Exhibit No.:
Issue(s): *Depreciation*
Witness: *David T. Buttig, PE*
Sponsoring Party: *MoPSC Staff*
Type of Exhibit: *Direct Testimony*
Case Nos.: *ER-2022-0129 and ER-2022-0130*
Date Testimony Prepared: *June 8, 2022*

MISSOURI PUBLIC SERVICE COMMISSION

INDUSTRY ANALYSIS DIVISION

ENGINEERING ANALYSIS DEPARTMENT

DIRECT TESTIMONY

OF

DAVID T. BUTTIG, PE

Evergy Metro, Inc., d/b/a Evergy Missouri Metro
Case No. ER-2022-0129

Evergy Missouri West, Inc., d/b/a Evergy Missouri West
Case No. ER-2022-0130

Jefferson City, Missouri
June 2022

DIRECT TESTIMONY OF

DAVID T. BUTTIG, PE

Evergy Metro, Inc., d/b/a Evergy Missouri Metro
Case No. ER-2022-0129

Evergy Missouri West, Inc., d/b/a Evergy Missouri West
Case No. ER-2022-0130

Q. Please state your name and business address.

A. My name is David T. Buttig, and my business address is 200 Madison Street, Jefferson City, Missouri, 65101.

Q. By whom are you employed?

A. I am a Professional Engineer employed by the Missouri Public Service Commission ("Commission') in the Engineering Analysis Department.

Q. Please describe your educational background and work experience.

A. I graduated from the Missouri University of Science & Technology in May of 2012 with a Bachelor of Science Degree in Environmental Engineering. Before coming to work at the Commission, I was employed by the Missouri Department of Natural Resources' Air Pollution Control Program as an Environmental Engineer I and was promoted to an Environmental Engineer II. I worked at the Air Pollution Control Program from February 2013 to July 2018. I began employment with the Commission in July 2018.

Q. Have you previously filed testimony before the Commission?

A. Yes. Please refer to Schedule DTB-d1, attached to this Direct Testimony for a list of cases I have filed testimony in with the Commission.

EXECUTIVE SUMMARY

Q. What is the purpose of your direct testimony?

A. The purpose of my direct testimony is to describe the process in which Staff conducted its review of the depreciation rates for Evergy Missouri Metro ("EMM") and to recommend depreciation rates to be ordered by the Commission. Staff witness Cedric E. Cunigan, PE is addressing depreciation for Evergy Missouri West.

Q. Do you recommend any specific terms or amounts that should be specifically reflected in the Commission's Report and Order in this case?

A. Yes. In this testimony I recommend that the Commission order the depreciation rates that Staff has prepared and recommended. Staff's depreciation rates have been included as Schedule DTB-d2.

Q. Have you provided your work product to other Staff witnesses for their use in developing an issue?

A. Yes, the depreciation rates I developed were relied upon by Staff witnesses Matthew R. Young and Jared Giacone for development of the level of depreciation expense and related items to be reflected in the development of Staff's EMS run.

DEPRECIATION

Q. What depreciation rates should the Commission order EMM for purposes of returning the value of its assets to its investors over time?

A. Staff recommends the depreciation rates provided in this testimony as Schedule DTB-d2.

Q. What is depreciation?

A. Depreciation is the application of a depreciation rate to the depreciable plant balance (for example, land is not considered depreciable) that results in the availability of depreciation expense for the utility's investors. The application of depreciation rates also results

in the accumulation of a depreciation reserve, which offsets the original investment level for purposes of calculating rates.

For a regulated utility, depreciation expense is the return of investment to investors over time. A depreciation rate is calculated that, when applied to the level of depreciable plant investment approximates on an annual basis "the loss in service value, not restored by current maintenance, incurred in connection with the consumption or prospective retirement of utility 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."[1] In Missouri, the depreciation rate will also generally reflect an allowance for the net salvage value expected upon retirement of items in the plant account.

Q. Are electric utilities required to submit depreciation studies?

A. Yes. According to 20 CSR 4240-3.175(1), "Each electric utility subject to the Commission's jurisdiction shall submit a depreciation study, database, and property unit catalog to the manager of the Commission's Energy Department and to the Office of the Public Counsel, as required by the terms of subsection (1)(B)."

Q. How often are these electric utilities required to submit their depreciation study, database, and property unit catalog?

