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Direct Testimony
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Before the Public Service Commission
of the State of Missouri

Direct Testimony

of

Dane A. Watson

on behalf of

The Empire District Electric Company

May 2021

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THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION
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DIRECT TESTIMONY OF DANE A. WATSON
THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION
CASE NO. ER-2021-0312

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Dane A. Watson. My business address is 101 E. Park Blvd, Suite 220, Plano, TX, 75074.

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

A. I am a Partner of Alliance Consulting Group. Alliance Consulting Group provides consulting and expert service to the utility industry.

Q. On whose behalf are you testifying in this proceeding?

A. I am testifying on behalf of The Empire District Electric Company ("Empire" or "Company").

Q. Please describe your educational background.

A. I hold a Bachelor of Science degree in Electrical Engineering from the University of Arkansas at Fayetteville and a Master's Degree in Business Administration from Amberton University.

Q. Please describe your professional background.

A. Since graduation from college in 1985, I have worked in the area of depreciation and valuation. I founded Alliance Consulting Group in 2004 and am responsible for conducting depreciation, valuation, and certain accounting-related studies for clients in various industries. My duties related to depreciation studies include the assembly and analysis of historical and simulated data, conducting field reviews, determining service life and net salvage estimates, calculating annual depreciation, presenting

recommended depreciation rates to utility management for its consideration, and supporting such rates before regulatory bodies.

My prior employment from 1985 to 2004 was with Texas Utilities Electric Company and successor companies ("TXU"). During my tenure with TXU, I was responsible for, among other things, conducting valuation and depreciation studies for the domestic TXU companies. During that time, I served as Manager of Property Accounting Services and Records Management in addition to my depreciation responsibilities.

I have twice been Chair of the Edison Electric Institute ("EEI") Property Accounting and Valuation Committee and have been Chairman of EEI's Depreciation and Economic Issues Subcommittee. I am a Registered Professional Engineer in the State of Texas and a Certified Depreciation Professional. I am a Senior Member of the Institute of Electrical and Electronics Engineers ("IEEE") and served for several years as an officer of the Executive Board of the Dallas Section of IEEE as well as national and global IEEE offices. I served as President of the Society of Depreciation Professionals twice, most recently in 2015.

Q. Do you hold any special certification as a depreciation expert?

A. Yes. The Society of Depreciation Professionals ("SDP") has established national standards for depreciation professionals. The SDP administers an examination and has certain required qualifications to become certified in this field. I met all requirements and hold a Certified Depreciation Professional certification.

Q. Have you previously testified before the Missouri Public Service Commission ("Commission") or any other regulatory agency?

A. Yes. I have conducted more than 270 depreciation studies and filed testimony or testified on depreciation and valuation issues before more than thirty-five utility commissions across the United States, including FERC. I have appeared before the commissions in every state that Empire operates. I appeared before this Commission in Case Nos. EO-2018-0092 and GR-2018-0013 on behalf of Empire and Liberty Utilities (Midstates Natural Gas) Corp., respectively. A list of proceedings in which I have provided testimony is provided in **Schedule DAW-1**.

Q. What is the purpose of your direct testimony in this proceeding?

A. The purpose of my testimony is to:

- discuss the recent Empire Depreciation Accrual Rate Study at December 31, 2019, completed for Empire ("Depreciation Study" or the "Study") and submitted to the Commission on October 16, 2020, in accordance with Commission Rule 20 CSR 4240-3.175; and
- support and justify the recommended depreciation rate changes for Empire, based on the results of the Depreciation Study.

Q. Please summarize your conclusions regarding the depreciation rate changes for Empire assets based on the results of the Depreciation Study.

A. The Depreciation Study and analysis performed under my supervision fully supports Empire's proposed depreciation rates applied to December 31, 2019 depreciable plant balances for Production, Hydro, Other Production Transmission plant, Distribution plant, and General Property plant, which were adjusted for known and measurable changes as described below. The Company operates in four different retail jurisdictions with different depreciation systems, life parameters, and net salvage parameters. The

Study proposes a common depreciation system, life, and net salvage parameters for its assets in each retail jurisdiction.

II. SUMMARY OF RESULTS

Q. What property is included in the depreciation study?

A. There are four general groups of depreciable property that are analyzed in the Study: (1) Production Plant, (2) Transmission Plant, (3) Distribution Plant, and (4) General Plant property.

Under Production Plant there are three different functions of property: Steam, Hydro, and Other. Steam consists of generating units which use fossil fuels to produce steam used for the generation of electricity. Hydro consists of generating facilities using hydraulic power. Other consists of generating units (combustion turbines) that use natural gas to produce electricity without the production of steam. Wind consists of wind turbines, which is a renewable source of generation; and Solar consists of solar panels, which is a renewable source of generation.

