794	243,484	95,690	186,089	38,295	(57,395)
Other	350,038,353	8,758,377	8,366,633	(391,744)	7,174,168	(1,584,209)	(1,192,464)
Transmission	276,933,230	6,880,751	6,679,298	(201,453)	6,265,242	(615,509)	(414,056)
Distribution	836,026,959	29,929,611	26,331,911	(3,597,700)	23,104,784	(6,824,828)	(3,227,128)
General Plant	77,685,687	4,646,268	4,630,186	(16,083)	3,881,380	(764,888)	(748,806)
Total	2,343,521,713	64,480,738	76,747,547	12,266,810	67,265,947	2,785,210	(9,481,600)

[2] Schedule RMM-1 shows the annual accruals based on the 12/31/14 investment levels used in the calculation of the proposed depreciation rates in the depreciation study. However, in the future as the investments change, the depreciation rates will be applied to those investments, which will produce a different annual accrual amount.

Q. Could you please provide the definition of depreciation?

A. Yes. The Federal Energy Regulatory Commission ("FERC") definition contained in the FERC Uniform System of Accounts ("FERC USOA") for Electric Plant states:

> "12. *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]

The FERC USOA definition of "depreciation" specifically states depreciation is a "loss in service value".

Depreciation Rates using Remaining Life Technique

Q. Is Empire proposing remaining life depreciation for all accounts?

A. No. As stated on page 3 of the Direct Testimony of Thomas Sullivan, Empire is proposing remaining life depreciation rates for production plant accounts and whole life depreciation rates for transmission, distribution, and general plant account (together referred to as "mass property accounts").[4]

I recommend using remaining life depreciation rates for all accounts.

[3] FERC Uniform System of Accounts Prescribed for Public Utilities and Licensees Subject to the Provisions of the Federal Power Act. (18 CFR part 101).
[4] Direct Testimony of Thomas J. Sullivan page 5, lines 16-18.

Q. Please start with a brief discussion about the whole life and remaining life techniques for calculating depreciation rates.

A. In the calculation of depreciation rates the whole life and remaining life techniques describe two different formulas that are used to calculate the depreciation rate.

The whole life technique depreciation rate formula is:

$$\text{Depreciation Rate} = \frac{(100\% - \text{Future Net Salvage \%})}{\text{Average Service Life}}$$

The remaining life technique depreciation rate formula is:

$$\text{Depreciation Rate} = \frac{(100\% - \text{Book Reserve \%} - \text{Future Net Salvage \%})}{\text{Average Remaining Life}}$$

In the formulae above, the book reserve percent is the actual reserve on the Company's books divided by the actual plant in service investment on the Company's books at the time of the Depreciation Study.

The Depreciation Study estimates the projected average service life of the assets, the retirement pattern of those assets, and the cost of removing or retiring those assets less any expected salvage from the sale, scrap, insurance, reimbursements, etc. of those assets. These estimates are referred to as depreciation parameters.

The projected average service life and retirement pattern (survivor curve) are the two parameters from the Depreciation Study that calculate the average remaining life.

The estimated future net salvage percent parameter from the Depreciation Study estimates the future cost of removing or retiring less any estimated future salvage from the sale, scrap, insurance, reimbursements, etc.

Q. What is a key difference between the whole life and remaining life technique formulae?

A. The key difference is the remaining life technique formula includes an adjustment in the calculation of depreciation rates to offset any reserve imbalance while the whole life technique does not. The whole life technique is almost identical to remaining life technique when a reserve imbalance amortization over the average remaining life is included. As stated on page 5 of the Direct Testimony of Thomas Sullivan discussing Empire's proposed remaining life production plant depreciation rates:

> "While the whole life formula can be adjusted for reserve deficiencies (or excesses) to essentially mirror the remaining life formula, it is much more straightforward to use the remaining life formula."[5]

Q. What is a reserve imbalance calculated in a depreciation study?

A. A reserve imbalance calculated in a depreciation study is the difference between the actual book accumulated reserve at the time of the study and an estimate of what the depreciation reserve should be based on the depreciation estimates in the current depreciation study.

A reserve imbalance can be due to the prior depreciation estimates being different than the current depreciation estimates, or other cause could be an unanticipated event occurred in the past that impacted the book reserve balance.

[5] Direct Testimony of Thomas J. Sullivan page 5, lines 18-20.

Q. Does an authoritative depreciation text discuss this difference between whole life and remaining life technique formulae?

A. Yes. The National Association of Regulatory Utility Commissioners' ("NARUC") text *Public Utilities Depreciation Practices* states:

> "The Whole Life technique bases the depreciation rate on the estimated average service life of the plant category. Whole life depreciation results in the allocation of a gross plant base over the total life of the investment. However, to the extent that the estimated average service life assigned turns out to be incorrect, (and precision in these estimates cannot reasonably be expected), the Whole Life technique will result in a depreciation reserve imbalance."[6]

NARUC's *Public Utilities Depreciation Practices* goes on to state:

> "The desirability of using the remaining life technique is that any necessary adjustments of depreciation reserves, because of changes to the estimates of life or net salvage, are accrued automatically over the remaining life of the property."[7]

Q. Does the Empire filing show a depreciation reserve imbalance?

A. Yes. Supplemental Direct Exhibit TJS-2 attached to the Supplemental Direct Testimony of Thomas Sullivan calculates a $30 million reserve *deficiency* for production plant accounts and a $68 million reserve *excess* for mass property plant accounts.

[6] Page 63, *Public Utilities Depreciation Practices*, published by National Association of Regulatory Commissioners (NARUC), 1996.
[7] Page 65, *Public Utilities Depreciation Practices*, published by National Association of Regulatory Commissioners (NARUC), 1996.

Q. Is Empire proposing an amortization of the reserve imbalance in addition to the proposed whole life depreciation rates for mass property accounts?

A. No. In response to Staff's request asking if the whole life depreciation rates proposed by Empire include an adjustment for the Empire calculated reserve excess, Empire stated: "the Company is not proposing an adjustment to the mass property accounts."[8]

Q. What impact does a calculated reserve deficiency or reserve excess have on the calculation of depreciation rates?

A. All other things being equal, in the remaining life formula a reserve deficiency would increase the depreciation rate and a reserve excess would result in a lower depreciation rate.

As stated on page 3 of the Direct Testimony of Thomas Sullivan, Empire is proposing remaining life depreciation rates for production plant accounts and whole life depreciation rates for mass property accounts.

Empire is proposing to use remaining life depreciation rates for the production plant accounts which Empire has calculated a $30 million reserve deficiency.[9] In the remaining life formula the reserve deficiency is collected over the remaining life of the investment which results in higher depreciation expense, all other things being equal.

On the other hand, Empire proposed whole life depreciation rates for mass property accounts which Empire has calculated a $68 million reserve excess.[10] In the remaining

[8] Empire Response to Staff Data Request No. 93, included in Schedule RMM-2.
[9] Supplemental Direct Exhibit TJS-2 attached to the Supplemental Direct Testimony of Thomas Sullivan.
[10] Supplemental Direct Exhibit TJS-2 attached to the Supplemental Direct Testimony of Thomas Sullivan.

life formula, a reserve excess decreases the depreciation expense that needs to be collected from ratepayers over the remaining life of the investment, all other things being equal.

For the mass property accounts, Empire's use of the whole life depreciation rate without an adjustment for the $68 million reserve excess reserve results in a higher depreciation expense than would be calculated using a remaining life depreciation rate.

Q. Could you summarize how Empire's proposal impacts ratepayers?

A. Yes. By proposing the remaining life depreciation technique for production plant, Empire is including the recovery of Empire's calculated $30 million reserve deficiency in the charges to ratepayers. However, proposing a whole life depreciation technique for mass property accounts, Empire is *not* including any recognition of the calculated $68 million reserve excess. By proposing the different depreciation rate calculation for production plant and mass property accounts, Empire's proposal treats the calculated reserve deficiency different than the reserve excess its ratepayers have built up. In short, Empire would like its ratepayers to make up for a reserve deficiency while at the same time not credit its ratepayers for a reserve excess.

Q. How do you propose to address any reserve imbalances?

A. I recommend using remaining life depreciation rates for all accounts since the remaining life technique formula includes an adjustment to the depreciation rates to offset any reserve imbalance; the whole life technique does not.

Mass Property Future Net Salvage

Q. Do you have a recommendation regarding Empire's proposed future net salvage percents for mass property accounts?

A. Yes. For Account 353, Transmission-Station Equipment, Account 355, Transmission-Poles and Fixtures, Account 365, Distribution-Overhead Conductors and Devices, Account 366, Distribution-Underground Conduit, and Account 369, Distribution-Services, I recommend future net salvage percents that differ from Empire's proposal as shown in Table 3 below:

Table 3: Comparison of Distribution Plant Future Net Salvage ("FNS") Percent Proposals

Account	Current Approved FNS%	Empire Proposed FNS%	Staff Proposed FNS%
353 Transmission-Station Equipment	-10%	-16%	-10%
355 Transmission-Poles & Fixtures	-100%	-100%	-75%
365 Distribution-Overhead Conductors & Devices	-100%	-100%	-70%
366 Distribution-Underground Conduit	-45%	-23%	-10%
369 Distribution-Services	-100%	-100%	-50%

Q. Please explain what is meant by net salvage.

A. NARUC's *Public Utilities Depreciation Practices* defines net salvage as "the gross salvage for the property retired less its cost of removal."[11] Gross salvage is defined as "the amount recorded for the property retired due to the sale, reimbursement, or reuse of the property."[12] Cost of removal is defined as "the costs incurred in connection with the

[11] Page 322, *Public Utilities Depreciation Practices*, published by National Association of Regulatory Commissioners (NARUC), 1996.
[12] Page 320, *Public Utilities Depreciation Practices*, published by National Association of Regulatory Commissioners (NARUC), 1996.

retirement from service and the disposition of depreciable plant. Cost of removal may be incurred for plant that is retired in place."[13]

Q. Why is the estimated future net salvage shown as a percent in the table above?

A. The depreciation rates are calculated in the depreciation study based on the per book amounts and experience as of December 31, 2014. The depreciation rates resulting from the depreciation study are then applied to the investment amounts as of the date of the test year in the rate proceeding. Since the depreciation study produces a depreciation rate, the future net salvage is included in depreciation rate formula as a percent of the investment as of December 31. 2014.

Q. What impact does net salvage have on depreciation rates?

A. Positive net salvage results in a lower depreciation rate, all other things being equal. Negative net salvage results in a higher depreciation rate, all other things being equal.

As stated in NARUC's *Public Utilities Depreciation Practices*:

> "Positive net salvage occurs when gross salvage exceeds cost of retirement, and negative net salvage occurs when cost of retirement exceeds gross salvage."[14]

The estimated future net salvage is part of the annual depreciation accrual, which is credited to the depreciation reserve to cover the estimated future net salvage costs the company may incur in the future associated with plant asset retirements.

[13] Page 317, *Public Utilities Depreciation Practices*, published by National Association of Regulatory Commissioners (NARUC), 1996.
[14] Page 18, *Public Utilities Depreciation Practices*, published by National Association of Regulatory Commissioners (NARUC), 1996.

Q. Have you reviewed the recovery of future net salvage costs included in Empire's proposed depreciation rates and the actual net salvage costs Empire has incurred in the recent past?

A. Yes. Table 4 below is a comparison of the Transmission and Distribution Plant actual net salvage costs incurred by Empire on average over the recent five-year period to future net salvage costs included in Empire's and the Staff's proposed depreciation accrual rates.

Table 4: Comparison of Actually Incurred Net Salvage and Net Salvage in Proposed Depreciation Rates as of December 31, 2014 Investments[15]

Account	Description	Average of Five-Year Net Cost of Removal Actually Incurred Excluding Outliers	Net Cost of Removal Recovery included in Empire's Proposed Depr Rates	Empire's Proposed / Actually Incurred	Net Cost of Removal Recovery included in Staff's Proposed Depr Rates	Staff's Proposed / Actually Incurred
TRANSMISSION PLANT						
352.00	Structures & Improvements	2,484	0	0.0	0	0.0
353.00	Station Equipment	64,356	363,652	**5.7**	222,682	**3.5**
354.00	Towers and Fixtures	0	0		0	
355.00	Poles and Fixtures	248,551	1,304,456	**5.2**	1,037,362	**4.2**
356.00	Overhead Conductors & Devices	204,419	136,883	0.7	129,137	0.6
359.00	Roads & Trails	0	0		0	
TOTAL TRANSMISSION PLANT		**519,811**	**1,804,991**	**3.5**	**1,389,181**	**2.7**
DISTRIBUTION PLANT						
361.00	Structures & Improvements	14,691	0	0.0	0	0.0
362.00	Station Equipment	98,063	299,884	3.1	280,721	2.9
364.00	Poles, Towers, and Fixtures	1,610,320	3,601,180	2.2	3,699,274	2.3
365.00	Overhead Conductors & Devices	583,031	3,233,032	**5.5**	2,232,571	**3.8**
366.00	Underground Conduit	19,198	182,680	**9.5**	65,680	**3.4**
367.00	Underground Conductors & Devices	54,669	212,894	3.9	161,052	2.9
368.00	Line Transformers	(66,101)	0	0.0	0	0.0
369.00	Services	190,698	1,705,193	**8.9**	730,916	**3.8**
370.00	Meters	4,036	8,803	2.2	9,837	2.4
371.00	Installations on Cust. Premises	107,501	185,077	1.7	127,844	1.2
373.00	Street Lighting & Signal Systems	221,043	239,644	1.1	253,698	1.1
TOTAL DISTRIBUTION PLANT		**2,837,149**	**9,668,387**	**3.4**	**7,561,594**	**2.7**

[15] This table is based on 12/31/2014 investment levels used in the Depreciation Study.

Q. Please use Account 365, Distribution-Overhead Conductors and Devices to discuss the differences between Empire's and Staff's future net salvage percent proposals.

A. Using Account 365, Distribution-Overhead Conductors and Devices as an example, as shown on Table 4 above, Empire actually incurred $583,031 on average per year, however, Empire proposes $3,233,032 net salvage annual accrual.[16] The annual accrual amount is an expense to be recovered from ratepayers in customer charges.[17]

For Account 365, Distribution-Overhead Conductors and Devices, the annual accrual Empire is proposing for net salvage is over five times the average annual amount Empire has actually incurred for net salvage.

By lowering Empire's proposed FNS percent in Account 365 from -100% to -70%, my proposed net salvage percentage results in an annual accrual for cost of removal that is a good balance between the depreciation expense charged to current customers and the building of the book reserve to cover any of Empire's future net removal costs associated with the retirements in Account 365, Distribution-Overhead Conductors and Devices.[18] Under my recommendation, the annual accrual for Account 365, Distribution-Overhead Conductors and Devices net salvage would be $2,232,571, which is over three times the average annual amount Empire actually incurred.[19]

[16] Annual accrual amount based on investments as of 12/31/14.
[17] The exact amount to be recovered from ratepayers will vary when calculated on investments other than the investment as of 12/31/14.
[18] I am not recommending or implying a change from the "accrual" basis to the "cash" basis for the recovery of future net salvage costs. In other words, I am not recommending or implying that the depreciation accrual no longer be credited to the Accumulated Provision for Depreciation or that the net salvage costs be "expensed".
[19] Annual accrual amount based on investments as of 12/31/14.