[1] 18 CFR Part 101 Uniform System of Accounts Prescribed for Public Utilities and Licensees Subject to Provision of the Federal Power Act Definition 12.

A. An electric utility is required to submit its depreciation study, database, and property unit catalog no later than five years since the last time the Commission's Staff received the utility's depreciation study, database, and property unit catalog.[2]

Q. Did EMM submit its depreciation study, database, and property unit catalog in accordance with 20 CSR 4240-3.175?

A. Yes. EMM submitted its depreciation study with the direct testimony of John Spanos as Schedule JJS-1. The database was submitted to Staff in this case through data requests[3] and the property unit catalog was previously received in an email from EMM's Anthony Westerkirchner on October 1, 2021.

Q. Did Staff perform its own depreciation study?

A. Yes. Staff reviewed the asset information submitted in this case and information submitted in previous EMM cases in order to calculate its own depreciation rates. Those depreciation rates are included as Schedule DTB-d2.

Q. What data did Staff use to calculate the depreciation rates?

A. Staff received the actuarial data from EMM for the plant accounts. This data of the assets includes installation year, FERC account, type of transaction, transaction year, amount of transaction, and group codes. Staff then sorted this data by account and used a version of Gannett Fleming Depreciation Software to analyze the information to calculate the depreciation rate.

Q. By what method, procedure, and technique did Staff calculate its recommended depreciation rates?

[2] 20 CSR 4240-3.175(1)(B).
[3] Staff Data Request No. 0240 to Evergy Metro.

A. Depending on the type of account, Staff used different methods, procedures, and techniques to calculate the depreciation rates. Staff separated the accounts into three groups: production plant with probable retirement dates, general plant accounts utilizing general plant amortization, and all other plant accounts. Staff chose to use multiple ways of calculating depreciation because one method, procedure, and technique is not always suitable for every depreciable account of a utility. And by grouping the accounts as Staff has, a more suitable depreciation expense can be calculated.

Q. What method, procedure, and technique did Staff use to calculate the depreciation rates for the production plant accounts with probable retirement dates?

A. For these accounts, Staff utilized the straight-line method, broad group-averaging life procedure, and remaining life technique.

Q. What is the straight-line method?

A. The straight-line method allocates expense evenly over the expected life of the assets in the individual accounts. The straight-line method is the most common method used for asset depreciation. Other methods of depreciation could be the declining method, which would front load the depreciation expense at the early years of an assets life. This method does not work well for mass asset accounting.

Q. What is the broad group-averaging life procedure?

A. The broad group-averaging life procedure bases annual depreciation on the average service life of the account rather than looking at each individual installation year and analyzing them separately.

Q. What is the remaining life technique?

A. The remaining life technique uses the net plant of surviving plant less book depreciation reserve as the depreciable cost and uses the average remaining service life of the assets. The other technique that could be used is the whole life technique where the depreciation cost is only the original cost spread out evenly over the average service life of the assets.

Q. Why did Staff use the straight-line method, broad group-averaging life procedure, and the remaining life technique for the production plant accounts with probable retirement years?

A. Staff chose the method, procedure, and technique because these assets have a retirement date listed in the study and included in EMM's Integrated Resource Plan ("IRP"). Staff calculated its proposed depreciation rates so that the accounts would be fully accrued by the plant retirement dates. Calculating the depreciation rates for these accounts in the method, procedure, and technique described will fully recover the investment of the accounts without the potential need of depreciation reserve adjustments.

Q. Which plant accounts did Staff apply general plant amortization to calculate the depreciation rates?

A. Staff utilized general plant amortization on Accounts 391.00 Furniture and Equipment, 391.01 Furniture and Equipment – Wolf Creek, 391.02 Computer Equipment, 393.00 Stores Equipment, 394.00 Tools, Shop, and Garage Equipment, 395.00 Laboratory Equipment, 397.00 Communication Equipment, and 398.00 Miscellaneous Equipment. The general plant accounts not being amortized are Accounts 390.00 Structures and Improvements, 292.00 Autos, 292.01 Light Trucks, 292.02 Heavy Trucks, 292.03 Tractors, 292.04 Trailers, and 396.00 Power Operated Equipment.

Q. What is a general plant amortization?

A. General plant amortization is a process by which the utility keeps less detailed records and generally gets to return the investment level to its investors over a set number of years, as approved by the Commission. Candidate accounts for general plant amortization must contain a have a high volume of low value assets. The accounts are also given a salvage rate of zero percent and the assets are retired when it reaches the accounts average service life. Amortizing these general plant accounts will fully recover the investment in these accounts without the potential for over or under accrual.