Transmission Plant functional group primarily consists of lines and associated facilities used to move power from power plants and outside areas into the distribution system.

Distribution Plant functional group primarily consists of lines and associated facilities used to distribute electricity to customers of Empire.

General Plant property is not location specific, but is plant used to support the Company's overall operations; for example, office buildings and computer equipment.

Q. What time period did you use to develop the proposed depreciation rates?

A. The depreciation rates were developed based on the depreciable property recorded on the Company's books at December 31, 2019, which was the most recent year ending plant balances available prior to submitting the Study in October 2020.

Q. Did you make any adjustments to the Company's data at year end 2019?

A. Yes, I did. The Company retired the Asbury generating unit in March of 2020. My study uses pro-forma data to reflect the retirement of Asbury and transfer of assets to other locations for items that are still used and useful. The Company also retired certain meters that are being replaced with advanced metering infrastructure ("AMI") meters. My study uses pro-forma data to reflect the retirement of the existing meters and recommended a depreciation rate both for the remaining non-AMI meters and for the AMI meters to be added. These adjustments are discussed in Section V of my testimony. Since the wind and solar generation was not completed at the study end date of December 31, 2019, I did not pro forma an investment for those assets into the Study.

Q. Please describe how you conducted the Depreciation Study for Empire.

A. I undertook a comprehensive analysis for Empire that is based on its electric depreciable plant in service as of December 31, 2019. The Depreciation Study combined the electric utility property of Missouri, Kansas, Oklahoma, and Arkansas. After the data was combined, I analyzed the property characteristics of Empire's Production, Hydro, Other Production, Transmission, Distribution, and General plant. After developing common life and net salvage parameters, I computed depreciation rates for the Company's assets. The Study is provided as **Schedule DAW-2**. A

comparison of the proposed rates with the existing rates is found in **Schedule DAW-2, Appendix B**.

Q. What depreciation rates are you recommending in this proceeding?

A. My recommended depreciation rates for the Company's assets are provided in Appendix B of the Depreciation Study, based upon updated service life and net salvage rates for depreciable plant in-service as of December 31, 2019 and as adjusted for known and measurable changes as set forth in my testimony. Below is a table summarizing the results of the functional depreciation rates for Production, Hydro, Other Production, Transmission plant, Distribution plant, and General plant.

TABLE 1

THE EMPIRE DISTRICT ELECTRIC COMPANY

Comparison of Existing versus Proposed Depreciation Rates

As of December 31, 2019

Acct	Depreciable Plant at 12/31/19	Current Annual Expense	Proposed Annual Expense	Expense Change
Production	506,915,355	9,012,142	13,178,387	4,166,255
Hydro	12,250,897	199,009	343,199	144,190
Other Production	582,396,976	15,065,204	18,222,765	3,157,561
Transmission	399,899,913	9,641,085	10,208,510	567,425
Distribution	1,036,714,136	26,589,422	31,705,365	5,115,943
General	89,577,615	5,013,535	5,978,604	965,069
Total	2,627,754,892	65,520,397	79,636,831	14,116,434

III. DEPRECIATION ANALYSIS PHILOSOPHY

Q. Please describe the depreciation analysis philosophy reflected in the Depreciation Study.

A. The objective of any sound depreciation philosophy should be the matching of expense or utilization of the assets with the recovery or revenue over the life of the asset. In general, the life of the asset is determined by several factors including the rate of physical deterioration, obsolescence, weather, maintenance, or (in some cases) the economic usefulness of an entire operating unit. The function of depreciation is to recognize the cost of an asset spread over its useful life. Book depreciation techniques should not accelerate or defer the recovery of an asset in comparison to its appropriate useful life.

Q. What objective should the Commission strive to achieve in setting depreciation rates?

A. The objective of computing depreciation is to ensure that all customers using the assets pay their pro rata share for the investment, including the cost of retirement of individual assets. This objective is achieved by allocating the cost or depreciable base of a group of assets over the service life of those assets, on a straight-line basis, by charging a portion of the consumption of the assets to each accounting period.

Q. Is the cost of retirement of individual assets the same as dismantlement or decommissioning costs?

A. No. Dismantling (or decommissioning) cost is a term used for the full removal of production facilities at the end of their lives. However, during the life of the plant (while it is operating), periodic replacement of individual assets to allow the continued operation of the plant will also generate removal cost related to the individual asset

being replaced. While dismantling costs for production facilities is not factored into the Depreciation Study, this second concept (interim removal cost) is part of the depreciation rate calculations.