Q. Did Empire also consider the historical net salvage in the depreciation study net salvage analysis?

A. Yes. The Empire depreciation study included the analysis of the historic ratio of incurred net salvage and related retirements. Regarding historic net salvage, Empire's depreciation study states:

> "The traditional approach assumes that the ratio of net salvage dollars to the original cost dollars of the retirements is representative of the allowance that will ultimately apply to all plant in service over the life of the asset."[20]

Q. What is a concern regarding the historic net salvage ratios calculated in the depreciation study?

A. As pointed out in Wolf and Fitch's *Depreciation Systems*:

> "Salvage ratios are a function of inflation."[21]

Additionally, Wolf and Fitch's *Depreciation Systems*, points out that a net salvage ratio that includes inflated dollars in the numerator and historic dollars in the denominator is a ratio using different units, stating:

> "One inherent characteristic of the salvage ratio is that the numerator and denominator are measured in different units; the numerator is measured in dollars at the time of retirement, while the denominator is measured in dollars at the time of installation. Inflation is an economic fact of life and although both numerator and denominator are measured in dollars, the timing of the cash flows reflects different price levels."[22]

The calculation of the historic net salvage ratio includes the impact of high historic inflation rates, since the net salvage amount in the numerator is in current dollars and the cost of the plant (which may have been installed decades before) in the denominator is in

[20] Page 23, Direct Exhibit TJS-2.
[21] Page 267, Wolf, Frank K. and W. Chester Fitch, *Depreciation Systems* Iowa State University Press, 1994.
[22] Page 53, Wolf, Frank K. and W. Chester Fitch, *Depreciation Systems* Iowa State University Press, 1994.

historic dollars. In other words, due to inflation the amounts in numerator and denominator of the net salvage ratio are at different price levels.

Q. Is the fact that historic inflation is included in the net salvage ratio recognized in another depreciation text?

A. Yes. NARUC's *Public Utilities Depreciation Practices*, regarding inflation states:

> "The sensitivity of salvage and cost of retirement to the age of the property retired is also troublesome. Due to inflation and other factors, there is a tendency for costs of retirement, typically labor, to increase more rapidly than material prices."[23]

NARUC concludes that careful consideration should be given to the net salvage estimate stating:

> "Cost of retirement, however, must be given careful thought and attention, since for certain types of plant, it can be the most critical component of the depreciation rate."[24]

Q. Have other jurisdictions considered the impact of inflation in the setting of the future net salvage percent?

A. Yes. I am aware of several jurisdictions that have adopted future net salvage percents that recognize the inflated dollars included in the historic net salvage ratio. The Commissions

[23] Page 19, *Public Utilities Depreciation Practices*, published by National Association of Regulatory Commissioners (NARUC), 1996.
[24] Page 19, *Public Utilities Depreciation Practices*, published by National Association of Regulatory Commissioners (NARUC), 1996.

in Connecticut,[25] District of Columbia,[26] Maryland,[27] New Jersey,[28] and Pennsylvania[29] have adopted methods of setting the future net salvage percent that recognizes the time value of cost of removal due to inflation.

[25] Connecticut Docket No. 16-06-04. In the December 14, 2016 Commission "Decision" the Commission accepted net salvage depreciation rates that produced "an annual accrual that is 1.2 times the annual incurred distribution plant net salvage costs" stating that the "distribution net salvage depreciation rates still comfortably cover the actual incurred net salvage costs." (p. 46 of the December 14, 2016 "Decision").

[26] Formal Case No. 1076, paragraph 252 of Order No. 15710. In Order No. 15710 the Public Service Commission of the District of Columbia stated: "Fairness and equity require that the Commission adopt a methodology that, to the extent possible, balances the interest of current and future ratepayers." And went on to state: "Pepco should not be allowed to charge current customers for future inflation, nor should Pepco be allowed to charge current customers in higher-value current dollars for a future cost of removal amount that is calculated in lower-value future dollars."

[27] Maryland Case No. 9092. In Order No. 81517 the Commission stated: "The Commission has carefully reviewed the record and finds that the Present Value Method should be adopted for the recovery of removal costs. The Straight Line Method recovers the same annual cost in nominal dollars from ratepayers today as it does at the time plant is removed from service. However, a dollar is worth substantially more today than it will be 20 to 40 years from now. Consequently, today's ratepayers would pay more in "real" dollars under the Straight Line Method for the recovery costs of the plant they consume than would future ratepayers when net salvage is negative, as everyone projects." (page 30 of Order No. 81517).

[28] New Jersey Docket No. ER02080506. In the May 17, 2004 Final Order the Board found: "As a result of this data and the underlying concept of FASB 143 as discussed in this matter, the Board FINDS it appropriate to revisit the concept of including estimated future net salvage in current depreciation rates. The Board HEREBY FINDS the recommendation of the Ratepayer Advocate and Staff to exclude estimated net salvage from depreciation rates to be appropriate. The Board FURTHER FINDS that the Ratepayer Advocate and Staff's proposed utilization of a five-year average of actual salvage expense in depreciation expense is reasonable as it more closely aligns the amount recovered in base rates with the historical level of expenses incurred. The Board concurs with Staff that the ten-year window of actual experience rather than the five-year rolling average proposed by the Ratepayer Advocate is appropriate." (page 129-130 of the May 14, 2004 Final Order)

[29] Pennsylvania, Superior Court of Pennsylvania in Penn Sheraton Hotel v. Pennsylvania Public Utility Commission, 184 A.2d 324, 329 (Pa. Super. Ct. 1962). The court found: "Negative salvage attributed to existing plant is purely prospective; it is a cost which has not yet been incurred; it is uncertain when and if it will be incurred; and it is not a part of the original cost of construction of the facilities when first devoted to public service. To permit the recovery of prospective negative salvage is to permit the recovery of a total amount in excess of the original cost of construction prior to the actual expenditure of those costs and, in our opinion, represents the recovery of something in the nature of a future reproduction cost. The established law in this Commonwealth does not permit the recovery by annual depreciation of any such prospective excess. It is therefore the prospective nature of future negative salvage that prevents it from being considered either in accrued depreciation or in the allowance for annual depreciation; they must have a consistent basis under our law. Although prospective negative salvage is not entitled to consideration, the negative salvage actually incurred by the utility either upon the actual retirement of a property without replacement or upon the replacement of an item of property is of course entitled to consideration in a rate proceeding. It is then no longer prospective but actual. If the utility retires and removes a property without replacing it or replaces it after removal and incurs actual negative salvage in doing so, the expenditure should be capitalized and amortized by some reasonable method and for and over a reasonable length of time."

Q. Are your proposed future net salvage percents based only on the historical analysis discussed above?

A. No, which is supported by the fact that my proposed future net salvage accrual amounts are not equal to the average annual historical amount as shown in Table 4 above. My proposed future net salvage accrual amounts are in current dollars that considers the impact of inflation and builds a reserve for reasonable estimated future net removal costs associated with future retirements, based on the type of investments in the account, and my previous experience.

Empire's Production Plant Life Span Calculations Improperly Use Estimated Future Interim Additions

Q. Do you agree with the method used by Empire to calculate the depreciation rate for production plant accounts?

A. No. Empire's calculation of production plant depreciation rates improperly includes estimated future interim additions in the life span method of calculating depreciation rates.

Q. What is meant by life span method?

A. The life span method is used to estimate the average remaining life and average service life used in the calculation of the depreciation rate for investments at the same location that will retire concurrently on a future estimated date. For example, the life span method is used for production plant since when the production plant retires from service all of the assets still in service at that location will retire on the same date.

On the other hand, mass property accounts include similar assets that are located in different locations and there is no expectation that all of those assets will retire on the

same date. For example, there is no expectation that all of distribution poles will retire concurrently on the same date.

Q. What factors are considered in the estimates of a life span property depreciation rate?

A. When using the life span method of calculating depreciation rates, the expected year of final retirement and the expected rate of interim retirements are the factors considered. An interim retirement is a retirement of part of the unit at the location prior to the final retirement of the entire unit.[30]

NARUC's *Public Utilities Depreciation Practices* glossary states:

> "Interim Retirements: As used in life span analysis, retirements of component parts of a major structure prior to the complete removal of the retirement unit from service."[31]

Q. What does an authoritative depreciation text state about including future interim additions in the calculating of the depreciation rate, as Empire did in this proceeding?

A. NARUC's text *Public Utilities Depreciation Practices* discussing the life span method states:

> "Appropriate estimates must be made for such interim retirements; however, *interim additions are not considered in the depreciation base or rate until they occur*." (emphasis added)

NARUC's *Public Utilities Depreciation Practices* glossary states:

> "Interim Additions: As used in life span analysis, additions made subsequent to the year in which the unit was placed in service. Interim

[30] Page 146, *Public Utilities Depreciation Practices*, published by National Association of Regulatory Commissioners (NARUC), 1996.
[31] Page 321, *Public Utilities Depreciation Practices*, published by National Association of Regulatory Commissioners (NARUC), 1996.

additions are not considered in the depreciation computation until they occur."[32]

The depreciation texts make it clear that it is improper to include estimated future interim additions in the depreciation rate calculation.

Q. How does Empire include interim additions in the calculation of production plant depreciation rates?

A. Pages 64-65 of Direct Exhibit TJS-2 shows Empire's calculation of the proposed depreciation rate for Iatan 2 and Common Production Plant Account 312.[33]

The top of page 65 of Direct Exhibit TJS-2 shows the inclusion of $75,703,302 of "forecast additions" to the $137,388,055 historic additions as of 12/31/14 in the depreciation study.

As discussed above, it is improper to include forecasted interim additions in the calculation of the depreciation rate.

Q. Did you make an adjustment to account for Empire's inclusion of interim additions in the calculation of the production plant depreciation rates?

A. Yes. I do *not* include any forecasted interim additions in the calculation of my proposed depreciation rates shown in Schedule RMM-1.

[32] Page 321, *Public Utilities Depreciation Practices*, published by National Association of Regulatory Commissioners (NARUC), 1996.
[33] Page 64-65 of Direct Exhibit TJS-2 is attached to this testimony of Schedule RMM-3 for convenience.

Interim Retirement Rate used in Production Plant Life Span Depreciation Rates

Q. You stated in the previous section that is it proper to include estimates for interim retirements when using the life span method of calculating depreciation rates. Did you use the same estimated interim retirements as Empire?

A. No. Pages 64-65 of Direct Exhibit TJS-2 show Empire's calculation of the proposed depreciation rate for Iatan 2 and Common Production Plant Account 312.[34] Page 64 does not include any estimated future interim retirements for the years 2015 to the estimated year of final retirement in 2070. It is not reasonable to assume there will be no interim retirements for the years 2015-2070 for Iatan 2 and Common Production Plant.

I used an interim retirement rate ("IRR") for production plant based on Empire's historic experience with interim retirements provided in the depreciation study.

Q. Please explain what is meant by an interim retirement rate ("IRR") estimate.

A. The IRR is "the ratio of the interim dollars retired from a group during a period divided by the total dollars in service at the beginning of the period." [35] An interim retirement is defined as follows:

> "As used in life span analysis, retirements of component parts of a major structure prior to the complete removal of the retirement unit from service."[36]

The IRR estimates the retirement pattern of the components of the structure before the final retirement of the structure.

[34] Page 64-65 of Direct Exhibit TJS-2 is attached to this testimony of Schedule RMM-3 for convenience.
[35] Page 321, *Public Utilities Depreciation Practices*, published by National Association of Regulatory Commissioners (NARUC), 1996.
[36] Page 321, *Public Utilities Depreciation Practices*, published by National Association of Regulatory Commissioners (NARUC), 1996.

Q. How did you calculate the IRR used in the calculation of production plant life span depreciation rates?

A. Schedule RMM-4 shows the Company's historic data used in the calculation of the IRR.

For example, for Steam Production Plant Account 312, I used Empire's actual historic interim retirement data for the Asbury and Iatan Unit 1 production plants. As shown on Schedule RMM-4, the historic interim retirement data for the Asbury and Iatan Unit 1 is 0.23%. Due to the lack of interim retirements in Empire's historic data for Iatan 2 and Common and Plum Point, I excluded those production plants from the calculation of the historic IRR.

I used this 0.23% IRR in the life span depreciation rate calculation for Account 312 for all Steam Production Plants. Therefore, my production plant depreciation rate calculation properly includes estimated future interim retirements for Iatan 2 and Common Production Plant Account 312.

I did a similar IRR calculation for all Production Plant accounts as shown on Schedule RMM-4.

Reallocate Other Production Plant Book Reserve

Q. Do you have another concern regarding Empire's production plant depreciation rates?

A. Yes. Empire is proposing a 0% depreciation rate for State Line CC Account 342, State Line CT Account 341, Energy Center Unit 1 & 2 Accounts 342, 344, and 346, and Riverton CT Account 346. Empire is proposing a 0% depreciation rate for these accounts due to the book reserve amounts.

As discussed above, the remaining life depreciation rate formula recognizes the book depreciation reserve. When an account is over-depreciated, the remaining life depreciation rate formula results in a negative depreciation rate.

For example, page 127 of Exhibit TJS-2 shows that Empire calculated a -3.67% remaining life depreciation rate for Energy Center Combustion Turbine Account 344, Generators.[37] This -3.67% remaining life depreciation rate is negative due to the Empire calculated over-recovery of $2,155,373 shown on page 127 of Exhibit TJS-2. A negative depreciation rate would result in a reduction of the calculated annual depreciation expense, which would be due to the calculated over-recovery of $2,155,373.

Since Empire calculated a negative depreciation rate, they proposed a 0% depreciation rate. The 0% proposed in the annual depreciation expense ignores the Empire calculated over-recovery of $2,155,373.

Ignoring the calculated over-recovery of $2,155,373 results in higher depreciation expense than otherwise would be if Empire had included the calculated negative depreciation rate.

Q. How did you address the $2,155,373 over-recovery amount?

A. I reallocated the over-recovered book depreciation amounts to other investments at the Energy Center Combustion Turbine which have not yet been fully depreciated.

Reallocation of the book depreciation reserve within the same production plant is fair to both the Company and the ratepayer. Since the ratepayer has provided the over-recovery

[37] Pages 126-127 of Direct Exhibit TJS-2 has been attached as Schedule RMM-5 for convenience.

of some of the investment at the Energy Center Combustion Turbine it is reasonable to include that ratepayer provided over-recovery amount in the calculation of the depreciation rates for that production plant. Additionally, it is reasonable to still assign that over-recovery depreciation amount to the Energy Center Combustion Turbine plant since, as stated in the depreciation study:

> "Within the production function, Empire separately accumulates reserve and calculates depreciation expense for each generating facility."[38]

Reallocating the over-recovered book depreciation amount within the Energy Center Combustion Turbine does not change the total book depreciation reserve assigned to the Energy Center Combustion Turbine. As is shown on Schedule RMM-6, the total book reserve in column (C) for Energy Center Combustion Turbine as of 12/31/14 was $31,009,924. After the reallocation of the reserve in column (G), the total reallocated book reserve for Energy Center Combustion Turbine is still $31,009,924. However, after the reallocation of book reserve, the remaining life depreciation rate for Energy Center Combustion Turbine Account 344 is no longer negative.

Q. What impact does this reallocation have on the proposed remaining life depreciation rates if the total book reserve for Energy Center Combustion Turbine remains unchanged?

A. Looking at Schedule RMM-1 Table 1 column (E), Empire is proposing a total 2.43% for Energy Center Combustion Turbine which includes a 0% depreciation rate for Accounts 342, 344, and 346. This Empire proposed 2.43% remaining life depreciation rate does not include a recognition of all of the depreciation reserve that has been accumulated for

[38] Page 8 of Direct Exhibit TJS-2.

Energy Center Combustion Turbine since Empire replaced its calculated -3.67% remaining life depreciation rate for Energy Center Combustion Turbine Account 344, Generators with a 0% depreciation rate.

As shown in column (H) of Schedule RMM-1 Table 1 after the reallocation of the book reserve within the Energy Center Combustion Turbine, the overall proposed depreciation rate is 1.64%. This Staff-proposed remaining life depreciation rate includes the recognition of all the depreciation reserve amounts the ratepayers have already provided to Empire.

Q. Did you perform a similar reallocation of the book depreciation reserve for all Other Production plants?

A. Yes. As shown in columns (C) and (G) of Schedule RMM-6 this reallocation does not impact the total book depreciation amount assigned to the production plant. However, the use of the reallocated book reserve amounts in the remaining life depreciation rates calculation properly recognizes all of the depreciation reserve that has been provided by ratepayers to Empire.

Conclusion

Q. Can you please summarize your recommendations?

A. Yes. Based on the above testimony, I recommend that Staff proposed depreciation rates shown in Schedule RMM-1 be adopted for Empire in Kansas.

The Staff proposed depreciation rates shown in Schedule RMM-1 include the following changes to Empire's proposed depreciation rates discussed in this testimony:

(1) Use the remaining life formula for calculating depreciation rates for all accounts. The remaining life technique formula includes an adjustment to the depreciation rates to offset any reserve imbalance while the whole life technique formula proposed by Empire for some accounts does not.