Q. Has use of general plant authorization for these accounts been ordered by the Commission?

A. Yes. General plant amortization was previously ordered for these accounts in EMM's (formerly Kansas City Power & Light) case no. ER-2016-0285.

Q. Does Staff recommend that these accounts continue to be treated with general plant amortizations in lieu of maintenance of continuing property records and traditional depreciation treatment?

A. Yes. Staff recommends the continued use of general plant amortization for the previously ordered accounts. The use of general plant amortization for these accounts is an approved method of accounting be the Federal Energy Regulatory Commission ("FERC"). As long as EMM continues the regular retirements of assets beyond the amortization period Staff sees no reason not to allow the continued use of amortization for these accounts. If EMM is to request a different amortization period for these accounts in the future, it will need to provide sufficient usage data to the Commission that would support a longer or shorter amortization period.

Q. What did Staff do to calculate the depreciation rates for the remaining accounts?

A. Staff utilized the straight-line method, broad group-averaging life procedure, and the whole life technique. Staff utilized this method, procedure, and technique for all other accounts not previously mentioned.

Q. You have previously discussed the straight-line method and broad group-averaging life procedure, but what is the whole life technique?

A. The whole life technique applies the depreciation rate over the life of the assets. This procedure uses the average service life of the assets to calculate annual accrual rather than the average remaining life.

Q. Why did Staff use this method, procedure, and technique to calculate the depreciation rate for these accounts?

A. Unlike the accounts using the remaining life technique, these accounts can reasonably be assumed to remain in use over the economic life of the utility, with a continual cycle of retirement of plant from the account, and acquisition of plant into the account. By using the whole life technique for these accounts, the accounts will accrue depreciation reserve equal to its original cost and net salvage divided equally over its average life. This technique does not take into account the current status of the accounts depreciation reserve as the remaining life technique does. Using the remaining life technique can lead to lower or higher depreciation rates as compared to those calculated using the whole life technique since it brings in the depreciation reserve and only spreads the depreciation cost over the average remaining life of the assets currently in the account. This could cause any new assets to have a depreciation rate applied to them that may lead to an over-accrual or under-accrual.

Q. What is average service life and how did Staff calculate it for the accounts?

A. The average service life is the average expected useful life of the assets in the individual accounts when new. To estimate the average service life for the accounts, Staff reviewed the historical plant, salvage, and cost of removal data provided by EMM. Staff then used depreciation software to analyze the data and calculate the ratio of retirements to exposures by age, and solve for the percent surviving by age to develop a survivor curve for each account. The area under this survivor curve divided by the original placements equals the average service life of the assets. To determine a survivor curve, the exposures at a given age are the dollars remaining from the various vintages that have survived to that age. The retirement ratio is the dollars retired during an age interval divided by the exposures at the beginning of that interval. The survivor ratio is then calculated by subtracting the retirement ratio from "1". Multiplying each successive survivor ratio by the percent surviving of the previous age will generate a survivor curve. For an account in which all plant is retired, the full survivor curve is available and average service life can be calculated. Accounts with plant remaining have a partial curve, which is known as a stub curve. This survivor curve or stub curve is then smoothed and fitted to an empirically developed statistical model known as an Iowa curve.[4] The average service life of an account's survivor curve is estimated as the area under the selected Iowa curve. Staff then utilizes engineering experience and the information provided in EMM's Direct Testimony and data request responses to assign an appropriate average service life for each plant account.

Q. What is net salvage and how did Staff calculate it for the plant accounts?

[4] The Iowa curves are widely accepted models of the life characteristics of utility property. The curves were developed at the Iowa Engineering Experiment Station at what is now known as Iowa State University. The Iowa curves were first published in 1935 and reconfirmed in 1980. The survivor curve is mathematically and visually matched with various Iowa curves to determine which has the most appropriate fit.

A. Net salvage is the gross salvage of the assets minus the cost of its removal. Net salvage can be calculated using the following equation:

$$net\ salvage = gross\ salvage - cost\ of\ removal$$

Gross salvage is the removed market value of the retired asset. Cost of removal is the cost associated with the retirement and disposition of the asset from service. Staff determined net salvage percentages by dividing the experienced net cost of removal by the original cost of plant retired during the same time period to calculate the net cost of removal percentage. Staff then analyzes net salvage percentage using a 3-year or 5-year moving average to determine trends. From these trends, Staff estimated a net salvage percentage.