IV. OVERVIEW OF THE DEPRECIATION STUDY METHOD

Q. What definition of depreciation did you use in preparing your depreciation study and testimony?

A. The term "depreciation," as I use it, is a system of accounting that distributes the cost of assets, less net salvage (if any), over the estimated useful life of the assets in a systematic and rational manner. It is a process of allocation, not valuation. Depreciation expense is systematically allocated to accounting periods over the life of the assets. The amount allocated to an accounting period does not necessarily represent the loss or decrease in value that will occur during that particular period. Thus, depreciation is considered an expense or cost, rather than a loss or decrease in value. Empire accrues depreciation expense based on the original cost of all property included in each depreciable plant account. On retirement, the full cost of depreciable property, less any net salvage amount, is charged to the depreciation reserve.

Q. Please describe your approach to conducting the Depreciation Study.

A. I conducted the Depreciation Study in four phases, as shown in **Schedule DAW-2.** The four phases are: Data Collection, Analysis, Evaluation, and Calculation. I began by collecting the historical data to be used in the analysis. After the data has been assembled, I performed analyses to determine the life and net salvage percentage for the different property groups being studied. As part of the process for the study, I conferred with field personnel, engineers, and managers responsible for the installation, operation, and removal of the assets to gain their input into the operation, maintenance,

and salvage of the assets. The information obtained from field personnel, engineers, and managerial personnel, combined with the study results is then evaluated to determine how the results of the historical asset activity analysis, in conjunction with Empire's expected future plans, should be applied. Using all these resources, I then calculated the depreciation rate for each function.

Q. What factors influence the depreciation rates for an account?

A. The primary factors that influence the depreciation rate for an account are: the remaining investment to be recovered in the account, the depreciable life of the account, and the net salvage for the account. The change in depreciation rates is being influenced by all three of these factors.

V. SUMMARY RESULTS BY FUNCTION

A. PRODUCTION AND OTHER PRODUCTION PLANT

1. Life of Assets

Q. Please describe the methodology used to determine life for Steam, Hydro, and Other Production plant.

A. For Steam, Hydro, and Other Production plant, most components are expected to have a retirement date concurrent with the planned retirement date of the generating unit. The terminal retirement date refers to the year that each facility will cease operations. The terminal retirement date establishes the pattern of retirement of the assets that comprise a generating unit. The estimated terminal retirement dates for the various generating units were determined based on consultation with Empire management, financial, and engineering staff and are shown in **Schedule DAW-2, Appendix D.** Interim retirement curves were used to model the retirement of individual assets within

primary plant accounts for each generating unit prior to the terminal retirement of the facility for all steam and other generating units.

Q. What are interim retirement characteristics?

A. An interim retirement curve projects how many of the assets or units within a facility that are currently in-service will retire each year prior to the final retirement of the whole facility, using historical analysis and judgment. The life span procedure assumes all assets are depreciated (straight-line) for the same number of periods and retire at the same time (the terminal retirement date). Adding interim retirement curves to the procedure reflects the fact that some of the assets at a power plant will not survive to the end of the life of the facility, but will be retired earlier than the terminal life of the facility and should be depreciated (straight-line) over a shorter time frame to match their projected lives.

Q. Are you using the same type of computations to develop production interim retirement experience rates as used in the last case?

A. No. The Company's last depreciation study used interim retirement ratios (retirements over a period of time as a percentage of plant) to project the retirements between study date and the retirement of a generating unit. That computation is a simple historical average approach to estimating retirements and removal cost. The Company's current rates use interim retirement ratios, approved retirement dates for each facility, and no interim addition to plant. My recommendation is to use an Iowa curve to model future retirements rather than the interim retirement ratio. The Iowa curve takes into account the age of all vintages and determines the needed capital recovery for each vintage group. Both Ameren and KCP&L ("Evergy") use Iowa curves to project interim retirements, and I propose to move Empire to that same method of computing

depreciation accrual rates. Using a projected retirement pattern based on historical indications and actuarial analysis modeling is a more accurate way to project the future pattern of retirements than a simple historical average. I analyzed each account separately to estimate an interim retirement curve for FERC Accounts 311-316, 331-335, and 341-346.

Q. Did the Depreciation Study incorporate any changes to the service lives of Steam Production, Hydro and Other Production plant?

A. Yes. Based on my discussions with the Company's staff, we reviewed the retirement dates used in the Company's Integrated Resource Plan. There are two changes in service lives, Steam Production Unit Asbury 1, which was retired in 2020 and Other Production Unit Energy Center 1, which had a three-year life extension to 2026. The last depreciation study factored in the Company's plans to renew the FERC operating license for Ozark Beach for an additional 30 years to 2053. That extension was granted earlier this year and is utilized in computing the proposed depreciation rates. The Study also recommended the continued acceptance of the approved depreciation rate for Wind assets and recommended a depreciation rate for Solar assets under construction at the study end date.