(2) Use less accelerated future net salvage percents for Account 353, Transmission-Station Equipment, Account 355, Transmission-Poles and Fixtures, Account 365, Distribution-Overhead Conductors and Devices, Account 366, Distribution-Underground Conduit, and Account 369, Distribution-Services.

(3) Properly exclude future interim additions in production plant depreciation rate calculations.

(4) Include future interim retirements in production plant depreciation rate calculations for all production plant accounts.

(5) Reallocate book depreciation reserve in other production plant to reasonably recognize the over-recovery of depreciation expense in some of the accounts.

Q. Does this conclude your direct testimony?

A. Yes.

The Empire District Electric Company
Table 1: Summary of Depreciation Rates and Annual Accrual Amounts
As of December 31, 2014

			Current Approved		Empire Proposed			Staff Proposed			
Account	Description	12/31/14 Investment	Accrual Rate	Accrual Amount	Accrual Rate	Accrual Amount	Difference from Current	Accrual Rate	Accrual Amount	Difference from Current	Difference from Company
	A	B	C	D	E	F	G=F-D	H	I	J=I-D	K=I-F
PRODUCTION PLANT											
	Asbury										
311.00	Structures & Improvements	18,292,556	1.06%	193,901	4.48%	819,507	625,605	4.07%	743,879	549,978	(75,628)
312.00	Boiler Plant Equipment	217,007,172	1.87%	4,058,034	5.61%	12,174,102	8,116,068	4.70%	10,191,599	6,133,564	(1,982,504)
312.00	Train	0	6.67%	0	5.43%	0	0	6.67%	0	0	0
314.00	Turbo Generator Equipment	36,039,918	1.60%	576,639	5.22%	1,881,284	1,304,645	4.77%	1,719,617	1,142,979	(161,666)
315.00	Accessory Electric Equipment	6,837,913	1.79%	122,399	3.80%	259,841	137,442	3.57%	244,081	121,682	(15,760)
316.00	Misc. Power Equipment	2,290,838	1.95%	44,671	4.38%	100,339	55,667	3.18%	72,755	28,083	(27,584)
	Total Asbury	*280,468,397*	*1.78%*	*4,995,644*	*5.43%*	*15,235,072*	*10,239,428*	*4.63%*	*12,971,930*	*7,976,286*	*(2,263,142)*
	Riverton										
311.00	Structures & Improvements	11,764,264	1.05%	123,525	11.52%	1,355,243	1,231,718	11.52%	1,355,243	1,231,718	0
312.00	Boiler Plant Equipment	16,426,882	1.86%	305,540	11.52%	1,892,377	1,586,837	11.52%	1,892,377	1,586,837	0
314.00	Turbo Generator Equipment	5,522,009	1.59%	87,800	11.52%	636,135	548,335	11.52%	636,135	548,335	0
315.00	Accessory Electric Equipment	1,502,902	1.79%	26,902	11.52%	173,134	146,232	11.52%	173,134	146,232	0
316.00	Misc. Power Equipment	1,100,808	1.96%	21,576	11.52%	126,813	105,237	11.52%	126,813	105,237	0
	Total Riverton	*36,316,863*	*1.56%*	*565,342*	*11.52%*	*4,183,703*	*3,618,360*	*11.52%*	*4,183,703*	*3,618,360*	*0*
	Iatan 1										
311.00	Structures & Improvements	4,359,286	1.06%	46,208	1.96%	85,442	39,234	1.71%	74,494	28,286	(10,948)
312.00	Boiler Plant Equipment	73,879,236	1.89%	1,396,318	3.25%	2,401,075	1,004,758	2.62%	1,934,259	537,941	(466,816)
312.00	Train	329,005	6.67%	21,945	6.67%	21,945	0	6.67%	21,945	0	0
314.00	Turbo Generator Equipment	11,115,804	1.62%	180,076	2.88%	320,135	140,059	2.34%	260,021	79,945	(60,114)
315.00	Accessory Electric Equipment	6,916,860	1.81%	125,195	3.67%	253,849	128,654	2.44%	168,755	43,559	(85,094)
316.00	Misc. Power Equipment	1,414,794	1.95%	27,588	2.41%	34,097	6,508	1.38%	19,516	(8,073)	(14,581)
	Total Iatan 1	*98,014,985*	*1.83%*	*1,797,330*	*3.18%*	*3,116,542*	*1,319,212*	*2.53%*	*2,478,989*	*681,659*	*(637,553)*
	Iatan 2										
311.00	Structures & Improvements	20,445,455	1.06%	216,722	2.92%	597,007	380,285	1.48%	301,925	85,203	(295,082)
312.00	Boiler Plant Equipment	136,246,212	1.89%	2,575,053	1.96%	2,670,426	95,372	1.55%	2,113,627	(461,427)	(556,799)
314.00	Turbo Generator Equipment	47,720,756	1.62%	773,076	1.54%	734,900	(38,177)	1.62%	770,901	(2,175)	36,002
315.00	Accessory Electric Equipment	12,033,709	1.81%	217,810	1.60%	192,539	(25,271)	1.47%	177,197	(40,614)	(15,343)
316.00	Misc. Power Equipment	185,555	1.95%	3,618	4.18%	7,756	4,138	1.61%	2,979	(640)	(4,778)
	Total Iatan 2	*216,631,687*	*1.75%*	*3,786,280*	*1.94%*	*4,202,628*	*416,348*	*1.55%*	*3,366,628*	*(419,652)*	*(836,000)*

The Empire District Electric Company
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As of December 31, 2014

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	A	B	C	D	E	F	G=F-D	H	I	J=I-D	K=I-F
	Iatan Common										
311.00	Structures & Improvements	14,131,789	1.06%	149,797	2.92%	412,648	262,851	1.87%	264,651	114,854	(147,997)
312.00	Boiler Plant Equipment	37,430,142	1.89%	707,430	1.96%	733,631	26,201	1.84%	687,273	(20,156)	(46,358)
314.00	Turbo Generator Equipment	1,237,356	1.62%	20,045	1.54%	19,055	(990)	2.04%	25,272	5,227	6,217
315.00	Accessory Electric Equipment	4,720,034	1.81%	85,433	1.60%	75,521	(9,912)	1.86%	87,781	2,349	12,261
316.00	Misc. Power Equipment	532,031	1.95%	10,375	4.18%	22,239	11,864	1.96%	10,454	80	(11,785)
	Total Iatan Common	*58,051,353*	*1.68%*	*973,079*	*2.18%*	*1,263,094*	*290,015*	*1.85%*	*1,075,432*	*102,353*	*(187,662)*
	Plum Point										
311.00	Structures & Improvements	20,665,934	1.06%	219,059	2.18%	450,517	231,458	2.19%	451,907	232,848	1,390
312.00	Boiler Plant Equipment	53,031,016	1.89%	1,002,286	2.17%	1,150,773	148,487	2.26%	1,199,760	197,474	48,987
312.00	Train	5,267,226	6.67%	351,324	6.67%	351,324	0	6.67%	351,324	0	0
314.00	Turbo Generator Equipment	16,956,702	1.62%	274,699	2.18%	369,656	94,958	2.35%	398,009	123,311	28,353
315.00	Accessory Electric Equipment	5,248,915	1.81%	95,005	2.12%	111,277	16,272	2.12%	111,242	16,237	(35)
316.00	Misc. Power Equipment	2,968,554	1.95%	57,887	2.07%	61,449	3,562	2.20%	65,360	7,473	3,911
	Total Plum Point	*104,138,347*	*1.92%*	*2,000,260*	*2.40%*	*2,494,997*	*494,737*	*2.48%*	*2,577,602*	*577,342*	*82,605*
	Steam Production										
311.00	Structures & Improvements	89,659,285	1.06%	949,212	4.15%	3,720,365	2,771,153	3.56%	3,192,099	2,242,887	(528,265)
312.00	Boiler Plant Equipment	534,020,661	1.88%	10,044,661	3.94%	21,022,384	10,977,723	3.37%	18,018,894	7,974,233	(3,003,490)
312.00	Train	5,596,231	6.67%	373,269	6.67%	373,269	0	6.67%	373,269	0	0
314.00	Turbo Generator Equipment	118,592,545	1.61%	1,912,335	3.34%	3,961,165	2,048,831	3.21%	3,809,957	1,897,623	(151,208)
315.00	Accessory Electric Equipment	37,260,332	1.81%	672,744	2.86%	1,066,161	393,417	2.58%	962,190	289,446	(103,971)
316.00	Misc. Power Equipment	8,492,579	1.95%	165,715	4.15%	352,692	186,977	3.51%	297,876	132,160	(54,817)
	Total Steam Production	*793,621,632*	*1.78%*	*14,117,935*	*3.84%*	*30,496,035*	*16,378,100*	*3.36%*	*26,654,284*	*12,536,349*	*(3,841,751)*
	Ozark Beach Hydro										
331.00	Structures & Improvements	796,561	1.66%	13,223	2.39%	19,038	5,815	1.69%	13,470	247	(5,568)
332.00	Reservoirs, Dams, & Waterways	3,414,912	1.67%	57,029	1.93%	65,908	8,879	1.74%	59,590	2,561	(6,318)
333.00	Water Wheels, Turbines, & Generators	3,175,989	1.47%	46,687	3.11%	98,773	52,086	2.32%	73,771	27,084	(25,002)
334.00	Accessory Electric Equipment	1,375,730	1.44%	19,811	3.14%	43,198	23,387	2.30%	31,649	11,838	(11,549)
335.00	Misc. Power Equipment	452,659	2.44%	11,045	3.66%	16,567	5,522	1.68%	7,609	(3,436)	(8,958)
	Total Ozark Beach Hydro	*9,215,852*	*1.60%*	*147,794*	*2.64%*	*243,484*	*95,690*	*2.02%*	*186,089*	*38,295*	*(57,395)*

The Empire District Electric Company
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As of December 31, 2014

Account	Description	12/31/14 Investment	Current Approved Accrual Rate	Current Approved Accrual Amount	Empire Proposed Accrual Rate	Empire Proposed Accrual Amount	Empire Proposed Difference from Current	Staff Proposed Accrual Rate	Staff Proposed Accrual Amount	Staff Proposed Difference from Current	Staff Proposed Difference from Company
	A	B	C	D	E	F	G=F-D	H	I	J=I-D	K=I-F
	State Line CC										
341.00	Structures & Improvements	10,635,737	2.86%	304,182	2.19%	232,923	(71,259)	2.09%	222,533	(81,650)	(10,390)
342.00	Fuel Holders, Producers, & Accessories	409,439	2.86%	11,710	0.00%	0	(11,710)	2.10%	8,580	(3,130)	8,580
343.00	Prime Movers	105,360,849	2.86%	3,013,320	2.07%	2,180,970	(832,351)	1.95%	2,056,033	(957,287)	(124,937)
344.00	Generators	31,250,753	2.86%	893,772	2.50%	781,269	(112,503)	1.95%	608,989	(284,782)	(172,279)
345.00	Accessory Electric Equipment	8,228,295	2.86%	235,329	2.74%	225,455	(9,874)	2.09%	172,218	(63,111)	(53,237)
346.00	Misc. Power Equipment	3,659,368	2.86%	104,658	2.46%	90,020	(14,637)	2.09%	76,630	(28,028)	(13,391)
	Total State Line CC	*159,544,440*	*2.86%*	*4,562,971*	*2.20%*	*3,510,637*	*(1,052,334)*	*1.97%*	*3,144,983*	*(1,417,988)*	*(365,654)*
	State Line CT										
341.00	Structures & Improvements	1,103,160	1.82%	20,078	0.00%	0	(20,078)	1.81%	19,943	(135)	19,943
342.00	Fuel Holders, Producers, & Accessories	3,187,313	3.85%	122,712	1.59%	50,678	(72,033)	1.80%	57,219	(65,493)	6,540
343.00	Prime Movers	26,308,743	1.93%	507,759	2.42%	636,672	128,913	1.67%	440,194	(67,564)	(196,477)
344.00	Generators	7,049,204	1.82%	128,296	1.41%	99,394	(28,902)	1.68%	118,690	(9,605)	19,296
345.00	Accessory Electric Equipment	2,875,110	3.57%	102,641	1.85%	53,190	(49,452)	1.80%	51,893	(50,749)	(1,297)
346.00	Misc. Power Equipment	292,744	3.99%	11,680	3.77%	11,036	(644)	1.80%	5,271	(6,409)	(5,765)
	Total State Line CT	*40,816,274*	*2.19%*	*893,165*	*2.08%*	*850,970*	*(42,196)*	*1.70%*	*693,210*	*(199,955)*	*(157,759)*
	Energy Center Unit 1 & 2 (CTs)										
341.00	Structures & Improvements	2,134,907	1.82%	38,855	1.61%	34,372	(4,483)	1.74%	37,215	(1,641)	2,843
342.00	Fuel Holders, Producers, & Accessories	1,290,095	3.85%	49,669	0.00%	0	(49,669)	1.74%	22,454	(27,214)	22,454
343.00	Prime Movers	27,798,748	1.92%	533,736	2.93%	814,503	280,767	1.62%	450,750	(82,986)	(363,754)
344.00	Generators	4,737,700	1.82%	86,226	0.00%	0	(86,226)	1.62%	76,917	(9,309)	76,917
345.00	Accessory Electric Equipment	2,248,691	3.57%	80,278	5.55%	124,802	44,524	1.74%	39,188	(41,090)	(85,614)
346.00	Misc. Power Equipment	1,813,310	4.00%	72,532	0.00%	0	(72,532)	1.74%	31,585	(40,948)	31,585
	Total Energy Center Unit 1 & 2 (CTs)	*40,023,451*	*2.15%*	*861,297*	*2.43%*	*973,678*	*112,381*	*1.64%*	*658,109*	*(203,188)*	*(315,569)*
	Energy Center Unit 3 & 4 (FT8s)										
341.00	Structures & Improvements	1,147,718	1.82%	20,888	3.27%	37,530	16,642	3.05%	34,972	14,084	(2,558)
342.00	Fuel Holders, Producers, & Accessories	1,467,460	3.85%	56,497	2.99%	43,877	(12,620)	3.07%	45,048	(11,449)	1,171
343.00	Prime Movers	48,234,546	1.92%	926,103	3.26%	1,572,446	646,343	2.86%	1,377,976	451,873	(194,470)
344.00	Generators	519,289	1.82%	9,451	3.20%	16,617	7,166	2.84%	14,737	5,286	(1,880)
345.00	Accessory Electric Equipment	3,298,745	3.57%	117,765	3.15%	103,910	(13,855)	3.05%	100,677	(17,088)	(3,234)
346.00	Misc. Power Equipment	1,105,379	3.99%	44,105	3.12%	34,488	(9,617)	3.06%	33,824	(10,281)	(664)
	Total Energy Center Unit 3 & 4 (FT8s)	*55,773,137*	*2.11%*	*1,174,810*	*3.24%*	*1,808,869*	*634,059*	*2.88%*	*1,607,235*	*432,425*	*(201,635)*