For the production plant accounts, Staff calculated its net salvage percentage based on the interim net salvage of those accounts. Staff did not include an additional adjustment for terminal net salvage.

Q. What is interim net salvage and terminal net salvage?

A. Interim net salvage is associated with the retirements the accounts would see during the life of the account. Terminal net salvage is associated with the final retirement of the account or plant and its associated costs. These costs can include demolition and end use costs. To provide an example, interim net salvage on a boiler may be thought of the cost of sending a technician to erect scaffolding and cut away a 1' x 1' section of boiler tubing that has been damaged less any value the removed part has, terminal net salvage may be thought of as the cost of demolishing a boiler minus any value the boiler components may have.

Q. Why did Staff only consider the interim net salvage in its calculations?

A. The Commission has not generally granted net salvage for terminal net salvage. The inclusion of these terminal net salvage costs are speculative and they cannot be considered

known and measurable. Further, in practice interim net salvage will decline as a facility approaches its retirement, and that the interim net salvage value will essentially equal or exceed the terminal net salvage value. Using the example above, it is less likely that a utility will make the referenced boiler repair a week before the utility plans to demolish the entire boiler. However, inclusion of interim net salvage in the provision of depreciation expense to investors will continue until that plant has been retired, and a change in depreciation rates is ordered.

Q. Has the Commission previously made a decision concerning terminal net salvage?

A. Yes. In case Nos. ER-2016-0285, ER-2004-0570, and ER-90-101, the Commission addressed the inclusion of terminal net salvage in depreciation rate calculations. In ER-2016-0285, the Commission concluded that:

> Because the cost of terminal net salvage is speculative, the Commission will not allow KCPL to recover those costs in this case. Staff's depreciation rates, which exclude terminal net salvage, are the appropriate rates.[5]

Q. What did Staff do to calculate the depreciation rates for the accounts?

A. Staff used the average service lives and net salvage rates calculated for each account to calculate the depreciation rates utilizing a version of Gannett Fleming depreciation software. The base equations for these calculations are as follows:

$$Whole\ Life\ Depreciation\ Rate = \frac{100\% - Average\ Net\ Salvage\ \%\ Rate}{Average\ Service\ Life}$$

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

[5] ER-2016-0285 Item no. 535 "Report and Order", page 38.

CONCLUSION

Q. What depreciation rates does Staff recommend the Commission order for use by EMM?

A. Staff recommends that the Commission order EMM to use the depreciation rates recommended by Staff and included in this testimony as Schedule DTB-d2.

Q. Does this conclude your direct testimony?

A. Yes it does.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Evergy Metro, Inc. d/b/a Evergy Missouri Metro's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2022-0129
In the Matter of Evergy Missouri West, Inc. d/b/a Evergy Missouri West's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2022-0130

AFFIDAVIT OF DAVID T. BUTTIG, PE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW DAVID T. BUTTIG, PE and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Direct Testimony of David T. Buttig, PE*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

DAVID T. BUTTIG, PE

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 7th day of June 2022.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2025
Commission Number: 12412070

Notary Public

DAVID T. BUTTIG, PE

PRESENT POSITION:

I am a Professional Engineer in the Engineering Analysis Department, Industry Analysis Division, of the Missouri Public Service Commission.

EDUCATIONAL BACKGROUND AND WORK EXPERIENCE:

I received my Bachelor of Science Degree in Environmental Engineering from the Missouri University of Science & Technology in May of 2012. In February of 2013 I began employment with the Missouri Department of Natural Resources in the Air Pollution Control Program as an Environmental Engineer I. In February of 2014, I was promoted to an Environmental Engineer II within the Air Pollution Control Program. I began employment with the commission as an engineer in July of 2018. I am a licensed professional engineer in the State of Missouri.