2. Net Salvage of Steam, Hydro, and Other Production Assets

Q. Please describe what you mean by "net salvage" as it relates to production facilities.

A. When a capital asset is retired and physically removed from service, terminal retirement is said to have occurred. Retirements of assets smaller than the generating unit (such as pumps and motors) are referred to as interim retirements and the average service life and Iowa survivor curve that described the pattern of retirement over the life is referred

to as the Interim Retirement Factor in this case. The residual value of a terminal or interim retirement is called gross salvage. Net salvage is the difference between the gross salvage (what the residual asset or scrap was sold for) and the removal cost (cost to remove and dispose of the asset, as necessary).

The concept behind the net salvage cost component of depreciation rates for power plants is different from that of Transmission, Distribution or General Plant assets. Power plants are discrete units that will have retirements during the life of the units and need to be secured and possibly dismantled after the end of their useful lives. Because of this, three types of analysis are required: The first is related to interim removal and salvage activity, or interim net salvage (which relates to the replacement of components during the life of the generating unit), the second is related to the retirement closure costs needed to secure the plant when it ceases operation (based on engineering studies conducted to determine the necessary cost to safely and legally shut down the unit), and the third is the dismantlement costs needed to dismantle the plant in the future after it has ceased operation (also based on engineering studies conducted to determine the costs needed to dismantle the plant). The Depreciation Study has included the first type described above; interim retirement net salvage costs but excludes terminal retirement closure removal costs and dismantling costs. That approach follows the Missouri Public Service Commission's decisions regarding generation assets.[1]

[1] Ameren case ER-2014-0258 and Kansas City Power and Light Case ER 2014-0370.

Q. Did you conduct an interim net salvage analysis for Empire's Steam, Hydro and Other Production Plants?

A. Yes. As part of the Depreciation Study, I analyzed the historical interim net salvage experienced by the Company in relation to replacing components at power plants. For Empire's steam, hydro and other production plants, we analyzed Company specific activity to develop the interim net salvage cost amounts included in the study. We utilized the industry standard process as discussed in the Depreciation Study. A summary of the interim retirement net salvage cost percentages is shown on **Appendix C-1 of Schedule DAW-2**. That analysis and resulting recommendations are discussed in the Depreciation Study net salvage analysis section.

3. Depreciation rate for Steam, Hydro, and Other Production Assets

Q. What depreciation system are you recommending in this case for Production, Hydro, and Other Production assets?

A. For all jurisdictions and plant accounts in accounts 311-346, I recommend the broad group, average life group, remaining life depreciation system. All the Company's generation assets are located in Missouri, Kansas and Arkansas and existing rates are based on remaining life (life span). In this case, the Company seeks retention of remaining life depreciation rates for these asset groups. Utilizing the December 31, 2019 balances the total change in annual depreciation expense for all production facilities is an increase of $7.5 million.

Q. Please summarize the Depreciation Study results with respect to depreciation rates for Steam Production facilities.

A. Utilizing the December 31, 2019 balances for Steam Production facilities, depreciation expense changed primarily due to the increased investment for the generating units. The overall depreciation rates for steam production increased of $4.2 million.

Q. Please summarize the depreciation study results with respect to depreciation rates for Hydro facilities.

A. Utilizing the December 31, 2019 balances for Hydro facilities, depreciation expense changed primarily due to the increased investment for the generating units. The overall depreciation rates for Hydro production increased depreciation expense by approximately $144 thousand.

Q. Please summarize the Depreciation Study results with respect to depreciation rates for other production facilities.

A. Utilizing the December 31, 2019 balances for Other Production facilities, depreciation expense changed primarily due to the increased investment for the generating units. in this function experienced a mix of decreases and increases in the Unit and account depreciation rates, but overall, there was an increase of $3.2 million. As noted earlier, even though this study does not reflect any investment in Wind or Solar, this study also recommended the continued acceptance of the approved depreciation rate for Wind assets and recommended a depreciation rate for Solar assets under construction at the study end date.

B. TRANSMISSION, DISTRIBUTION, AND GENERAL PROPERTY

1. Life of Transmission, Distribution, and General Assets

Q. What is the significance of an asset's useful life for Transmission, Distribution, and General Property, in your Depreciation Study?

A. An asset's useful life is used to determine the remaining life over which the remaining cost (original cost plus or minus net salvage, minus accumulated depreciation) can be allocated to normalize the asset's cost and spread it ratably over future periods to the customers receiving the benefit of those assets.