The Empire District Electric Company
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	A	B	C	D	E	F	G=F-D	H	I	J=I-D	K=I-F
	Riverton CT										
341.00	Structures & Improvements	1,578,056	1.82%	28,721	4.51%	71,170	42,450	2.38%	37,599	8,878	(33,571)
342.00	Fuel Holders, Producers, & Accessories	474,671	3.85%	18,275	2.87%	13,623	(4,652)	2.39%	11,334	(6,940)	(2,289)
343.00	Prime Movers	7,721,713	1.92%	148,257	1.85%	142,852	(5,405)	2.22%	171,682	23,425	28,831
344.00	Generators	2,020,927	1.82%	36,781	2.36%	47,694	10,913	2.22%	44,846	8,066	(2,847)
345.00	Accessory Electric Equipment	1,651,285	3.57%	58,951	3.13%	51,685	(7,266)	2.38%	39,360	(19,591)	(12,325)
346.00	Misc. Power Equipment	215,290	4.00%	8,612	4.00%	8,612	0	2.39%	5,135	(3,476)	(3,476)
	Total Riverton CT	*13,661,942*	*2.19%*	*299,596*	*2.46%*	*335,636*	*36,040*	*2.27%*	*309,957*	*10,362*	*(25,678)*
	Riverton Unit 12										
341.00	Structures & Improvements	232,337	1.82%	4,229	2.42%	5,623	1,394	1.99%	4,622	394	(1,001)
342.00	Fuel Holders, Producers, & Accessories	945,601	3.85%	36,406	3.22%	30,448	(5,957)	1.98%	18,749	(17,656)	(11,699)
343.00	Prime Movers	16,494,320	1.92%	316,691	2.01%	331,536	14,845	1.85%	304,717	(11,974)	(26,819)
344.00	Generators	11,548,068	1.82%	210,175	2.05%	236,735	26,561	1.85%	213,968	3,793	(22,767)
345.00	Accessory Electric Equipment	9,514,596	3.57%	339,671	2.64%	251,185	(88,486)	1.99%	189,145	(150,526)	(62,040)
346.00	Misc. Power Equipment	1,484,187	4.00%	59,367	2.11%	31,316	(28,051)	1.99%	29,473	(29,895)	(1,843)
	Total Riverton Unit 12	*40,219,109*	*2.40%*	*966,539*	*2.21%*	*886,844*	*(79,695)*	*1.89%*	*760,675*	*(205,864)*	*(126,169)*
	Other Production										
341.00	Structures & Improvements	16,831,915	2.48%	416,953	2.27%	381,618	(35,335)	2.12%	356,883	(60,069)	(24,735)
342.00	Fuel Holders, Producers, & Accessories	7,774,579	3.80%	295,268	1.78%	138,627	(156,641)	2.10%	163,385	(131,883)	24,758
343.00	Prime Movers	231,918,919	2.35%	5,445,866	2.45%	5,678,978	233,112	2.07%	4,801,353	(644,514)	(877,626)
344.00	Generators	57,125,940	2.39%	1,364,700	2.07%	1,181,709	(182,991)	1.89%	1,078,149	(286,551)	(103,560)
345.00	Accessory Electric Equipment	27,816,723	3.36%	934,636	2.91%	810,228	(124,408)	2.13%	592,481	(342,155)	(217,747)
346.00	Misc. Power Equipment	8,570,278	3.51%	300,955	2.05%	175,473	(125,482)	2.12%	181,918	(119,037)	6,445
	Total Other Production	*350,038,353*	*2.50%*	*8,758,377*	*2.39%*	*8,366,633*	*(783,488)*	*2.05%*	*7,174,168*	*(3,168,417)*	*(2,384,929)*
TOTAL PRODUCTION PLANT		**1,152,875,837**	**2.00%**	**23,024,107**	**3.39%**	**39,106,152**	**32,068,401**	**2.95%**	**34,014,542**	**21,942,576**	**(10,125,826)**
TRANSMISSION PLANT											
352.00	Structures & Improvements	2,900,606	2.09%	60,623	1.82%	52,791	(7,832)	1.52%	43,989	(16,634)	(8,802)
353.00	Station Equipment	117,307,244	2.20%	2,580,759	2.23%	2,615,952	35,192	2.09%	2,449,499	(131,260)	(166,452)
354.00	Towers and Fixtures	2,089,249	1.92%	40,114	1.54%	32,174	(7,939)	2.30%	48,127	8,014	15,953
355.00	Poles and Fixtures	74,116,825	3.33%	2,468,090	3.51%	2,601,501	133,410	3.27%	2,420,512	(47,578)	(180,989)

The Empire District Electric Company
Table 1: Summary of Depreciation Rates and Annual Accrual Amounts
As of December 31, 2014

			Current Approved		Empire Proposed			Staff Proposed			
Account	Description	12/31/14 Investment	Accrual Rate	Accrual Amount	Accrual Rate	Accrual Amount	Difference from Current	Accrual Rate	Accrual Amount	Difference from Current	Difference from Company
	A	B	C	D	E	F	G=F-D	H	I	J=I-D	K=I-F
356.00	Overhead Conductors & Devices	80,519,307	2.15%	1,731,165	1.71%	1,376,880	(354,285)	1.62%	1,303,114	(428,051)	(73,766)
359.00	Roads & Trails	0		0		0	0	0.00%	0	0	0
TOTAL TRANSMISSION PLANT		**276,933,230**	**2.48%**	**6,880,751**	**2.41%**	**6,679,298**	**(201,453)**	**2.26%**	**6,265,242**	**(615,509)**	**(414,056)**
DISTRIBUTION PLANT											
361.00	Structures & Improvements	29,016,469	2.08%	603,543	1.56%	452,657	(150,886)	1.86%	538,684	(64,859)	86,027
362.00	Station Equipment	99,961,353	1.89%	1,889,270	2.19%	2,189,154	299,884	2.04%	2,035,227	145,958	(153,926)
364.00	Poles, Towers, and Fixtures	180,058,978	4.35%	7,832,566	4.00%	7,202,359	(630,206)	4.11%	7,398,549	(434,017)	196,190
365.00	Overhead Conductors & Devices	190,178,364	3.77%	7,169,724	3.39%	6,447,047	(722,678)	2.85%	5,421,959	(1,747,766)	(1,025,088)
366.00	Underground Conduit	37,281,548	3.92%	1,461,437	2.62%	976,777	(484,660)	1.94%	722,480	(738,957)	(254,297)
367.00	Underground Conductors & Devices	59,137,274	3.59%	2,123,028	2.58%	1,525,742	(597,286)	1.97%	1,167,627	(955,401)	(358,115)
368.00	Line Transformers	105,880,249	2.78%	2,943,471	2.08%	2,202,309	(741,162)	1.81%	1,911,797	(1,031,674)	(290,512)
369.00	Services	76,810,492	5.00%	3,840,525	4.44%	3,410,386	(430,139)	2.85%	2,192,749	(1,647,776)	(1,217,637)
370.00	Meters	22,007,394	2.27%	499,568	2.37%	521,575	22,007	2.28%	501,681	2,113	(19,895)
371.00	Installations on Cust. Premises	16,825,198	5.80%	975,862	4.43%	745,356	(230,505)	3.06%	515,249	(460,613)	(230,108)
373.00	Street Lighting & Signal Systems	18,869,639	3.13%	590,620	3.49%	658,550	67,931	3.70%	698,783	108,164	40,233
TOTAL DISTRIBUTION PLANT		**836,026,959**	**3.58%**	**29,929,611**	**3.15%**	**26,331,911**	**(3,597,700)**	**2.76%**	**23,104,784**	**(6,824,828)**	**(3,227,128)**
GENERAL PLANT											
390.00	Structures & Improvements	9,993,085	2.75%	274,810	2.75%	274,810	0	2.24%	223,947	(50,862)	(50,862)
391.10	Office Furniture & Equipment	4,983,038	5.00%	249,152	4.76%	237,193	(11,959)	4.64%	230,967	(18,185)	(6,226)
391.20	Computer Equipment	13,894,381	10.00%	1,389,438	10.00%	1,389,438	0	10.00%	1,389,438	0	0
392.00	Transportation Equipment	12,111,140	7.08%	857,469	7.15%	865,947	8,478	4.29%	519,125	(338,344)	(346,822)
393.00	Stores Equipment	595,145	3.17%	18,866	2.50%	14,879	(3,987)	1.65%	9,792	(9,075)	(5,087)
394.00	Tools, Shop, & Garage Equipment	5,670,457	4.50%	255,171	5.00%	283,523	28,352	4.09%	231,980	(23,190)	(51,543)
395.00	Laboratory Equipment	1,292,173	2.63%	33,984	2.17%	28,040	(5,944)	1.30%	16,804	(17,181)	(11,237)
396.00	Power Operated Equipment	17,176,807	6.33%	1,087,292	5.65%	970,490	(116,802)	4.56%	784,054	(303,238)	(186,436)
397.00	Communication Equipment	11,731,494	4.00%	469,260	4.76%	558,419	89,159	4.02%	471,931	2,672	(86,488)
398.00	Misc. Equipment	237,967	4.55%	10,828	3.13%	7,448	(3,379)	1.40%	3,342	(7,485)	(4,106)
TOTAL GENERAL PLANT		**77,685,687**	**5.98%**	**4,646,268**	**5.96%**	**4,630,186**	**(16,083)**	**5.00%**	**3,881,380**	**(764,888)**	**(748,806)**
TOTAL PLANT		**2,343,521,713**	**2.75%**	**64,480,738**	**3.27%**	**76,747,547**	**28,253,165**	**2.87%**	**67,265,947**	**13,737,350**	**(14,515,815)**

Notes:
Current approved depreciation rates from WP 10.4, see response to Staff DR 141

The Empire District Electric Company
Table 2: Staff Calculation of Depreciation Rates
As of December 31, 2014

Account	Description	12/31/14 Investment	12/31/14 Book Reserve	Percent Reserve	Future Net Salvage Percent	Remaining Life	Total Annual Rate	Total Annual Accrual
	A	B	C	D=C/B	E	F	G	H
PRODUCTION PLANT								
	Asbury							
311.00	Structures & Improvements	18,292,556	4,054,373	22.16%	-5.00%	20.37	4.07%	743,879
312.00	Boiler Plant Equipment	217,007,172	23,923,643	11.02%	-5.00%	20.01	4.70%	10,191,599
312.00	Train	0	0	0.00%				
314.00	Turbo Generator Equipment	36,039,918	3,879,472	10.76%	-5.00%	19.75	4.77%	1,719,617
315.00	Accessory Electric Equipment	6,837,913	2,195,678	32.11%	-5.00%	20.42	3.57%	244,081
316.00	Misc. Power Equipment	2,290,838	961,930	41.99%	-5.00%	19.84	3.18%	72,755
	Total Asbury	*280,468,397*	*35,015,095*	*12.48%*			*4.63%*	*12,971,930*
	Riverton							
311.00	Structures & Improvements	11,764,264	3,786,077	32.18%			11.52%	1,355,243
312.00	Boiler Plant Equipment	16,426,882	10,765,138	65.53%			11.52%	1,892,377
314.00	Turbo Generator Equipment	5,522,009	4,064,909	73.61%			11.52%	636,135
315.00	Accessory Electric Equipment	1,502,902	1,320,023	87.83%			11.52%	173,134
316.00	Misc. Power Equipment	1,100,808	901,438	81.89%			11.52%	126,813
	Total Riverton	*36,316,863*	*20,837,585*	*57.38%*			*11.52%*	*4,183,703*
	Iatan 1							
311.00	Structures & Improvements	4,359,286	2,692,543	61.77%	-5.00%	25.30	1.71%	74,494
312.00	Boiler Plant Equipment	73,879,236	29,738,977	40.25%	-5.00%	24.73	2.62%	1,934,259
312.00	Train	329,005	76,924	23.38%				
314.00	Turbo Generator Equipment	11,115,804	5,355,678	48.18%	-5.00%	24.29	2.34%	260,021
315.00	Accessory Electric Equipment	6,916,860	2,981,400	43.10%	-5.00%	25.37	2.44%	168,755

The Empire District Electric Company
Table 2: Staff Calculation of Depreciation Rates
As of December 31, 2014

Account	Description	12/31/14 Investment	12/31/14 Book Reserve	Percent Reserve	Future Net Salvage Percent	Remaining Life	Total Annual Rate	Total Annual Accrual
	A	B	C	D=C/B	E	F	G	H
316.00	Misc. Power Equipment	1,414,794	1,007,595	71.22%	-5.00%	24.49	1.38%	19,516
	Total Iatan 1	*98,014,985*	*41,853,116*	*42.70%*			*2.51%*	*2,457,045*
	Iatan 2							
311.00	Structures & Improvements	20,445,455	4,991,683	24.41%	-5.00%	54.57	1.48%	301,925
312.00	Boiler Plant Equipment	136,246,212	33,319,017	24.46%	-5.00%	51.92	1.55%	2,113,627
314.00	Turbo Generator Equipment	47,720,756	11,546,307	24.20%	-5.00%	50.02	1.62%	770,901
315.00	Accessory Electric Equipment	12,033,709	2,910,844	24.19%	-5.00%	54.88	1.47%	177,197
316.00	Misc. Power Equipment	185,555	43,433	23.41%	-5.00%	50.83	1.61%	2,979
	Total Iatan 2	*216,631,687*	*52,811,285*	*24.38%*			*1.55%*	*3,366,628*
	Iatan Common							
311.00	Structures & Improvements	14,131,789	396,386	2.80%	-5.00%	54.57	1.87%	264,651
312.00	Boiler Plant Equipment	37,430,142	3,618,423	9.67%	-5.00%	51.92	1.84%	687,273
314.00	Turbo Generator Equipment	1,237,356	35,097	2.84%	-5.00%	50.02	2.04%	25,272
315.00	Accessory Electric Equipment	4,720,034	138,594	2.94%	-5.00%	54.88	1.86%	87,781
316.00	Misc. Power Equipment	532,031	27,240	5.12%	-5.00%	50.83	1.96%	10,454
	Total Iatan Common	*58,051,353*	*4,215,740*	*7.26%*			*1.85%*	*1,075,432*
	Plum Point							
311.00	Structures & Improvements	20,665,934	1,417,641	6.86%	-5.00%	44.88	2.19%	451,907
312.00	Boiler Plant Equipment	53,031,016	3,984,918	7.51%	-5.00%	43.09	2.26%	1,199,760
312.00	Train	5,267,226	1,525,274	28.96%				
314.00	Turbo Generator Equipment	16,956,702	1,159,784	6.84%	-5.00%	41.82	2.35%	398,009
315.00	Accessory Electric Equipment	5,248,915	495,457	9.44%	-5.00%	45.09	2.12%	111,242

The Empire District Electric Company
Table 2: Staff Calculation of Depreciation Rates
As of December 31, 2014

Account	Description	12/31/14 Investment	12/31/14 Book Reserve	Percent Reserve	Future Net Salvage Percent	Remaining Life	Total Annual Rate	Total Annual Accrual
	A	B	C	D=C/B	E	F	G	H
316.00	Misc. Power Equipment	2,968,554	349,001	11.76%	-5.00%	42.35	2.20%	65,360
	Total Plum Point	*104,138,347*	*8,932,075*	*8.58%*			*2.14%*	*2,226,278*
	Steam Production							
311.00	Structures & Improvements	89,659,285	17,338,704	19.34%			3.56%	3,192,099
312.00	Boiler Plant Equipment	534,020,661	105,350,116	19.73%			3.37%	18,018,894
312.00	Train	5,596,231	1,602,197	28.63%				
314.00	Turbo Generator Equipment	118,592,545	26,041,246	21.96%			3.21%	3,809,957
315.00	Accessory Electric Equipment	37,260,332	10,041,995	26.95%			2.58%	962,190
316.00	Misc. Power Equipment	8,492,579	3,290,638	38.75%			3.51%	297,876
	Total Steam Production	*793,621,632*	*163,664,895*	*20.62%*			*3.31%*	*26,281,016*
	Ozark Beach Hydro							
331.00	Structures & Improvements	796,561	325,891	40.91%	-5.00%	37.90	1.69%	13,470
332.00	Reservoirs, Dams, & Waterways	3,414,912	1,368,904	40.09%	-5.00%	37.20	1.74%	59,590
333.00	Water Wheels, Turbines, & Generators	3,175,989	617,071	19.43%	-5.00%	36.84	2.32%	73,771
334.00	Accessory Electric Equipment	1,375,730	309,583	22.50%	-5.00%	35.86	2.30%	31,649
335.00	Misc. Power Equipment	452,659	207,899	45.93%	-5.00%	35.14	1.68%	7,609
	Total Ozark Beach Hydro	*9,215,852*	*2,829,348*	*30.70%*			*2.02%*	*186,089*
	State Line CC							
341.00	Structures & Improvements	10,635,737	2,741,593	25.78%	-2.00%	36.43	2.09%	222,533
342.00	Fuel Holders, Producers, & Accessories	409,439	110,286	26.94%	-2.00%	35.82	2.10%	8,580
343.00	Prime Movers	105,360,849	26,301,784	24.96%	5.00%	35.89	1.95%	2,056,033
344.00	Generators	31,250,753	7,502,729	24.01%	5.00%	36.43	1.95%	608,989