SUMMARY OF CASE INVOLVEMENT:

Case Number	Utility	Type	Issue
EA-2019-0010	Empire District Electric Company	Staff Report	Certificate of Convenience and Necessity
EE-2021-0423	Evergy	Staff Memorandum	Waiver Request
EO-2021-0388	Evergy Missouri West and Higginsville, MO	Staff Memorandum	Territorial Agreement
EO-2022-0098	Grundy Electric Cooperative and Galt, Missouri	Staff Memorandum	Territorial Agreement
EO-2022-0105	Evergy Missouri Metro	Staff Memorandum	Sale of Assets

Case Number	Utility	Type	Issue
ER-2019-0335	Ameren	Staff Report and Surrebuttal Testimony	Depreciation
GE-2020-0009	Summit Natural Gas of Missouri	Memorandum	Waiver Request
GR-2019-0077	Ameren Missouri (Gas)	Staff Report and Rebuttal Testimony	Depreciation
GR-2021-0108	Spire Missouri	Staff Report and Rebuttal Testimony	Depreciation
GR-2021-0241	Ameren	Staff Report and Surrebuttal Testimony	Depreciation
SA-2021-0074	Missouri American Water Company	Staff Recommendation	Depreciation
WA-2021-0116	Missouri American Water Company	Staff Memorandum	Depreciation
WA-2021-0425/ SA-2021-0426	Confluence River	Staff Recommendation	Depreciation
WM-2021-0412/ SM-2021-0413	Confluence River	Staff Recommendation	Depreciation
WR-2020-0264	Raytown Water Company	Staff Memorandum	Depreciation

EVERGY METRO, INC.
d/b/a Evergy Missouri Metro
SCHEDULE of DEPRECIATION RATES
(ELECTRIC)
ER-2022-0129

ACCOUNT NUMBER	ACCOUNT NAME	AVERAGE SERVICE LIFE	NET SALV. PCT.	DEPRECIATION RATE	AVERAGE AGE	AVERAGE REMAINING LIFE
	STEAM PRODUCTION PLANT					
311.00	STRUCTURES AND IMPROVEMENTS					
	HAWTHORN COMMON	85	-3%	3.62%		23.1
	HAWTHORN UNIT 5	85	-5%	3.45%		22.7
	HAWTHORN UNIT 9	85	-6%	3.46%		22.7
	IATAN COMMON	85	-11%	2.28%		43.8
	IATAN UNIT 1	85	-5%	4.62%		18.0
	LACYGNE COMMON	85	-2%	4.81%		18.2
	LACYGNE UNIT 1	85	-4%	6.34%		11.2
	LACYGNE UNIT 2	85	-4%	4.38%		17.9
312.00	BOILER PLANT EQUIPMENT					
	HAWTHORN COMMON	50	-3%	3.93%		21.5
	HAWTHORN UNIT 5	50	-5%	3.98%		21.4
	HAWTHORN UNIT 9	50	-6%	3.61%		20.4
	IATAN COMMON	50	-11%	2.70%		34.3
	IATAN UNIT 1	50	-5%	4.48%		16.7
	LACYGNE COMMON	50	-2%	4.76%		17.2
	LACYGNE UNIT 1	50	-4%	6.78%		11.0
	LACYGNE UNIT 2	50	-4%	4.63%		17.0
312.01	BOILER PLANT EQUIPMENT - UNIT TRAINS	25	0%	4.00%	15.0	
312.02	BOILER PLANT EQUIPMENT - AQC					
	LACYGNE UNIT 1	50	-4%	0.47%		10.3
312.05	BOILER PLANT EQUIPMENT - BAGS AND CATALYSTS					
	HAWTHORN UNIT 5	8	0%	12.49%		5.0
	HAWTHORN UNIT 9	8	0%	12.50%		
	IATAN COMMON	8	0%	12.47%		1.6
	IATAN UNIT 1	8	0%	12.50%		5.2
	IATAN UNIT 2	8	0%	12.49%		3.3
	LACYGNE COMMON	8	0%	12.51%		4.1
	LACYGNE UNIT 1	8	0%	12.59%		4.9
	LACYGNE UNIT 2	8	0%	12.49%		4.6

DTB-d2

EVERGY METRO, INC.
d/b/a Evergy Missouri Metro
SCHEDULE of DEPRECIATION RATES
(ELECTRIC)
ER-2022-0129