Q. How did you determine the average service lives for each account?

A. The establishment of appropriate average service lives for each account within each functional group was determined by using actuarial analysis. Graphs and tables supporting the actuarial analysis and the chosen Iowa Curves (which represent the percentage of property remaining in service at various age intervals) used to determine the average service lives for analyzed accounts are found in the Depreciation Study (**Schedule DAW-2**). As detailed in the study, I relied on my judgment to incorporate any differences in the expected future life characteristics of the assets into the selection of lives. The objective of life selection is to estimate the future life characteristics of assets, not simply measure the historical life characteristics. More detailed information can be found in the life analysis section of the Depreciation Study in **Schedule DAW-2**.

The National Association of Regulatory Utility Commissioners ("NARUC") recognizes the importance of judgment in its 1996 publication Public Utility Depreciation Practices (referred to as the "NARUC Manual") on page 128. The NARUC Manual has an entire section dedicated to "informed judgment." NARUC defines "informed judgment" as: [A] term used to define the subjective portion of the depreciation study process. It is based on a combination of general experience,

knowledge of the properties and a physical inspection, information gathered throughout the industry, and other factors which assist the analyst in making a knowledgeable estimate. NARUC also notes that "the use of informed judgment can be a major factor in forecasting" and explains that "[t]he analyst's judgment, comprised of a combination of experience and knowledge, will determine the most reasonable estimate." More discussion on the use of judgment can be found in the Judgment portion of the General Discussion section of **Schedule DAW-2**.

Q. What average services lives for Transmission, Distribution, and General Function assets do you recommend?

A. The results are shown in **Appendix C-2 of Schedule DAW-2**.

Q. Does your Depreciation Study reflect any changes in the useful lives of the Transmission, Distribution, and General function assets compared to the lives used to develop existing depreciation rates?

A. Yes. I would point out here that the existing lives are shown by each state jurisdiction and the study proposed was based on a combined analysis. A comparison is shown in **Appendix C-2 of Schedule DAW-2**. In order to streamline the comparison results, we took the existing account life, for each state, and calculated an average life to compare to the life proposed in the study. Based on those account comparisons we find that nine accounts have increases in life. The largest increase in service life was an increase of 12 years for assets in FERC Account 352, Transmission Structures and Improvements. There are 17 accounts with a decrease in life. The greatest decrease was a decrease of 23 years for FERC Account 395, General Plant Laboratory Equipment. The reasons for these and other changes are addressed in the study. The lives for the other 3 accounts remained unchanged or no comparison was possible.

2. Net Salvage Rates Transmission, Distribution, and General

Q. How did you determine the net salvage rates you used in your study for Transmission, Distribution, and General property?

A. I examined the experience realized by the Company by observing the average net salvage rates for various bands (or combinations) of years. The use of averages (such as the 5-year or 10-year average band) allows the smoothing of timing differences between when retirements, removal cost, and salvage are booked. By looking at successive average bands, or "rolling bands," an analyst can see trends in the data that would signal the future net salvage in the account. In addition, I evaluated feedback from Empire personnel regarding changes in operations or maintenance activities that will affect the future net salvage of these assets.

Q. Is this a reasonable method for determining net salvage rates?

A. Yes. This Commission evaluated and approved rates based on the use of this methodology in the Company's prior depreciation studies, most recently in Missouri Case No. ER-2016-0023. This same methodology was used and approved in the Company's other state jurisdictions as well. This Commission has used the same method of computing net salvage rates for other electric utilities: Ameren in Case No. ER-2014-0258 and Kansas City Power and Light in Case No. ER-2014-3070. In addition, this methodology is commonly employed throughout the industry and is the method recommended in authoritative texts.[2]

[2] *Introduction to Depreciation for Public Utilities and Other Industries*, EEI AGA, 2013; *Public Utility Depreciation Practices*, NARUC, 1996; *Depreciation Systems*, by Drs. W. C. Fitch and F.K. Wolf, Iowa State Press, 1994.

Q. Does the Depreciation Study reflect any changes in the net salvage percentages of the Transmission, Distribution, and General function assets from the net salvage percentages embedded in the current depreciation rates?

A. Yes. For purposes of this testimony, we applied the same average method discussed above and used for life comparisons to the net salvage account comparisons. Based on those account comparisons, we find that two accounts have increased net salvage (less negative/more positive); 19 accounts have more negative net salvage rates; and the remaining eight accounts have no change or no comparison could be made. The existing lives are shown by each state jurisdiction and the study proposed, based on a combined analysis, in **Schedule DAW-2, Appendix C-2**.

Q. What are your net salvage recommendations for Empire?

A. My net salvage recommendations are found in **Appendix C-1 and C-2 of Schedule DAW-2** and each account is discussed in the body of the report. Detailed history for each account is shown in **Appendix E of Schedule DAW-2**.