The Empire District Electric Company
Table 2: Staff Calculation of Depreciation Rates
As of December 31, 2014

Account	Description	12/31/14 Investment	12/31/14 Book Reserve	Percent Reserve	Future Net Salvage Percent	Remaining Life	Total Annual Rate	Total Annual Accrual
	A	B	C	D=C/B	E	F	G	H
345.00	Accessory Electric Equipment	8,228,295	2,141,341	26.02%	-2.00%	36.30	2.09%	172,218
346.00	Misc. Power Equipment	3,659,368	966,221	26.40%	-2.00%	36.10	2.09%	76,630
	Total State Line CC	*159,544,440*	*39,763,954*	*24.92%*			*1.97%*	*3,144,983*
	State Line CT							
341.00	Structures & Improvements	1,103,160	617,276	55.96%	-2.00%	25.47	1.81%	19,943
342.00	Fuel Holders, Producers, & Accessories	3,187,313	1,810,865	56.81%	-2.00%	25.17	1.80%	57,219
343.00	Prime Movers	26,308,743	13,900,405	52.84%	5.00%	25.20	1.67%	440,194
344.00	Generators	7,049,204	3,673,707	52.12%	5.00%	25.47	1.68%	118,690
345.00	Accessory Electric Equipment	2,875,110	1,614,542	56.16%	-2.00%	25.40	1.80%	51,893
346.00	Misc. Power Equipment	292,744	165,231	56.44%	-2.00%	25.30	1.80%	5,271
	Total State Line CT	*40,816,274*	*21,782,026*	*53.37%*			*1.70%*	*693,210*
	Energy Center Unit 1 & 2 (CTs)							
341.00	Structures & Improvements	2,134,907	1,750,010	81.97%	-2.00%	11.49	1.74%	37,215
342.00	Fuel Holders, Producers, & Accessories	1,290,095	1,059,245	82.11%	-2.00%	11.43	1.74%	22,454
343.00	Prime Movers	27,798,748	21,252,235	76.45%	5.00%	11.44	1.62%	450,750
344.00	Generators	4,737,700	3,617,034	76.35%	5.00%	11.49	1.62%	76,917
345.00	Accessory Electric Equipment	2,248,691	1,843,785	81.99%	-2.00%	11.48	1.74%	39,188
346.00	Misc. Power Equipment	1,813,310	1,487,615	82.04%	-2.00%	11.46	1.74%	31,585
	Total Energy Center Unit 1 & 2 (CTs)	*40,023,451*	*31,009,924*	*77.48%*			*1.64%*	*658,109*
	Energy Center Unit 3 & 4 (FT8s)							
341.00	Structures & Improvements	1,147,718	175,362	15.28%	-2.00%	28.46	3.05%	34,972
342.00	Fuel Holders, Producers, & Accessories	1,467,460	231,405	15.77%	-2.00%	28.09	3.07%	45,048

The Empire District Electric Company
Table 2: Staff Calculation of Depreciation Rates
As of December 31, 2014

Account	Description	12/31/14 Investment	12/31/14 Book Reserve	Percent Reserve	Future Net Salvage Percent	Remaining Life	Total Annual Rate	Total Annual Accrual
	A	B	C	D=C/B	E	F	G	H
343.00	Prime Movers	48,234,546	7,060,348	14.64%	5.00%	28.13	2.86%	1,377,976
344.00	Generators	519,289	73,898	14.23%	5.00%	28.46	2.84%	14,737
345.00	Accessory Electric Equipment	3,298,745	507,515	15.39%	-2.00%	28.38	3.05%	100,677
346.00	Misc. Power Equipment	1,105,379	171,966	15.56%	-2.00%	28.25	3.06%	33,824
	Total Energy Center Unit 3 & 4 (FT8s)	*55,773,137*	*8,220,493*	*14.74%*			*2.88%*	*1,607,235*
	Riverton CT							
341.00	Structures & Improvements	1,578,056	914,787	57.97%	-2.00%	18.48	2.38%	37,599
342.00	Fuel Holders, Producers, & Accessories	474,671	276,517	58.25%	-2.00%	18.32	2.39%	11,334
343.00	Prime Movers	7,721,713	4,186,975	54.22%	5.00%	18.34	2.22%	171,682
344.00	Generators	2,020,927	1,091,118	53.99%	5.00%	18.48	2.22%	44,846
345.00	Accessory Electric Equipment	1,651,285	958,120	58.02%	-2.00%	18.45	2.38%	39,360
346.00	Misc. Power Equipment	215,290	125,109	58.11%	-2.00%	18.40	2.39%	5,135
	Total Riverton CT	*13,661,942*	*7,552,626*	*55.28%*			*2.27%*	*309,957*
	Riverton Unit 12							
341.00	Structures & Improvements	232,337	40,963	17.63%	-2.00%	42.41	1.99%	4,622
342.00	Fuel Holders, Producers, & Accessories	945,601	184,728	19.54%	-2.00%	41.59	1.98%	18,749
343.00	Prime Movers	16,494,320	2,968,998	18.00%	5.00%	41.68	1.85%	304,717
344.00	Generators	11,548,068	1,896,283	16.42%	5.00%	42.41	1.85%	213,968
345.00	Accessory Electric Equipment	9,514,596	1,717,276	18.05%	-2.00%	42.23	1.99%	189,145
346.00	Misc. Power Equipment	1,484,187	277,187	18.68%	-2.00%	41.96	1.99%	29,473
	Total Riverton Unit 12	*40,219,109*	*7,085,435*	*17.62%*			*1.89%*	*760,675*
	Other Production							

The Empire District Electric Company
Table 2: Staff Calculation of Depreciation Rates
As of December 31, 2014

Account	Description	12/31/14 Investment	12/31/14 Book Reserve	Percent Reserve	Future Net Salvage Percent	Remaining Life	Total Annual Rate	Total Annual Accrual
	A	B	C	D=C/B	E	F	G	H
341.00	Structures & Improvements	16,831,915	6,239,990	37.07%			2.12%	356,883
342.00	Fuel Holders, Producers, & Accessories	7,774,579	3,673,046	47.24%			2.10%	163,385
343.00	Prime Movers	231,918,919	75,670,745	32.63%			2.07%	4,801,353
344.00	Generators	57,125,940	17,854,769	31.26%			1.89%	1,078,149
345.00	Accessory Electric Equipment	27,816,723	8,782,580	31.57%			2.13%	592,481
346.00	Misc. Power Equipment	8,570,278	3,193,329	37.26%			2.12%	181,918
	Total Other Production	*350,038,353*	*115,414,459*	*32.97%*			*2.05%*	*7,174,168*
TOTAL PRODUCTION PLANT		**1,152,875,837**	**281,908,702**	**24.45%**			**2.92%**	**33,641,273**
TRANSMISSION PLANT								
352.00	Structures & Improvements	2,900,606	1,335,234	46.03%	0.00%	35.59	1.52%	43,989
353.00	Station Equipment	117,307,244	42,589,034	36.31%	-10.00%	35.29	2.09%	2,449,499
354.00	Towers and Fixtures	2,089,249	865,985	41.45%	0.00%	25.42	2.30%	48,127
355.00	Poles and Fixtures	74,116,825	23,164,238	31.25%	-75.00%	44.02	3.27%	2,420,512
356.00	Overhead Conductors & Devices	80,519,307	24,547,155	30.49%	-11.00%	49.75	1.62%	1,303,114
359.00	Roads & Trails							
TOTAL TRANSMISSION PLANT		**276,933,230**	**92,501,645**	**33.40%**			**2.26%**	**6,265,242**
DISTRIBUTION PLANT								
361.00	Structures & Improvements	29,016,469	4,898,782	16.88%	0.00%	44.77	1.86%	538,684
362.00	Station Equipment	99,961,353	35,385,582	35.40%	-16.00%	39.59	2.04%	2,035,227
364.00	Poles, Towers, and Fixtures	180,058,978	88,518,198	49.16%	-100.00%	36.71	4.11%	7,398,549
365.00	Overhead Conductors & Devices	190,178,364	79,928,945	42.03%	-70.00%	44.89	2.85%	5,421,959
366.00	Underground Conduit	37,281,548	15,490,903	41.55%	-10.00%	35.32	1.94%	722,480

The Empire District Electric Company
Table 2: Staff Calculation of Depreciation Rates
As of December 31, 2014

Account	Description	12/31/14 Investment	12/31/14 Book Reserve	Percent Reserve	Future Net Salvage Percent	Remaining Life	Total Annual Rate	Total Annual Accrual
	A	B	C	D=C/B	E	F	G	H
367.00	Underground Conductors & Devices	59,137,274	29,833,330	50.45%	-16.00%	33.20	1.97%	1,167,627
368.00	Line Transformers	105,880,249	38,051,314	35.94%	0.00%	35.48	1.81%	1,911,797
369.00	Services	76,810,492	49,419,445	64.34%	-50.00%	30.01	2.85%	2,192,749
370.00	Meters	22,007,394	7,640,970	34.72%	-2.00%	29.51	2.28%	501,681
371.00	Installations on Cust. Premises	16,825,198	11,749,433	69.83%	-33.00%	20.63	3.06%	515,249
373.00	Street Lighting & Signal Systems	18,869,639	4,850,431	25.70%	-57.00%	35.45	3.70%	698,783
TOTAL DISTRIBUTION PLANT		**836,026,959**	**365,767,333**	**43.75%**			**2.76%**	**23,104,784**
GENERAL PLANT								
390.00	Structures & Improvements	9,993,085	6,379,076	63.83%	-10.00%	20.60	2.24%	223,947
391.10	Office Furniture & Equipment	4,983,038	1,869,399	37.52%	0.00%	13.48	4.64%	230,967
391.20	Computer Equipment	13,894,381	9,408,280	67.71%	0.00%		10.00%	1,389,438
392.00	Transportation Equipment	12,111,140	6,736,867	55.63%	7.00%	8.72	4.29%	519,125
393.00	Stores Equipment	595,145	366,012	61.50%	0.00%	23.40	1.65%	9,792
394.00	Tools, Shop, & Garage Equipment	5,670,457	3,268,453	57.64%	0.00%	10.35	4.09%	231,980
395.00	Laboratory Equipment	1,292,173	828,182	64.09%	0.00%	27.61	1.30%	16,804
396.00	Power Operated Equipment	17,176,807	7,723,565	44.97%	4.00%	11.18	4.56%	784,054
397.00	Communication Equipment	11,731,494	5,923,613	50.49%	0.00%	12.31	4.02%	471,931
398.00	Misc. Equipment	237,967	169,623	71.28%	0.00%	20.45	1.40%	3,342
TOTAL GENERAL PLANT		**77,685,687**	**42,673,070**	**54.93%**			**5.00%**	**3,881,380**
TOTAL PLANT		**2,343,521,713**	**782,850,750**	**33.40%**			**2.85%**	**66,892,679**

Note:
Book Reserve for Other Production Plant Units have been reallocated, see Table 3 of this Schedule

The Empire District Electric Company
Table 3: Current and Proposed Parameters
As of December 31, 2014

		Current Approved					Empire Proposed					Staff Proposed				
Account	Description	AYFR	Proj Life	IRR / Curve Shape	Avg Rem Life	Future Net Salvage	AYFR	Proj Life	IRR / Curve Shape	Avg Rem Life	Future Net Salvage	AYFR	Proj Life	IRR / Curve Shape	Avg Rem Life	Future Net Salvage
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
PRODUCTION PLANT																
	Asbury															
311.00	Structures & Improvements	2014	95			-0.40%	2035	65	0.0002		-5%	2035	65	0.0006	20.4	-5%
312.00	Boiler Plant Equipment	2014	54			-1.18%	2035	65	0.0032		-5%	2035	65	0.0023	20.0	-5%
312.00	Train							15	SQ				15	SQ		
314.00	Turbo Generator Equipment	2014	63			-1.06%	2035	65	0.0042		-5%	2035	65	0.0035	19.8	-5%
315.00	Accessory Electric Equipment	2014	56			-0.36%	2035	65	0.0007		-5%	2035	65	0.0004	20.4	-5%
316.00	Misc. Power Equipment	2014	51			0.39%	2035	65	0.0034		-5%	2035	65	0.0030	19.8	-5%
	Total Asbury															
	Riverton															
311.00	Structures & Improvements	2008	95			-0.10%	2018	65			-5%	2018	65			-5%
312.00	Boiler Plant Equipment	2008	54			-0.30%	2018	65			-5%	2018	65			-5%
314.00	Turbo Generator Equipment	2008	63			-0.27%	2018	65			-5%	2018	65			-5%
315.00	Accessory Electric Equipment	2008	56			-0.09%	2018	65			-5%	2018	65			-5%
316.00	Misc. Power Equipment	2008	51			0.10%	2018	65			-5%	2018	65			-5%
	Total Riverton															
	Iatan 1															
311.00	Structures & Improvements	2014	95			-0.69%	2040	60	0.0018		-5%	2040	60	0.0006	25.3	-5%
312.00	Boiler Plant Equipment	2014	54			-2.02%	2040	60	0.0008		-5%	2040	60	0.0023	24.7	-5%
312.00	Train							15	SQ				15	SQ		
314.00	Turbo Generator Equipment	2014	63			-1.84%	2040	60	0.0019		-5%	2040	60	0.0035	24.3	-5%
315.00	Accessory Electric Equipment	2014	56			-1.62%	2040	60	0.0002		-5%	2040	60	0.0004	25.4	-5%
316.00	Misc. Power Equipment	2014	51			0.67%	2040	60	0.0023		-5%	2040	60	0.0030	24.5	-5%
	Total Iatan 1															
	Iatan 2															
311.00	Structures & Improvements						2070	60	0.0000		-5%	2070	60	0.0006	54.6	-5%
312.00	Boiler Plant Equipment						2070	60	0.0000		-5%	2070	60	0.0023	51.9	-5%
314.00	Turbo Generator Equipment						2070	60	0.0000		-5%	2070	60	0.0035	50.0	-5%
315.00	Accessory Electric Equipment						2070	60	0.0000		-5%	2070	60	0.0004	54.9	-5%

The Empire District Electric Company
Table 3: Current and Proposed Parameters
As of December 31, 2014

		Current Approved					Empire Proposed					Staff Proposed				
Account	Description	AYFR	Proj Life	IRR / Curve Shape	Avg Rem Life	Future Net Salvage	AYFR	Proj Life	IRR / Curve Shape	Avg Rem Life	Future Net Salvage	AYFR	Proj Life	IRR / Curve Shape	Avg Rem Life	Future Net Salvage
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
316.00	Misc. Power Equipment						2070	60	0.0000		-5%	2070	60	0.0030	50.8	-5%
	Total Iatan 2															
	Iatan Common															
311.00	Structures & Improvements	2014	95			-0.69%	2070	60			-5%	2070	60	0.0006	54.6	-5%
312.00	Boiler Plant Equipment	2014	54			-2.02%	2070	60			-5%	2070	60	0.0023	51.9	-5%
314.00	Turbo Generator Equipment	2014	63			-1.84%	2070	60			-5%	2070	60	0.0035	50.0	-5%
315.00	Accessory Electric Equipment	2014	56			-1.62%	2070	60			-5%	2070	60	0.0004	54.9	-5%
316.00	Misc. Power Equipment	2014	51			0.67%	2070	60			-5%	2070	60	0.0030	50.8	-5%
	Total Iatan Common															
	Plum Point															
311.00	Structures & Improvements						2060	50	0.0000		-5%	2060	50	0.0006	44.9	-5%
312.00	Boiler Plant Equipment						2060	50	0.0013		-5%	2060	50	0.0023	43.1	-5%
312.00	Train							15	SQ				15	SQ		
314.00	Turbo Generator Equipment						2060	50	0.0000		-5%	2060	50	0.0035	41.8	-5%
315.00	Accessory Electric Equipment						2060	50	0.0000		-5%	2060	50	0.0004	45.1	-5%
316.00	Misc. Power Equipment						2060	50	0.0000		-5%	2060	50	0.0030	42.4	-5%
	Total Plum Point															
	Steam Production															
311.00	Structures & Improvements															
312.00	Boiler Plant Equipment															
312.00	Train															
314.00	Turbo Generator Equipment															
315.00	Accessory Electric Equipment															
316.00	Misc. Power Equipment															
	Total Steam Production															
	Ozark Beach Hydro															
331.00	Structures & Improvements	2022	61			-1.14%	2053	122	0.0008		-5%	2053	122	0.0008	37.9	-5%
332.00	Reservoirs, Dams, & Waterways	2022	60				2053	122	0.0017		-5%	2053	122	0.0017	37.2	-5%
333.00	Water Wheels, Turbines, & Generators	2022	68				2053	122	0.0022		-5%	2053	122	0.0022	36.8	-5%