ACCOUNT NUMBER	ACCOUNT NAME	AVERAGE SERVICE LIFE	NET SALV. PCT.	DEPRECIATION RATE	AVERAGE AGE	AVERAGE REMAINING LIFE
314.00	TURBOGENERATOR UNITS					
	HAWTHORN COMMON	60	-3%	3.52%		22.6
	HAWTHORN UNIT 5	60	-5%	3.12%		21.9
	HAWTHORN UNIT 9	60	-6%	3.17%		22.2
	IATAN COMMON	60	-11%	2.26%		40.2
	IATAN UNIT 1	60	-5%	3.73%		17.3
	LACYGNE COMMON	60	-2%	4.69%		17.8
	LACYGNE UNIT 1	60	-4%	5.28%		11.1
	LACYGNE UNIT 2	60	-4%	3.22%		17.1
315.00	ACCESSORY ELECTRIC EQUIPMENT					
	HAWTHORN COMMON	50	-3%	3.28%		21.5
	HAWTHORN UNIT 5	50	-5%	3.54%		21.8
	HAWTHORN UNIT 9	50	-6%	3.15%		21.0
	IATAN COMMON	50	-11%	2.46%		35.5
	IATAN UNIT 1	50	-5%	3.70%		16.8
	LACYGNE COMMON	50	-2%	3.81%		17.2
	LACYGNE UNIT 1	50	-4%	4.67%		10.8
	LACYGNE UNIT 2	50	-4%	3.03%		16.3
316.00	MISCELLANEOUS POWER PLANT EQUIPMENT					
	HAWTHORN COMMON	43	-3%	4.51%		21.0
	HAWTHORN UNIT 5	43	-5%	4.60%		18.6
	HAWTHORN UNIT 9	43	-6%	4.60%		20.0
	IATAN COMMON	43	-11%	3.23%		31.8
	IATAN UNIT 1	43	-5%	5.61%		16.4
	LACYGNE COMMON	43	-2%	5.42%		16.7
	LACYGNE UNIT 1	43	-4%	8.22%		10.6
	LACYGNE UNIT 2	43	-4%	5.50%		15.1
	MISCELLANEOUS	43	0%	4.53%		20.6
	HAWTHORN UNIT 5 REBUILD					
311.02	STRUCTURES AND IMPROVEMENTS	85	-7%	0.48%		22.7
312.03	BOILER PLANT EQUIPMENT	50	-7%	0.68%		20.1
315.01	ACCESSORY ELECTRIC EQUIPMENT	50	-7%	0.72%		20.2
316.01	MISCELLANEOUS POWER PLANT EQUIPMENT	43	-7%	0.81%		19.1

EVERGY METRO, INC.
d/b/a Evergy Missouri Metro
SCHEDULE of DEPRECIATION RATES
(ELECTRIC)
ER-2022-0129

ACCOUNT NUMBER	ACCOUNT NAME	AVERAGE SERVICE LIFE	NET SALV. PCT.	DEPRECIATION RATE	AVERAGE AGE	AVERAGE REMAINING LIFE
	IATAN UNIT 2					
311.04	STRUCTURES AND IMPROVEMENTS	85	-12%	1.72%		43.9
312.04	BOILER PLANT EQUIPMENT	50	-12%	2.15%		35.5
314.04	TURBOGENERATOR UNITS	60	-12%	2.15%		40.6
315.04	ACCESSORY ELECTRIC EQUIPMENT	50	-12%	2.37%		35.5
316.04	MISCELLANEOUS POWER PLANT EQUIPMENT	43	-12%	2.60%		32.8
	NUCLEAR PRODUCTION PLANT					
321.00	STRUCTURES AND IMPROVEMENTS	95	-2%	1.65%		23.2
322.00	REACTOR PLANT EQUIPMENT	60	-2%	2.29%		21.6
323.00	TURBOGENERATOR UNITS	45	-2%	2.73%		18.8
324.00	ACCESSORY ELECTRIC EQUIPMENT	50	-2%	2.44%		19.4
325.00	MISCELLANEOUS POWER PLANT EQUIPMENT	45	-2%	3.10%		20.1
	OTHER PRODUCTION PLANT					
341.00	STRUCTURES AND IMPROVEMENTS					
	NORTHEAST COMBUSTION TURBINES	70	-4%	3.89%		18.5
	WEST GARDNER COMBUSTION TURBINES	70	-3%	2.92%		25.7
	MIAMI COUNTY COMBUSTION TURBINES	70	-3%	2.75%		25.5
	HAWTHORN UNIT 6	70	-2%	2.92%		22.8
	HAWTHORN UNIT 7	70	-3%	2.76%		22.7
	HAWTHORN UNIT 8	70	-3%	2.69%		22.6
342.00	FUEL HOLDERS, PRODUCERS, AND ACCESSORIES					
	NORTHEAST COMBUSTION TURBINES	50	-4%	2.85%		16.6
	WEST GARDNER COMBUSTION TURBINES	50	-3%	2.57%		23.9
	MIAMI COUNTY COMBUSTION TURBINES	50	-3%	2.51%		23.9
	HAWTHORN UNIT 6	50	-2%	2.50%		21.4
	HAWTHORN UNIT 7	50	-3%	3.16%		22.4
	HAWTHORN UNIT 8	50	-3%	3.34%		22.6
344.00	GENERATORS					
	NORTHEAST COMBUSTION TURBINES	55	-4%	2.89%		17.5
	WEST GARDNER COMBUSTION TURBINES	55	-3%	2.16%		24.2
	MIAMI COUNTY COMBUSTION TURBINES	55	-3%	2.10%		24.2
	HAWTHORN UNIT 6	55	-2%	2.61%		22.4
	HAWTHORN UNIT 7	55	-3%	1.99%		21.6
	HAWTHORN UNIT 8	55	-3%	1.98%		21.6