3. Depreciation System Change for Transmission, Distribution, and General

Q. What depreciation system are you recommending in this case?

A. For all jurisdictions and plant accounts, with exception of FERC Accounts 391, 393-395, and 397-398, I recommend the broad group, average life group, remaining life depreciation system. Currently, the Company has different systems depending on the decisions reached in the Company's last depreciation study in the individual state jurisdictions. Kansas and Arkansas adopted rates using broad group, average life, remaining life for all plant accounts. Missouri and Oklahoma rates are based on remaining life (life span) for steam production, hydro and other production assets. Transmission, Distribution and General plant assets for Missouri and Oklahoma are

based on broad group, average life group, whole life rates. In this case, the Company seeks approval to consistently apply remaining life depreciation rates. Missouri has adopted remaining life rates for two other electric utilities for all functional groups.[3] For FERC Accounts 391, 393-395, and 397-398, I recommend general plant amortization based upon FERC's Accounting Release 15 where assets are automatically retired when they reach the age of the average service life of the group.

Q. What is the difference between a remaining life and whole life depreciation system?

A. In performing a depreciation study, it is necessary to test how the book accumulated depreciation (reserve) compares to what is called the theoretical depreciation reserve. The book depreciation reserve is derived from Company records. The theoretical reserve models prospective capital recovery future retirement and accrual patterns for property, given the study proposed life and net salvage estimates. The theoretical reserve of a group is developed from the estimated remaining life, total life of the property group (account), and estimated net salvage. The theoretical reserve represents the portion of the group cost that would have been accrued if current (study proposed) forecasts were used throughout the life of the group for future depreciation accruals. The computation involves multiplying the vintage balances within the group by the theoretical reserve ratio for each vintage. The average life group method requires an estimate of dispersion and service life to establish how much of each vintage is expected to be retired in each year until all property within the group is retired.

[3] Kansas City Power and Light Case No. ER-2014-0370 and Union Electric Company d/b/a Ameren Missouri in Case No. ER-2014-0258.

If a difference exists, then any under- or over-amounts can be recovered over either an arbitrary period determined by the regulatory body or over the remaining life of the group. The current whole-life system rates the Company is using in Missouri and Oklahoma have had no adjustment amount made to bring the book and theoretical reserves in alignment.

Q. Why do you recommend a switch to the remaining life depreciation system in this case?

A. First, in my experience as a consultant and expert witness across the United States, the remaining life depreciation system is the predominant one I have seen used in regulatory settings, and the Missouri Commission has adopted this approach for other utilities, as referenced above. The only cases in which I have not recommended remaining life depreciation rates are in cases where the state commission has indicated a clear preference for whole life in prior decisions[4] or when there is insufficient information to calculate a remaining life depreciation rate. In instances where an entity is installing a new asset with no similar plant in services, such as a new generating unit, or a start-up utility such as a wind or solar transmission entity, the whole life and remaining life approach are technically the same approach since the assets are at the beginning of their lives. Second, the whole life depreciation system currently used by Empire in Missouri and Oklahoma does not have any built-in mechanism to recover any difference between the book reserve and the theoretical depreciation reserve. In viewing the Company's last depreciation filings, I do not see any true-up mechanism

[4] In nearly 200 cases, I have recommended remaining life in all proceedings except for those where there is insufficient information to calculate remaining life rates, where the client used item depreciation or where there was a long-standing Commission precedent to use whole-life deprecation rates (i.e., New Hampshire Public Utilities Commission)

or period for its transmission, distribution, and general plant. The remaining life depreciation system has a built-in self-correcting mechanism that makes it the most widely used depreciation system in my experience.

Q. Are there other activities regarding the depreciation reserve you address in your study?

A. Yes. We have performed what is referred to as a reserve reallocation, which will be discussed in more detail in a separate section later in my testimony.

4. Depreciation Rates for Transmission, Distribution, and General Property

Q. Please summarize the depreciation study results with respect to depreciation rates for Transmission facilities.

A. Utilizing the December 31, 2019 balances for Transmission assets, asset group depreciation rates resulted in an overall increase in annual depreciation expense of $567 thousand for the function. Based upon the comparison of existing Missouri parameters using the averages, as discussed above, to the study proposed, the change is primarily due to a mix of adjustments to lives (both higher and lower). The increased level of investment and the reserve position compared to the theoretical reserve is also a contributing factor to the change seen in Transmission plant. A comparison of the rates and resulting depreciation expense, by account for Transmission plant, are shown in **Appendix B-2 of Schedule DAW-2.** A detailed description, by account, of the life and net salvage recommendations can be found in **Schedule DAW-2**. A comparison

of the book, theoretical, and reallocated reserves can be found in **Schedule DAW-2, Appendix F.**