The Empire District Electric Company
Table 3: Current and Proposed Parameters
As of December 31, 2014

		Current Approved					Empire Proposed					Staff Proposed				
Account	Description	AYFR	Proj Life	IRR / Curve Shape	Avg Rem Life	Future Net Salvage	AYFR	Proj Life	IRR / Curve Shape	Avg Rem Life	Future Net Salvage	AYFR	Proj Life	IRR / Curve Shape	Avg Rem Life	Future Net Salvage
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
334.00	Accessory Electric Equipment	2022	70			-1.14%	2053	122	0.0034		-5%	2053	122	0.0034	35.9	-5%
335.00	Misc. Power Equipment	2022	41				2053	122	0.0042		-5%	2053	122	0.0042	35.1	-5%
	Total Ozark Beach Hydro															
	State Line CC															
341.00	Structures & Improvements	2031	35				2051	50	0.0000		-2%	2051	50	0.0001	36.4	-2%
342.00	Fuel Holders, Producers, & Accessories	2031	35				2051	50	0.0010		-2%	2051	50	0.0010	35.8	-2%
343.00	Prime Movers	2031	35			-0.18%	2051	50	0.0009		5%	2051	50	0.0009	35.9	5%
344.00	Generators	2031	35				2051	50	0.0000		5%	2051	50	0.0001	36.4	5%
345.00	Accessory Electric Equipment	2031	35				2051	50	0.0000		-2%	2051	50	0.0003	36.3	-2%
346.00	Misc. Power Equipment	2031	35			0.17%	2051	50	0.0000		-2%	2051	50	0.0006	36.1	-2%
	Total State Line CC															
	State Line CT															
341.00	Structures & Improvements	2029	55				2040	45	0.0000		-2%	2040	45	0.0001	25.5	-2%
342.00	Fuel Holders, Producers, & Accessories	2029	26				2040	45	0.0001		-2%	2040	45	0.0010	25.2	-2%
343.00	Prime Movers	2029	52			-0.12%	2040	45	0.0006		5%	2040	45	0.0009	25.2	5%
344.00	Generators	2029	55				2040	45	0.0000		5%	2040	45	0.0001	25.5	5%
345.00	Accessory Electric Equipment	2029	28				2040	45	0.0000		-2%	2040	45	0.0003	25.4	-2%
346.00	Misc. Power Equipment	2029	25			0.16%	2040	45	0.0019		-2%	2040	45	0.0006	25.3	-2%
	Total State Line CT															
	Energy Center Unit 1 & 2 (CTs)															
341.00	Structures & Improvements	2015	55				2026	48	0.0004		-2%	2026	48	0.0001	11.5	-2%
342.00	Fuel Holders, Producers, & Accessories	2015	26				2026	48	0.0024		-2%	2026	48	0.0010	11.4	-2%
343.00	Prime Movers	2015	52			-0.06%	2026	48	0.0021		5%	2026	48	0.0009	11.4	5%
344.00	Generators	2015	55				2026	48	0.0001		5%	2026	48	0.0001	11.5	5%
345.00	Accessory Electric Equipment	2015	28				2026	48	0.0000		-2%	2026	48	0.0003	11.5	-2%
346.00	Misc. Power Equipment	2015	25			0.06%	2026	48	0.0008		-2%	2026	48	0.0006	11.5	-2%
	Total Energy Center Unit 1 & 2 (CTs)															
	Energy Center Unit 3 & 4 (FT8s)															
341.00	Structures & Improvements	2033	55				2043	40	0.0000		-2%	2043	40	0.0001	28.5	-2%

The Empire District Electric Company
Table 3: Current and Proposed Parameters
As of December 31, 2014

		Current Approved					Empire Proposed					Staff Proposed				
Account	Description	AYFR	Proj Life	IRR / Curve Shape	Avg Rem Life	Future Net Salvage	AYFR	Proj Life	IRR / Curve Shape	Avg Rem Life	Future Net Salvage	AYFR	Proj Life	IRR / Curve Shape	Avg Rem Life	Future Net Salvage
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
342.00	Fuel Holders, Producers, & Accessories						2043	40	0.0014		-2%	2043	40	0.0010	28.1	-2%
343.00	Prime Movers						2043	40	0.0001		5%	2043	40	0.0009	28.1	5%
344.00	Generators	2033	55				2043	40	0.0070		5%	2043	40	0.0001	28.5	5%
345.00	Accessory Electric Equipment	2033	28				2043	40	0.0017		-2%	2043	40	0.0003	28.4	-2%
346.00	Misc. Power Equipment	2033	25			0.19%	2043	40	0.0004		-2%	2043	40	0.0006	28.3	-2%
	Total Energy Center Unit 3 & 4 (FT8s)															
	Riverton CT															
341.00	Structures & Improvements	2014	55				2033	51	0.0000		-2%	2033	51	0.0001	18.5	-2%
342.00	Fuel Holders, Producers, & Accessories	2014	26				2033	51	0.0000		-2%	2033	51	0.0010	18.3	-2%
343.00	Prime Movers	2014	52			-0.05%	2033	51	0.0008		5%	2033	51	0.0009	18.3	5%
344.00	Generators	2014	55				2033	51	0.0000		5%	2033	51	0.0001	18.5	5%
345.00	Accessory Electric Equipment	2014	28				2033	51	0.0000		-2%	2033	51	0.0003	18.5	-2%
346.00	Misc. Power Equipment	2014	25			0.04%	2033	51	0.0000		-2%	2033	51	0.0006	18.4	-2%
	Total Riverton CT															
	Riverton Unit 12															
341.00	Structures & Improvements						2057	50	0.0000		-2%	2057	50	0.0001	42.4	-2%
342.00	Fuel Holders, Producers, & Accessories						2057	50	0.0000		-2%	2057	50	0.0010	41.6	-2%
343.00	Prime Movers						2057	50	0.0000		5%	2057	50	0.0009	41.7	5%
344.00	Generators						2057	50	0.0000		5%	2057	50	0.0001	42.4	5%
345.00	Accessory Electric Equipment						2057	50	0.0000		-2%	2057	50	0.0003	42.2	-2%
346.00	Misc. Power Equipment						2057	50	0.0000		-2%	2057	50	0.0006	42.0	-2%
	Total Riverton Unit 12															
	Other Production															
341.00	Structures & Improvements															
342.00	Fuel Holders, Producers, & Accessories															
343.00	Prime Movers															
344.00	Generators															
345.00	Accessory Electric Equipment															
346.00	Misc. Power Equipment															
	Total Other Production															

The Empire District Electric Company
Table 3: Current and Proposed Parameters
As of December 31, 2014

		Current Approved					Empire Proposed					Staff Proposed				
Account	Description	AYFR	Proj Life	IRR / Curve Shape	Avg Rem Life	Future Net Salvage	AYFR	Proj Life	IRR / Curve Shape	Avg Rem Life	Future Net Salvage	AYFR	Proj Life	IRR / Curve Shape	Avg Rem Life	Future Net Salvage
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
TOTAL PRODUCTION PLANT																
TRANSMISSION PLANT																
352.00	Structures & Improvements		55	R1.5		-15%		55	R2	35.6	0%		55	R2	35.6	0%
353.00	Station Equipment		50	R2.5		-10%		52	S2	35.3	-16%		52	S2	35.3	-10%
354.00	Towers and Fixtures		65	R5		-25%		65	R2	25.4	0%		65	R2	25.4	0%
355.00	Poles and Fixtures		60	R4		-100%		57	S2.5	44.0	-100%		57	S2.5	44.0	-75%
356.00	Overhead Conductors & Devices		65	S1.5		-40%		65	R2	49.7	-11%		65	R2	49.7	-11%
359.00	Roads & Trails															
TOTAL TRANSMISSION PLANT																
DISTRIBUTION PLANT																
361.00	Structures & Improvements		60	R3		-25%		64	S1	44.8	0%		64	S1	44.8	0%
362.00	Station Equipment		45	R2.5		15%		53	R1.5	39.6	-16%		53	R1.5	39.6	-16%
364.00	Poles, Towers, and Fixtures		46	L5		-100%		50	R3	36.7	-100%		50	R3	36.7	-100%
365.00	Overhead Conductors & Devices		53	R3		-100%		59	R2.5	44.9	-100%		59	R2.5	44.9	-70%
366.00	Underground Conduit		37	R3		-45%		47	R4	35.3	-23%		47	R4	35.3	-10%
367.00	Underground Conductors & Devices		32	S1		-15%		45	R2	33.2	-16%		45	R2	33.2	-16%
368.00	Line Transformers		45	S1		-25%		48	R2	35.5	0%		48	R2	35.5	0%
369.00	Services		40	S4		-100%		45	R4	30.0	-100%		45	R4	30.0	-50%
370.00	Meters		44	S0		0%		43	S0	29.5	-2%		43	S0	29.5	-2%
371.00	Installations on Cust. Premises		25	L1.5		-45%		30	R1	20.6	-33%		30	R1	20.6	-33%
373.00	Street Lighting & Signal Systems		48	R2.5		-50%		45	R1	35.5	-57%		45	R1	35.5	-57%
TOTAL DISTRIBUTION PLANT																
GENERAL PLANT																
390.00	Structures & Improvements		40	R1.5		-10%		28	L3	9.4	0%		40	R1.5	20.6	-10%
391.10	Office Furniture & Equipment		20	L0		0%		21	R1	13.5	0%		21	R1	13.5	0%
391.20	Computer Equipment		10	L2		0%		10	SQ		0%		10	SQ		0%
392.00	Transportation Equipment		12	L2		15%		13	L2	8.7	7%		13	L2	8.7	7%
393.00	Stores Equipment		30	R2.5		5%		40	R2	23.4	0%		40	R2	23.4	0%
394.00	Tools, Shop, & Garage Equipment		20	R5		10%		20	R2	10.4	0%		20	R2	10.4	0%

The Empire District Electric Company
Table 3: Current and Proposed Parameters
As of December 31, 2014

		Current Approved					Empire Proposed					Staff Proposed				
Account	Description	AYFR	Proj Life	IRR / Curve Shape	Avg Rem Life	Future Net Salvage	AYFR	Proj Life	IRR / Curve Shape	Avg Rem Life	Future Net Salvage	AYFR	Proj Life	IRR / Curve Shape	Avg Rem Life	Future Net Salvage
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
395.00	Laboratory Equipment		38	R2.5		0%		46	R3	27.6	0%		46	R3	27.6	0%
396.00	Power Operated Equipment		15	L3		5%		17	R3	11.2	4%		17	R3	11.2	4%
397.00	Communication Equipment		25	R2.5		0%		21	L1	12.3	0%		21	L1	12.3	0%
398.00	Misc. Equipment		22	L1.5		0%		32	S0	20.4	0%		32	S0	20.4	0%
TOTAL GENERAL PLANT																
TOTAL PLANT																

Source:
Current Approved in Kansas Docket No. 05-EPDE-980-RTS and Missouri Case No. ER-2004-0570

The Empire District Electric Company
A Liberty Utilities Company
Docket No. 19-EPDE-223-RTS
Staff Data Request – 93
Page **1** of **1**

Data Request Received: 01/08/18
Request No. 93

Date of Response: 1/14/2019
Respondent: Thomas J. Sullivan

Submitted by: A Jackson / R McCullar

RE: Depreciation

REQUEST:

The Direct Testimony of Thomas Sullivan on page 5, lines 18-20 discuss how whole life formula can be adjusted for reserve deficiencies (or excesses).

Is the company proposing an adjustment to the mass property accounts for the reserve excess of $67,716,875 shown on page 29, line 61 of Exhibit TJS-2? If yes, please provide the reference to where that adjustment is included in the filing.

RESPONSE:

No, the Company is not proposing an adjustment to the mass property accounts.

Verification of Response

I have read the foregoing Information Request and answer(s) thereto and find the answer(s) to be true, accurate, full and complete, and contain no material misrepresentations or omissions to the best of my knowledge and belief; and I will disclose to the Commission Staff any matter subsequently discovered which affects the accuracy or completeness of the answer(s) to this Information Request.

Signed: */s/ Thomas J. Sullivan*

Date: January 14, 2019

FINAL

REPORT ON DEPRECIATION ACCRUAL RATES

Electric utility property through

December 31, 2014

B&V PROJECT NO. 188366

PREPARED FOR

The Empire District Electric Company

SEPTEMBER 2015

BLACK & VEATCH
Building a world of difference.®

The Empire District Electric Company
Unit Property Depreciation Rate Analysis
Unit Property: Other Production, Energy Center Combustion Turbine

Gross Salvage	10%
Cost of Removal	5%
Net Salvage	5%
Install Date	1978
Retirement Date	2026
Service Life, Yrs	48

Historical and Forecast Plant Additions & Balances
Account: 344 Generators

	[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]
			Reported Per Books				Account 106	Adjusted Transaction Year			
	Vintage	Vintage	Transaction Year			Vintage Year	Advance			Transfers and	End of Year Plant
Line	Year	Age	Balance	Additions	Retirements	Retirements	Additions	Additions	Retirements	Adjustments	Balance*
1	1977	49	-	-	-	-	-	-	-	-	-
2	1978	48	1,884,020	-	-	(12,000)	-	1,884,020	-	-	1,884,020
3	1979	47	-	-	-	-	-	-	-	-	1,884,020
4	1980	46	-	-	-	-	-	-	-	-	1,884,020
5	1981	45	2,267,290	-	-	-	-	2,267,290	-	-	4,151,310
6	1982	44	1,766	-	-	-	-	1,766	-	-	4,153,076
7	1983	43	-	-	-	-	-	-	-	-	4,153,076
8	1984	42	-	-	-	-	-	-	-	-	4,153,076
9	1985	41	-	-	-	-	-	-	-	-	4,153,076
10	1986	40	1,225	-	-	-	-	1,225	-	-	4,154,301
11	1987	39	-	-	-	-	-	-	-	-	4,154,301
12	1988	38	-	-	-	-	-	-	-	-	4,154,301
13	1989	37	-	-	-	-	-	-	-	-	4,154,301
14	1990	36	6,082	-	-	-	-	6,082	-	-	4,160,383
15	1991	35	-	-	-	-	-	-	-	-	4,160,383
16	1992	34	-	-	-	-	-	-	-	-	4,160,383
17	1993	33	-	-	-	-	-	-	-	-	4,160,383
18	1994	32	-	-	-	-	-	-	-	-	4,160,383
19	1995	31	-	-	-	-	-	-	-	-	4,160,383
20	1996	30	-	-	-	-	-	-	-	-	4,160,383
21	1997	29	-	-	-	-	-	-	-	-	4,160,383
22	1998	28	-	-	-	-	-	-	-	-	4,160,383
23	1999	27	-	-	-	-	-	-	-	-	4,160,383
24	2000	26	-	-	-	-	-	-	-	-	4,160,383
25	2001	25	-	-	-	-	-	-	-	-	4,160,383
26	2002	24	-	-	-	-	-	-	-	-	4,160,383
27	2003	23	-	-	-	-	-	-	-	-	4,160,383
28	2004	22	-	356,076	-	-	-	356,076	-	-	4,516,459
29	2005	21	-	-	-	-	-	-	-	-	4,516,459
30	2006	20	-	-	-	-	-	-	-	-	4,516,459
31	2007	19	-	-	-	-	-	-	-	-	4,516,459
31	2008	18	-	-	(12,000)	-	-	-	(12,000)	-	4,504,459
32	2009	17	-	-	-	-	-	-	-	-	4,504,459
33	2010	16	-	-	-	-	-	-	-	-	4,504,459
34	2011	15	-	-	-	-	-	-	-	-	4,504,459
35	2012	14	-	136,298	-	-	-	136,298	-	-	4,640,757
36	2013	13	-	-	-	-	-	-	-	-	4,640,757
37	2014	12	-	-	-	-	-	-	-	96,944	4,737,701
38	Total		$ 4,160,383	$ 492,374	$ (12,000)	$ (12,000)	$ -	$ 4,652,757	$ (12,000)	$ 96,944	$ 151,381,127
39	Major Additions/Retirements										
40											
41											
42											
43											
44	Routine Activity			$ 492,374	$ (12,000)						
45	Historical Interim Activity			0.33%	-0.01%						
46	Forecast Interim Activity			0.33%	-0.01%						
							Major Additions**				
47	2015	11						15,410	(376)		4,752,735
48	2016	10						15,458	(377)		4,767,817
49	2017	9						15,508	(378)		4,782,947
50	2018	8						15,557	(379)		4,798,124
51	2019	7						15,606	(380)		4,813,350
52	2020	6						15,656	(382)		4,828,624
53	2021	5						15,705	(383)		4,843,947
54	2022	4						15,755	(384)		4,859,318
55	2023	3	UNIT 1 RETIRES 2023					15,805	(385)	1,884,020	6,758,758
56	2024	2						21,983	(536)		6,780,205
57	2025	1						22,053	(537)		6,801,720
58	2026	0								(6,801,720)	-
								$ 4,837,253	$ (16,496)		$ 210,168,671