EVERGY METRO, INC.
d/b/a Evergy Missouri Metro
SCHEDULE of DEPRECIATION RATES
(ELECTRIC)
ER-2022-0129

ACCOUNT NUMBER	ACCOUNT NAME	AVERAGE SERVICE LIFE	NET SALV. PCT.	DEPRECIATION RATE	AVERAGE AGE	AVERAGE REMAINING LIFE
345.00	ACCESSORY ELECTRIC EQUIPMENT					
	NORTHEAST COMBUSTION TURBINES	50	-4%	1.33%		13.3
	WEST GARDNER COMBUSTION TURBINES	50	-3%	2.23%		24.2
	MIAMI COUNTY COMBUSTION TURBINES	50	-3%	2.24%		24.3
	HAWTHORN UNIT 6	50	-2%	2.12%		21.7
	HAWTHORN UNIT 7	50	-3%	2.26%		21.8
	HAWTHORN UNIT 8	50	-3%	2.29%		21.9
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT					
	NORTHEAST COMBUSTION TURBINES	45	-4%	4.75%		17.9
	WEST GARDNER COMBUSTION TURBINES	45	-3%	3.69%		25.3
	MIAMI COUNTY COMBUSTION TURBINES	45	-3%	3.70%		25.3
	HAWTHORN UNIT 7	45	-3%	2.29%		
	SOLAR PRODUCTION PLANT					
344.01	GENERATORS - SOLAR	30	-2%	4.01%		15.4
	WIND PRODUCTION PLANT					
341.02	STRUCTURES AND IMPROVEMENTS					
	SPEARVILLE COMMON	60	0%	4.44%		8.9
	SPEARVILLE UNIT 1	60	0%	4.44%		
	SPEARVILLE UNIT 2	60	0%	4.44%		
344.02	GENERATORS					
	SPEARVILLE COMMON	45	0%	4.60%		8.9
	SPEARVILLE UNIT 1	45	0%	5.07%		5.0
	SPEARVILLE UNIT 2	45	0%	4.84%		8.9
345.02	ACCESSORY ELECTRIC EQUIPMENT					
	SPEARVILLE COMMON	45	0%	5.59%		8.9
	SPEARVILLE UNIT 1	45	0%	5.59%		
346.02	MISCELLANEOUS POWER PLANT EQUIPMENT					
	SPEARVILLE COMMON	35	0%	9.65%		9.0
	SPEARVILLE UNIT 1	35	0%	18.74%		5.0

EVERGY METRO, INC.
d/b/a Evergy Missouri Metro
SCHEDULE of DEPRECIATION RATES
(ELECTRIC)
ER-2022-0129