Q. Please summarize the depreciation study results with respect to depreciation rates for Distribution facilities.

A. Utilizing the December 31, 2019 balances for Distribution assets, asset group depreciation rates resulted in an overall increase in annual depreciation expense of $5.1 million for the function. Based upon the comparison of existing Missouri parameters (using the averages as discussed above) to the study proposed, the increase is attributable to the mix of adjustments in lives and net salvage factors (both higher and lower). The increased level of investment is also a contributing factor. However, in the Distribution function, the reserve position serves to partially offset some of the increase. A comparison of the rates and resulting depreciation expense, by account for Distribution plant, are shown in **Appendix B of Schedule DAW-2.** A detailed description, by account, of the life and net salvage recommendations can be found in **Schedule DAW-2**. A comparison of the book, theoretical, and reallocated reserves can be found in **Schedule DAW-2, Appendix F**.

Q. Please summarize the Depreciation Study results with respect to depreciation rates for General plant.

A. Utilizing the December 31, 2019 balances for General plant, asset group depreciation rates resulted in an increase of annual depreciation expense of $965 thousand, after retirements for General Plant Amortization and the Reserve Amortization, for designated accounts, in this function. Based on the historical life and net salvage analysis, my recommendations result in shorter lives for some asset groups as compared to the approved Missouri parameters based on the Company's historical experience,

resulting in the primary driver for the increase. This increase is partially offset by the reserve position. Rates by account for General plant are shown in **Appendix B of Schedule DAW-2**. A detailed description, by account, of the life and net salvage recommendations can be found in **Schedule DAW-2**. A comparison of the book, theoretical, and reallocated reserves can be found in **Schedule DAW-2, Appendix F**.

C. RESERVE REALLOCATION

Q. What is reserve reallocation?

A. Reserve reallocation occurs when the book reserve is re-spread within a functional group based on the theoretical reserve within each function.

Q. As part of your depreciation analysis have you taken any action to properly align the Company's depreciation reserve with the life and net salvage characteristics of the various functions?

A. Yes. In the process of analyzing the Company's depreciation reserve, I observed that the depreciation reserve positions of the accounts were generally not in line with the life characteristics found in the analysis of the Company's assets. To allow the relative reserve positions of each account within a function to mirror the life characteristics of the underlying assets, I reallocated the depreciation reserves for all accounts within each function. Since the basis of the current depreciation rates vary between entities and jurisdictions, I believe reserve reallocation is the best solution in developing one rate.

Q. Does the reallocation of the depreciation reserve change the total reserve?

A. No. The depreciation reserve represents the amounts that customers have contributed to the return of the investment. The reallocation process does not change the total

reserve for each function; it simply reallocates the reserve between accounts in the function.

Q. Is depreciation reserve reallocation a sound depreciation practice?

A. Yes. The practice of depreciation reserve allocation is endorsed in the 1968 publication of "Public Utility Depreciation Practices", National Association of Regulatory Utility Commissioners ("NARUC"), which explains that reallocation of the depreciation reserve is appropriate "…where the change in the view concerning the life of property is so drastic as to indicate a serious difference between the theoretical and the book reserve." Additionally, the 1996 edition of the NARUC publication states that "theoretical reserve studies also have been conducted for the purpose of allocating an existing reserve among operating units or accounts." The Depreciation Study demonstrates that there have been significant changes in the life of the property since the approved accrual rates were authorized. These changes have created a significant difference between the theoretical and the book reserve in each functional group that make the reallocation of the depreciation reserve appropriate in this instance.

Q. Why is it important for the depreciation reserve to conform to the theoretical reserve?

A. This is important because it sets the reserve at a level necessary to sustain the regulatory concept of intergenerational equity among Empire's customers, as well as set the depreciation rates at the appropriate level based on the study's proposed parameters and expectations.

Q. How will the Company implement the reallocation of its depreciation reserve if its proposed rates are approved?

A. When the proposed depreciation rates are approved, the Company will reallocate the reserves on its books using the approved parameters to match the allocation process performed in this study.

D. VINTAGE YEAR DEPRECIATION OF GENERAL PLANT ASSETS, FERC ACCOUNTS 391, 393-395, AND 397-398

Q. Please describe the Vintage Group (General Plant Amortization) methodology.

A. For general plant assets in accounts 391, 393-395, and 397-398, the Company is requesting to use a vintage year accounting method approved by the FERC in Accounting Release Number 15 ("AR-15"), *Vintage Year Accounting For General Plant Accounts*, dated January 1, 1997. AR-15 allowed utilities to use a simplified method of accounting for general plant assets, excluding Accounts 390, 392 and 396, (referred to as "general plant"). The AR-15 release allows high-volume, low-cost assets to be amortized over the associated useful life, eliminating the need to track individual assets, and allows a retirement to be booked at the end of the depreciable life. This method is often referred to as "amortization of general plant or general plant amortization."