* Through vintage year 1999 the balances are 1999 remaining plant balances.
** From 2015 capital budget

The Empire District Electric Company
Unit Property Depreciation Rate Analysis
Unit Property: Other Production, Energy Center Combustion Turbine

Gross Salvage	10%
Cost of Removal	5%
Net Salvage	5%
Install Date	1978
Retirement Date	2026
Service Life, Yrs	48

Historical and Forecast Plant Additions & Balances
Account: 344 Generators

	[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]
			Reported Per Books				Account 106	Adjusted Transaction Year			
			Transaction Year			Vintage Year	Advance			Transfers and	End of Year Plant
Line	Vintage Year	Vintage Age	Balance	Additions	Retirements	Retirements	Additions	Additions	Retirements	Adjustments	Balance*

Whole Life Depreciation Rate Calculation	
Historical Additions	4,652,757
Forecast Additions	184,496
Total Additions	4,837,253
Gross Salvage Value	680,172
Less Cost of Removal	340,086
Net Salvage Value	340,086
Total to be Recovered	4,497,167
Forecast Plant Balances	210,168,671
Whole Life Accrual Rate	2.14%
Cost of Removal Accrual Rate	0.16%
Whole Life Accrual Rate (Excluding Cost of Removal)	1.98%
Depreciable Service Life, years	46.7

Remaining Life Depreciation Rate Calculation	
Account Balance 12/31/14	4,737,701
Forecast Additions	184,496
Gross Salvage Value	680,172
Less Cost of Removal	340,086
Net Salvage Value	340,086
Depreciation Reserve Balance 12/31/14	(6,737,484)
Forecast Total Remaining Life Balance	(2,155,373)
Forecast Plant Balances	58,787,544
Remaining Life Accrual Rate	-3.67%

Calculation of Interim Retirement Rate for Steam Production Plant

	Account 311			Account 312			Account 314			Account 315			Account 316		
Unit	Interim Retirements	Total Average Balance	Interim Retirement Ratio	Interim Retirements	Total Average Balance	Interim Retirement Ratio	Interim Retirements	Total Average Balance	Interim Retirement Ratio	Interim Retirements	Total Average Balance	Interim Retirement Ratio	Interim Retirements	Total Average Balance	Interim Retirement Ratio
Asbury	84,803	375,275,770	0.02%	6,838,569	2,146,313,202	0.32%	2,842,445	677,238,996	0.42%	78,730	119,265,139	0.07%	165,479	48,731,332	0.34%
Iatan 1	234,997	129,869,220	0.18%	1,007,550	1,238,472,131	0.08%	539,685	280,312,298	0.19%	26,636	150,872,157	0.02%	58,693	25,646,716	0.23%
Total	319,800	505,144,990	**0.06%**	7,846,119	3,384,785,333	**0.23%**	3,382,130	957,551,294	**0.35%**	105,365	270,137,296	**0.04%**	224,172	74,378,048	**0.30%**

Calculation of Interim Retirement Rate for Hydro Production Plant

	Account 331			Account 332			Account 333			Account 334			Account 335		
Unit	Interim Retirements	Total Average Balance	Interim Retirement Ratio	Interim Retirements	Total Average Balance	Interim Retirement Ratio	Interim Retirements	Total Average Balance	Interim Retirement Ratio	Interim Retirements	Total Average Balance	Interim Retirement Ratio	Interim Retirements	Total Average Balance	Interim Retirement Ratio
Ozark Beach	18,452	23,703,207	**0.08%**	227,834	131,429,997	**0.17%**	95,916	44,210,097	**0.22%**	86,530	25,254,206	**0.34%**	42,404	10,036,740	**0.42%**

Calculation of Interim Retirement Rate for Other Production Plant

	Account 341			Account 342			Account 343			Account 344			Account 345			Account 346		
Unit	Interim Retirements	Total Average Balance	Interim Retirement Ratio	Interim Retirements	Total Average Balance	Interim Retirement Ratio	Interim Retirements	Total Average Balance	Interim Retirement Ratio	Interim Retirements	Total Average Balance	Interim Retirement Ratio	Interim Retirements	Total Average Balance	Interim Retirement Ratio	Interim Retirements	Total Average Balance	Interim Retirement Ratio
State Line CC	0	161,276,627	0.00%	6,152	6,443,150	0.10%	1,277,124	1,498,045,708	0.09%	0	451,166,756	0.00%	0	122,466,142	0.00%	0	39,853,233	0.00%
State Line CT	155	30,226,838	0.00%	5,967	62,667,433	0.01%	348,373	622,925,855	0.06%	0	152,345,064	0.00%	0	53,216,032	0.00%	24,440	12,862,888	0.19%
Energy Center Unit 1&2	25,286	65,874,664	0.04%	97,361	41,425,095	0.24%	1,567,628	757,303,572	0.21%	12,000	151,381,127	0.01%	0	24,536,962	0.00%	32,144	42,753,086	0.08%
Energy Center Unit 3&4	0	13,414,467	0.00%	23,725	16,858,546	0.14%	58,731	575,699,829	0.01%	43,688	6,271,346	0.70%	69,547	40,143,351	0.17%	5,168	12,863,213	0.04%
Riverton CT	0	18,833,348	0.00%	0	12,629,068	0.00%	179,325	221,496,170	0.08%	0	58,282,589	0.00%	0	27,136,296	0.00%	0	2,865,699	0.00%
Total	25,441	289,625,945	**0.01%**	133,204	140,023,292	**0.10%**	3,431,181	3,675,471,134	**0.09%**	55,688	819,446,882	**0.01%**	69,547	267,498,783	**0.03%**	61,752	111,198,118	**0.06%**

Source:
Company Workpapers "Unit Property Analyses"
IRR weighted average, see Table 10-2 on page 150 of NARUC "Public Utility Depreciation Practices"

FINAL

REPORT ON DEPRECIATION ACCRUAL RATES

Electric utility property through

December 31, 2014

B&V PROJECT NO. 188366

PREPARED FOR

The Empire District Electric Company

SEPTEMBER 2015

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	[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]
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58	2026	0								(6,801,720)	-
								$ 4,837,253	$ (16,496)		$ 210,168,671

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Unit Property: Other Production, Energy Center Combustion Turbine

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Account: 344 Generators

	[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]
			Reported Per Books				Account 106	Adjusted Transaction Year			
			Transaction Year			Vintage Year	Advance			Transfers and	End of Year Plant
Line	Vintage Year	Vintage Age	Balance	Additions	Retirements	Retirements	Additions	Additions	Retirements	Adjustments	Balance*

Whole Life Depreciation Rate Calculation

Historical Additions	4,652,757
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Whole Life Accrual Rate (Excluding Cost of Removal)	1.98%
Depreciable Service Life, years	46.7

Remaining Life Depreciation Rate Calculation

Account Balance 12/31/14	4,737,701
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Less Cost of Removal	340,086
Net Salvage Value	340,086
Depreciation Reserve Balance 12/31/14	(6,737,484)
Forecast Total Remaining Life Balance	(2,155,373)
Forecast Plant Balances	58,787,544
Remaining Life Accrual Rate	-3.67%

The Empire District Electric Company
Table 4: Other Production Plant Depreciation Reserve Reallocation
As of December 31, 2014

Account	Description	12/31/14 Investment	12/31/14 Book Reserve Amount	12/31/14 Book Reserve Percent	Estimated Theoretical Reserve Amount	Estimated Theoretical Reserve Percent	Reallocated Book Reserve Amount	Reallocated Book Reserve Percent
	A	B	C	D=C/B	E	F=E/B	G	H=G/B
	State Line CC							
341.00	Structures & Improvements	10,635,737	3,038,448	28.57%	2,944,270	27.68%	2,741,593	25.78%
342.00	Fuel Holders, Producers, & Accessories	409,439	1,632,929	398.82%	118,439	28.93%	110,286	26.94%
343.00	Prime Movers	105,360,849	27,374,209	25.98%	28,246,190	26.81%	26,301,784	24.96%
344.00	Generators	31,250,753	4,569,953	14.62%	8,057,382	25.78%	7,502,729	24.01%
345.00	Accessory Electric Equipment	8,228,295	2,561,645	31.13%	2,299,644	27.95%	2,141,341	26.02%
346.00	Misc. Power Equipment	3,659,368	586,771	16.03%	1,037,650	28.36%	966,221	26.40%
	Total State Line CC	*159,544,440*	*39,763,954*	*24.92%*	*42,703,575*	*26.77%*	*39,763,954*	*24.92%*
	State Line CT							
341.00	Structures & Improvements	1,103,160	1,190,550	107.92%	488,347	44.27%	617,276	55.96%
342.00	Fuel Holders, Producers, & Accessories	3,187,313	2,090,436	65.59%	1,432,633	44.95%	1,810,865	56.81%
343.00	Prime Movers	26,308,743	12,252,645	46.57%	10,997,054	41.80%	13,900,405	52.84%
344.00	Generators	7,049,204	4,282,803	60.76%	2,906,387	41.23%	3,673,707	52.12%
345.00	Accessory Electric Equipment	2,875,110	1,661,982	57.81%	1,277,316	44.43%	1,614,542	56.16%
346.00	Misc. Power Equipment	292,744	303,610	103.71%	130,720	44.65%	165,231	56.44%
	Total State Line CT	*40,816,274*	*21,782,026*	*53.37%*	*17,232,457*	*42.22%*	*21,782,026*	*53.37%*
	Energy Center Unit 1 & 2 (CTs)							
341.00	Structures & Improvements	2,134,907	1,945,178	91.11%	1,656,341	77.58%	1,750,010	81.97%
342.00	Fuel Holders, Producers, & Accessories	1,290,095	1,565,630	121.36%	1,002,549	77.71%	1,059,245	82.11%
343.00	Prime Movers	27,798,748	16,468,237	59.24%	20,114,711	72.36%	21,252,235	76.45%
344.00	Generators	4,737,700	6,737,484	142.21%	3,423,433	72.26%	3,617,034	76.35%
345.00	Accessory Electric Equipment	2,248,691	1,129,918	50.25%	1,745,097	77.61%	1,843,785	81.99%
346.00	Misc. Power Equipment	1,813,310	3,163,476	174.46%	1,407,990	77.65%	1,487,615	82.04%
	Total Energy Center Unit 1 & 2 (CTs)	*40,023,451*	*31,009,924*	*77.48%*	*29,350,120*	*73.33%*	*31,009,924*	*77.48%*

The Empire District Electric Company
Table 4: Other Production Plant Depreciation Reserve Reallocation
As of December 31, 2014

Account	Description	12/31/14 Investment	12/31/14 Book Reserve Amount	12/31/14 Book Reserve Percent	Estimated Theoretical Reserve Amount	Estimated Theoretical Reserve Percent	Reallocated Book Reserve Amount	Reallocated Book Reserve Percent
	A	B	C	D=C/B	E	F=E/B	G	H=G/B
	Energy Center Unit 3 & 4 (FT8s)							
341.00	Structures & Improvements	1,147,718	157,634	13.73%	337,739	29.43%	175,362	15.28%
342.00	Fuel Holders, Producers, & Accessories	1,467,460	337,597	23.01%	445,675	30.37%	231,405	15.77%
343.00	Prime Movers	48,234,546	6,756,732	14.01%	13,597,921	28.19%	7,060,348	14.64%
344.00	Generators	519,289	27,820	5.36%	142,324	27.41%	73,898	14.23%
345.00	Accessory Electric Equipment	3,298,745	658,318	19.96%	977,451	29.63%	507,515	15.39%
346.00	Misc. Power Equipment	1,105,379	282,393	25.55%	331,199	29.96%	171,966	15.56%
	Total Energy Center Unit 3 & 4 (FT8s)	*55,773,137*	*8,220,493*	*14.74%*	*15,832,310*	*28.39%*	*8,220,493*	*14.74%*
	Riverton CT							
341.00	Structures & Improvements	1,578,056	325,380	20.62%	1,026,368	65.04%	914,787	57.97%
342.00	Fuel Holders, Producers, & Accessories	474,671	242,882	51.17%	310,245	65.36%	276,517	58.25%
343.00	Prime Movers	7,721,713	4,973,947	64.42%	4,697,678	60.84%	4,186,975	54.22%
344.00	Generators	2,020,927	1,134,601	56.14%	1,224,206	60.58%	1,091,118	53.99%
345.00	Accessory Electric Equipment	1,651,285	799,949	48.44%	1,074,987	65.10%	958,120	58.02%
346.00	Misc. Power Equipment	215,290	75,867	35.24%	140,369	65.20%	125,109	58.11%
	Total Riverton CT	*13,661,942*	*7,552,626*	*55.28%*	*8,473,853*	*62.03%*	*7,552,626*	*55.28%*
	Riverton Unit 12							
341.00	Structures & Improvements	232,337	29,934	12.88%	35,974	15.48%	40,963	17.63%
342.00	Fuel Holders, Producers, & Accessories	945,601	139,901	14.79%	162,231	17.16%	184,728	19.54%
343.00	Prime Movers	16,494,320	2,857,695	17.33%	2,607,422	15.81%	2,968,998	18.00%
344.00	Generators	11,548,068	1,673,752	14.49%	1,665,347	14.42%	1,896,283	16.42%
345.00	Accessory Electric Equipment	9,514,596	2,066,927	21.72%	1,508,140	15.85%	1,717,276	18.05%
346.00	Misc. Power Equipment	1,484,187	317,227	21.37%	243,430	16.40%	277,187	18.68%

The Empire District Electric Company
Table 4: Other Production Plant Depreciation Reserve Reallocation
As of December 31, 2014

Account	Description	12/31/14 Investment	12/31/14 Book Reserve Amount	12/31/14 Book Reserve Percent	Estimated Theoretical Reserve Amount	Estimated Theoretical Reserve Percent	Reallocated Book Reserve Amount	Reallocated Book Reserve Percent
	A	B	C	D=C/B	E	F=E/B	G	H=G/B
	Total Riverton Unit 12	*40,219,109*	*7,085,435*	*17.62%*	*6,222,544*	*15.47%*	*7,085,435*	*17.62%*
	Other Production							
341.00	Structures & Improvements	16,831,915	6,687,124	39.73%	6,489,038	38.55%	6,239,990	37.07%
342.00	Fuel Holders, Producers, & Accessories	7,774,579	6,009,374	77.30%	3,471,773	44.66%	3,673,046	47.24%
343.00	Prime Movers	231,918,919	70,683,467	30.48%	80,260,977	34.61%	75,670,745	32.63%
344.00	Generators	57,125,940	18,426,413	32.26%	17,419,078	30.49%	17,854,769	31.26%
345.00	Accessory Electric Equipment	27,816,723	8,878,739	31.92%	8,882,634	31.93%	8,782,580	31.57%
346.00	Misc. Power Equipment	8,570,278	4,729,343	55.18%	3,291,359	38.40%	3,193,329	37.26%
	Total Other Production	*350,038,353*	*115,414,459*	*32.97%*	*119,814,858*	*34.23%*	*115,414,459*	*32.97%*

Roxie McCullar, CPA, CDP
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Roxie McCullar is a regulatory consultant, licensed Certified Public Accountant in the state of Illinois, and a Certified Depreciation Professional through the Society of Depreciation Professionals. She is a member of the American Institute of Certified Public Accountants, the Illinois CPA Society, and the Society of Depreciation Professionals. Ms. McCullar has received her Master of Arts degree in Accounting from the University of Illinois-Springfield as well as her Bachelor of Science degree in Mathematics from Illinois State University. Ms. McCullar has 20 years of experience as a regulatory consultant for William Dunkel and Associates. In that time, she has filed testimony in over 50 state regulatory proceedings on depreciation issues and cost allocation for universal service and has assisted Mr. Dunkel in numerous other proceedings.