ACCOUNT NUMBER	ACCOUNT NAME	AVERAGE SERVICE LIFE	NET SALV. PCT.	DEPRECIATION RATE	AVERAGE AGE	AVERAGE REMAINING LIFE
	TRANSMISSION PLANT					
352.00	STRUCTURES AND IMPROVEMENTS	70	-10%	1.57%	22.2	
353.00	STATION EQUIPENT	60	-18%	1.97%	16.3	
353.03	STATION EQUIPMENT - COMMUNICATION EQUIPMENT	25	-10%	4.40%	28.3	
354.00	TOWERS AND FIXTURES	70	-20%	1.72%	47.9	
354.05	TOWERS AND FIXTURES - SUBTRANSMISSION	70	-20%	1.71%	68.0	
355.00	POLES AND FIXTURES	62	-85%	2.98%	17.4	
355.05	POLES AND FIXTURES - SUBTRANSMISSION	62	-85%	2.98%	24.7	
356.00	OVERHEAD CONDUCTORS AND DEVICES	60	-50%	2.50%	24.8	
356.05	OVERHEAD CONDUCTORS AND DEVICES - SUBTRANSMISSION	60	-50%	2.50%	26.4	
357.00	UNDERGROUND CONDUIT	65	0%	1.54%	26.9	
357.05	UNDERGROUND CONDUIT - SUBSTRANSMISSION	65	0%	1.54%	10.0	
358.00	UNDERGROUND CONDUCTORS AND DEVICES	60	0%	1.67%	29.2	
358.05	UNDERGROUND CONDUCTORS AND DEVICES - SUBTRANSMISSION	60	0%	1.67%	10.1	
	DISTRIBUTION PLANT					
361.00	STRUCTURES AND IMPROVEMENTS	60	-10%	1.84%	25.5	
362.00	STATION EQUIPMENT	57	-10%	1.92%	17.4	
362.03	STATION EQUIPMENT - COMMUNICATION EQUIPMENT	25	-5%	4.20%	23.3	
363.00	STORAGE BATTERY EQUIPMENT	15	0%	6.67%	9.0	
364.00	POLES, TOWERS, AND FIXTURES	47	-80%	3.83%	16.6	
365.00	OVERHEAD CONDUCTORS AND DEVICES	50	-50%	3.00%	17.9	
366.00	UNDERGROUND CONDUIT	65	-45%	2.23%	17.2	
367.00	UNDERGROUND CONDUCTORS AND DEVICES	53	-20%	2.27%	15.0	
368.00	LINE TRANSFORMERS	42	5%	2.26%	17.3	
369.00	SERVICES	60	-50%	2.50%	15.9	
370.00	METERS	30	0%	3.33%	27.8	
370.20	METERS - AMI	20	0%	5.00%	3.3	
371.00	INSTALLATIONS ON CUSTOMERS' PREMISES	22	-15%	5.23%	12.7	
371.10	INSTALL ON CUSTOMERS' PREMISES - EV STATIONS	10	0%	10.00%	4.2	
373.00	STREET LIGHTING AND SIGNAL SYSTEMS	23	-10%	4.79%	14.2	

EVERGY METRO, INC.
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SCHEDULE of DEPRECIATION RATES
(ELECTRIC)
ER-2022-0129

ACCOUNT NUMBER	ACCOUNT NAME	AVERAGE SERVICE LIFE	NET SALV. PCT.	DEPRECIATION RATE	AVERAGE AGE	AVERAGE REMAINING LIFE
	GENERAL PLANT					
390.00	STRUCTURES AND IMPROVEMENTS	45	-20%	2.66%	14.2	
	OFFICE FURNITURE AND EQUIPMENT					
391.00	FURNITURE AND EQUIPMENT	20	0%	5.00%	9.9	
391.01	FURNITURE AND EQUIPMENT - WOLF CREEK	20	0%	5.00%	9.0	
391.02	COMPUTER EQUIPMENT	8	0%	12.50%	3.9	
	TRANSPORTATION EQUIPMENT					
392.00	AUTOS	8	23%	9.62%	1.8	
392.01	LIGHT TRUCKS	7	23%	11.00%	4.9	
392.02	HEAVY TRUCKS	10	23%	7.70%	5.9	
392.03	TRACTORS	13	23%	5.92%	1.6	
392.04	TRAILERS	28	23%	2.75%	9.3	
393.00	STORES EQUIPMENT	25	0%	4.00%	12.2	
394.00	TOOLS, SHOP, AND GARAGE EQUIPMENT	30	0%	3.33%	9.5	
395.00	LABORATORY EQUIPMENT	30	0%	3.33%	13.2	
396.00	POWER OPERATED EQUIPMENT	15	20%	5.34%	8.1	
397.00	COMMUNICATION EQUIPMENT	35	0%	2.86%	13.7	
398.00	MISCELLANEOUS EQUIPMENT	30	0%	3.33%	7.7	