Adopting the method of accounting allowed in AR-15 changes the level of detail maintained in the asset records and performs the depreciation calculation at a vintage level rather than at a total account level. The plant asset balances will be maintained by vintage installed with the retirement being recorded when the approved useful life and book depreciation has been reached. The empirical retirement data for actuarial or semi-actuarial analysis will no longer be reliable; however, the determination of useful life can be made appropriately with the use of market forces,

manufacturer expected life, technological obsolescence, business planning, known causes of retirement, and changes in expected future utilization of the assets in each of the accounts.

The depreciation calculation uses a useful life applied to a vintage versus the entire account. The depreciation recovery is complete when the vintage accumulated depreciation is equal to the vintage plant adjusted for estimated salvage and removal costs. Both Ameren and KCP&L have received Commission approval to use vintage group amortization, and I propose to move Empire to that same method of system of computing depreciation accrual rates.[5]

Q. Please describe the methodology or technique employed in analyzing the life of Vintage Group Property.

A. Actuarial life analysis was performed on each account. Those results, along with Company discussions, and judgment formed the basis of the proposed life for these accounts. The lives being proposed reflect more recent experience and Empire's specific information to set an appropriate recovery period for the assets going forward.

Q. Please describe the results of the Vintage Group Property.

A. Empire's present depreciation rates were compared to the Depreciation Study recommendations in **Appendix B of Schedule DAW-2**. The rates proposed for Vintage Group property are an increase of $1.1 million offset by a credit of $187 thousand calculated as the difference between book and theoretical reserves for this group. The net increase is $965 thousand for the General Plant function based on plant

[5] Ameren in case ER-2014-0258 and Kansas City Power and Light in Case ER 2014-0370

balances as of December 31, 2019. The computations and comparisons are shown in Appendix A-1 and Appendix B, respectively, of **Schedule DAW-2**.

VI. WIND AND SOLAR PROJECTS; AMI METERS; ASBURY RETRIEMENT

Q. Are there other depreciation-related items for Empire that have not been previously discussed?

A. Yes. Below, I will address Empire's installation of new generation in Wind and Solar. A second item relates to the Company's replacement of existing meters with AMI meters for Missouri and the impact on the Account 370 – Meters account. Finally, I will discuss the retirement of the Asbury generating unit.

Q. What depreciation rate is the Company utilizing for the Wind assets?

A. In Case No. EA-2019-0010, the Commission approved a 3.33% depreciation rate for the Company's then proposed wind projects. In the order, the Commission stated the: "Wind Projects will be incorporated in the first depreciation study completed after the Wind Projects are placed-in-service."[6] At the time of the study, the wind assets were not in service and this study is recommending continued acceptance of the approved depreciation rate. These investment in these assets was not incorporated into this Depreciation study.

Q. What depreciation rate is proposed for Solar assets?

A. Empire constructed a small 2.5 MW facility, which was placed in service in early 2021. Based on information from other equivalent solar units, a 5.00% depreciation accrual rate is proposed. This rate is based on a 20-year life with 0 percent net salvage.

Q. Please describe the AMI program and the effect on Account 370.

A. Beginning in June 2020, the Company began deploying AMI meters across its system. Most of the existing non-AMI meters will be retired more quickly than previously projected due to the deployment. This will result in unrecovered net cost of approximately $9.0 million for Missouri. The remaining life reflected in the depreciation study at December 31, 2019 for the meters in Missouri is 18.4 years. A full discussion of the regulatory treatment for the remaining non-AMI meter investment is addressed in the Direct Testimony of Empire witness Tisha Sanderson.

Q. Please describe the depreciation-related item related to the retirement of the Asbury facility.

A. Empire retired the Asbury steam electric station in March 2020. Therefore, I did not include the Asbury plant net book value in the Depreciation Study for generating units. A full discussion of regulatory treatment for the remaining investment related to the Asbury Unit is addressed in Ms. Sanderson's Direct Testimony and the Direct Testimony of Empire witness Frank Graves.

VII. CONCLUSION

Q. Does this conclude your direct testimony?

A. Yes.

VERIFICATION

I, Dane A. Watson, under penalty of perjury, on this 28th day of May, 2021, declare that the foregoing is true and correct to the best of my knowledge and belief.

/s/ Dane A. Watson