Education

Master of Arts in Accounting from the University of Illinois-Springfield, Springfield, Illinois

12 hours of Business and Management classes at Benedictine University-Springfield College in Illinois, Springfield, Illinois

27 hours of Graduate Studies in Mathematics at Illinois State University, Normal, Illinois

Completed Depreciation Fundamentals training course offered by the Society of Depreciation Professionals

Relevant Coursework:

- Calculus
- Number Theory
- Linear Programming
- Finite Sampling
- Introduction to Micro Economics
- Principles of MIS
- Introduction to Managerial Accounting
- Intermediate Financial Accounting I
- Advanced Financial Accounting
- Accounting Information Systems
- Fraud Forensic Accounting
- Commercial Law
- Advanced Auditing
- Discrete Mathematics
- Mathematical Statistics
- Differential Equations
- Statistics for Business and Economics
- Introduction to Macro Economics
- Introduction to Financial Accounting
- Intermediate Managerial Accounting
- Intermediate Financial Accounting II
- Auditing Concepts/Responsibilities
- Federal Income Tax
- Accounting for Government & Non-Profit
- Advanced Utilities Regulation
- Advanced Corp & Partnership Taxation

Current Position: Consultant at William Dunkel and Associates

Participation in the proceedings below included some or all of the following:

> Developing analyses, preparing data requests, analyzing issues, writing draft testimony, preparing data responses, preparing draft questions for cross examination, drafting briefs, and developing various quantitative models.

Previous Experience

Year	State	Commission	Docket	Company	Description	On Behalf of
2019	Arizona	Arizona Corporation Commission	T-03214A-17-0305	Citizens Telecommunications Company	Arizona Universal Service Fund	The Utilities Division Staff Arizona Corporation Commission
2018	Kansas	Kansas Corporation Commission	18-KGSG-560-RTS	Kansas Gas Service	Natural Gas Depreciation Issues	Kansas Corporation Commission Staff
2018	Kansas	Kansas Corporation Commission	18-KCPE-480-RTS	Kansas City Power & Light Company	Electric Depreciation Issues	Kansas Corporation Commission Staff
2018	Rhode Island	Rhode Island and Providence Plantations Public Utilities Commission	4800	SUEZ Water	Water Depreciation Issues	Division of Public Utilities and Carriers
2018	Rhode Island	Rhode Island and Providence Plantations Public Utilities Commission	4770	Narragansett Electric Company	Electric & Natural Gas Depreciation Issues	Division of Public Utilities and Carriers
2018	North Carolina	North Carolina Utilities Commission	E-7, SUB 1146	Duke Energy Carolinas, LLC	Electric Depreciation Issues	Public Staff - North Carolina Utilities Commission
2017	DC	District of Columbia Public Service Commission	FC1150	Potomac Electric Power Company	Electric Depreciation Issues	District of Columbia Public Service Commission
2017	North Carolina	North Carolina Utilities Commission	E-2, SUB 1142	Duke Energy Progress, LLC	Electric Depreciation Issues	Public Staff - North Carolina Utilities Commission
2017	Washington	Washington Utilities & Transportation Commission	UE-170033 & UG-170034	Puget Sound Energy	Electric & Natural Gas Depreciation Issues	Washington State Office of the Attorney General, Public Council Unit
2017	Florida	Florida Public Service Commission	160186-EI & 160170-EI	Gulf Power Company	Electric Depreciation Issues	The Citizens of the State of Florida
2016	Kansas	Kansas Corporation Commission	16-KGSG-491-RTS	Kansas Gas Service	Natural Gas Depreciation Issues	Kansas Corporation Commission Staff
2016	DC	District of Columbia Public Service Commission	FC1139	Potomac Electric Power Company	Depreciation Issues	District of Columbia Public Service Commission

Previous Experience

Year	State	Commission	Docket	Company	Description	On Behalf of
2016	Arizona	Arizona Corporation Commission	E-01933A-15-0239 & E-01933A-15-0322	Tucson Electric Power Company	Electric Depreciation Issues	The Utilities Division Staff Arizona Corporation Commission
2016	Georgia	Georgia Public Service Commission	40161	Georgia Power Company	Addressed Depreciation Issues	Georgia Public Service Commission Public Interest Advocacy Staff
2016	DC	District of Columbia Public Service Commission	FC1137	Washington Gas & Light	Depreciation Issues	District of Columbia Public Service Commission
2015	Kansas	Kansas Corporation Commission	16-ATMG-079-RTS	Amos Energy	Natural Gas Depreciation Issues	Kansas Corporation Commission Staff
2015	Kansas	Kansas Corporation Commission	15-TWVT-213-AUD	Twin Valley Telephone, Inc.	Cost Study Issues, Allocation of FTTH Equipment, & Support Fund Adjustments	Kansas Corporation Commission Staff
2015	Kansas	Kansas Corporation Commission	15-KCPE-116-RTS	Kansas City Power & Light Company	Electric Depreciation Issues	Kansas Corporation Commission Staff
2015	Kansas	Kansas Corporation Commission	15-MRGT-097-AUD	Moundridge Telephone Company, Inc.	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2014	Kansas	Kansas Corporation Commission	14-S&TT-525-KSF	S&T Telephone Cooperative Association, Inc.	Cost Study Issues, Allocation of FTTH Equipment, & Support Fund Adjustments	Kansas Corporation Commission Staff
2014	Kansas	Kansas Corporation Commission	14-WTCT-142-KSF	Wamego Telecommunications Company, Inc.	Cost Study Issues, Allocation of FTTH Equipment, & Support Fund Adjustments	Kansas Corporation Commission Staff
2013	Kansas	Kansas Corporation Commission	13-PLTT-678-KSF	Peoples Telecommunications, LLC	Cost Study Issues, Allocation of FTTH Equipment, & Support Fund Adjustments	Kansas Corporation Commission Staff
2013	New Jersey	State of New Jersey Board of Public Utilities	BPU ER12121071	Atlantic City Electric Company	Electric Depreciation Issues	New Jersey Rate Counsel

Previous Experience

Year	State	Commission	Docket	Company	Description	On Behalf of
2013	Kansas	Kansas Corporation Commission	13-JBNT-437-KSF	J.B.N. Telephone Company, Inc.	Cost Study Issues, Allocation of FTTH Equipment, & Support Fund Adjustments	Kansas Corporation Commission Staff
2013	Kansas	Kansas Corporation Commission	13-ZENT-065-AUD	Zenda Telephone Company, Inc.	Cost Study Issues, Allocation of FTTH Equipment, & Support Fund Adjustments	Kansas Corporation Commission Staff
2013	DC	District of Columbia Public Service Commission	FC1103	Potomac Electric Power Company	Depreciation Issues	District of Columbia Public Service Commission
2012	Kansas	Kansas Corporation Commission	12-LHPT-875-AUD	LaHarpe Telephone Company, Inc.	Cost Study Issues, Allocation of FTTH Equipment, & Support Fund Adjustments	Kansas Corporation Commission Staff
2012	Kansas	Kansas Corporation Commission	12-GRHT-633-KSF	Gorham Telephone Company	Cost Study Issues, Allocation of FTTH Equipment, & Support Fund Adjustments	Kansas Corporation Commission Staff
2012	Kansas	Kansas Corporation Commission	12-S&TT-234-KSF	S&T Telephone Cooperative Association, Inc.	Cost Study Issues, Allocation of FTTH Equipment, & Support Fund Adjustments	Kansas Corporation Commission Staff
2011	DC	District of Columbia Public Service Commission	FC1093	Washington Gas & Light	Depreciation Issues	District of Columbia Public Service Commission
2011	Kansas	Kansas Corporation Commission	11-CNHT-659-KSF	Cunningham Telephone Company, Inc.	Cost Study Issues, Allocation of FTTH Equipment, & Support Fund Adjustments	Kansas Corporation Commission Staff
2011	Kansas	Kansas Corporation Commission	11-PNRT-315-KSF	Pioneer Telephone Association	Cost Study Issues, Allocation of FTTH Equipment, & Support Fund Adjustments	Kansas Corporation Commission Staff
2010	Kansas	Kansas Corporation Commission	10-HVDT-288-KSF	Haviland Telephone Company, Inc.	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff

Previous Experience

Year	State	Commission	Docket	Company	Description	On Behalf of
2009	Kansas	Kansas Corporation Commission	09-BLVT-913-KSF	Blue Valley Tele-Communications, Inc.	Cost Study Issues, Allocation of FTTH Equipment, & Support Fund Adjustments	Kansas Corporation Commission Staff
2009	DC	District of Columbia Public Service Commission	FC1076	Potomac Electric Power Company	Depreciation Issues	District of Columbia Public Service Commission
2008	Kansas	Kansas Corporation Commission	09-MTLT-091-KSF	Mutual Telephone Company	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2007	Kansas	Kansas Corporation Commission	08-MRGT-221-KSF	Moundridge Telephone Company	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2007	Kansas	Kansas Corporation Commission	07-PLTT-1289-AUD	Peoples Telecommunications, LLC	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2007	Kansas	Kansas Corporation Commission	07-MDTT-195-AUD	Madison Telephone, LLC	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2007	Kansas	Kansas Corporation Commission	06-RNBT-1322-AUD	Rainbow Telecommunications Assn., Inc.	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2006	Kansas	Kansas Corporation Commission	06-WCTC-1020-AUD	Wamego Telecommunications Company, Inc.	Cost Study Issues, Allocation of FTTH Equipment, & Support Fund Adjustments	Kansas Corporation Commission Staff
2006	Kansas	Kansas Corporation Commission	06-H&BT-1007-AUD	H&B Communications, Inc.	Cost Study Issues, Allocation of FTTH Equipment, & Support Fund Adjustments	Kansas Corporation Commission Staff
2006	Kansas	Kansas Corporation Commission	06-ELKT-365-AUD	Elkhart Telephone Company, Inc.	Cost Study Issues, Allocation of FTTH Equipment, & Support Fund Adjustments	Kansas Corporation Commission Staff

Previous Experience

Year	State	Commission	Docket	Company	Description	On Behalf of
2005	Kansas	Kansas Corporation Commission	05-SCNT-1048-AUD	South Central Telephone Association, Inc.	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2005	Utah	Public Service Commission of Utah	05-2302-01	Carbon/Emery Telecom, Inc.	Cost Study Issues & Depreciation Issues	Utah Committee of Consumer Services
2005	Kansas	Kansas Corporation Commission	05-TTHT-895-AUD	Totah Communications, Inc.	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2005	Maine	Public Utilities Commission of the State of Maine	2005-155	Verizon	Depreciation Issues	Office of Public Advocate
2005	Kansas	Kansas Corporation Commission	05-TRCT-607-KSF	Tri-County Telephone Association	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2005	Kansas	Kansas Corporation Commission	05-CNHT-020-AUD	Cunningham Telephone Company, Inc.	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2005	Kansas	Kansas Corporation Commission	05-KOKT-060-AUD	KanOkla Telephone Association, Inc.	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2004	Kansas	Kansas Corporation Commission	04-UTAT-690-AUD	United Telephone Association, Inc.	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2004	Kansas	Kansas Corporation Commission	04-CGTT-679-RTS	Council Grove Telephone Company	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2004	Kansas	Kansas Corporation Commission	04-GNBT-130-AUD	Golden Belt Telephone Association	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2004	Kansas	Kansas Corporation Commission	03-TWVT-1031-AUD	Twin Valley Telephone, Inc.	Cost Study Issues	Kansas Corporation Commission Staff
2003	Kansas	Kansas Corporation Commission	03-HVDT-664-RTS	Haviland Telephone Company	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff

Previous Experience

Year	State	Commission	Docket	Company	Description	On Behalf of
2003	Kansas	Kansas Corporation Commission	03-WHST-503-AUD	Wheat State Telephone Company, Inc.	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2003	Kansas	Kansas Corporation Commission	03-S&AT-160-AUD	S&A Telephone Company	Cost Study Issues	Kansas Corporation Commission Staff
2002	Kansas	Kansas Corporation Commission	02-JBNT-846-AUD	JBN Telephone Company	Cost Study Issues	Kansas Corporation Commission Staff
2002	Kansas	Kansas Corporation Commission	02-S&TT-390-AUD	S&T Telephone Cooperative Association, Inc.	Cost Study Issues	Kansas Corporation Commission Staff
2002	Kansas	Kansas Corporation Commission	02-BLVT-377-AUD	Blue Valley Telephone Company, Inc.	Cost Study Issues	Kansas Corporation Commission Staff
2001	Kansas	Kansas Corporation Commission	01-PNRT-929-AUD	Pioneer Telephone Association, Inc.	Cost Study Issues	Kansas Corporation Commission Staff
2001	Kansas	Kansas Corporation Commission	01-BSST-878-AUD	Bluestem Telephone Company	Cost Study Issues	Kansas Corporation Commission Staff
2001	Kansas	Kansas Corporation Commission	01-SFLT-879-AUD	Sunflower Telephone Company, Inc.	Cost Study Issues	Kansas Corporation Commission Staff
2001	Kansas	Kansas Corporation Commission	01-CRKT-713-AUD	Craw-Kan Telephone Cooperative, Inc.	Cost Study Issues	Kansas Corporation Commission Staff
2001	Kansas	Kansas Corporation Commission	11-RNBT-608-KSF	Rainbow Telecommunications Association	Cost Study Issues, Allocation of FTTH Equipment, & Support Fund Adjustments	Kansas Corporation Commission Staff
2001	Kansas	Kansas Corporation Commission	01-SNKT-544-AUD	Southern Kansas Telephone Company, Inc.	Cost Study Issues	Kansas Corporation Commission Staff

Previous Experience

Year	State	Commission	Docket	Company	Description	On Behalf of
2001	Kansas	Kansas Corporation Commission	01-RRLT-518-KSF	Rural Telephone Service Company, Inc.	Cost Study Issues	Kansas Corporation Commission Staff
2000	Illinois	Illinois Commerce Commission	98-0252	Ameritech	Cost Study Issues	Government and Consumer Intervenors

VERIFICATION

STATE OF ILLINOIS)
) ss.
COUNTY OF Sangamon)

Roxie McCullar of William Dunkel & Associates, being duly sworn upon her oath deposes and states that she is a Consultant for the Kansas Corporation Commission of the State of Kansas; that she has read and is familiar with the foregoing *Direct Testimony,* and that the statements contained therein are true and correct to the best of her knowledge, information and belief.

Roxie McCullar
Consultant for Staff
Kansas Corporation Commission
of the State of Kansas

SUBSCRIBED AND SWORN to before me this 10TH day of May, 2019.

CHARLES R GUDGEL JR
Official Seal
Notary Public - State of Illinois
My Commission Expires Jul 6, 2020

Notary Public

My Appointment Expires: July 6, 2020

CERTIFICATE OF SERVICE

19-EPDE-223-RTS

I, the undersigned, certify that a true and correct copy of the above and foregoing Direct Testimony was served via electronic service this 13th day of May, 2019, to the following:

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CERTIFICATE OF SERVICE

19-EPDE-223-RTS

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