

# Exhibit No. 111

*Exhibit No.:*  
*Issue:* Depreciation  
*Witness:* Cedric E. Cunigan, PE  
*Sponsoring Party:* MoPSC Staff  
*Type of Exhibit:* Rebuttal Testimony  
*Case No.:* ER-2021-0312  
*Date Testimony Prepared:* December 20, 2021

**MISSOURI PUBLIC SERVICE COMMISSION**  
**INDUSTRY ANALYSIS DIVISION**  
**ENGINEERING ANALYSIS DEPARTMENT**

**REBUTTAL TESTIMONY**  
**OF**  
**CEDRIC E. CUNIGAN, PE**

**THE EMPIRE DISTRICT ELECTRIC COMPANY,**  
**d/b/a Liberty**

**CASE NO. ER-2021-0312**

*Jefferson City, Missouri*  
*December 2021*

1 **REBUTTAL TESTIMONY**

2 **OF**

3 **CEDRIC E. CUNIGAN, PE**

4 **THE EMPIRE DISTRICT ELECTRIC COMPANY,**  
5 **d/b/a Liberty**

6 **CASE NO. ER-2021-0312**

7 Q. Please state your name and business address.

8 A. My name is Cedric E. Cunigan. My business address is 200 Madison Street,  
9 Jefferson City, Missouri 65101.

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

11 A. I am employed by the Missouri Public Service Commission (“Commission”) as a  
12 Professional Engineer.

13 Q. Are you the same Cedric E. Cunigan that contributed to Staff’s Cost of Service  
14 Report (“COS Report”) filed in this case on October 29, 2021?

15 A. Yes.

16 Q. What is the purpose of your rebuttal testimony?

17 A. I will be making corrections to the depreciation schedule in Staff’s COS Report.

18 **Corrections to Staff Accounting Schedule 5**

19 Q. What corrections were made to the depreciation schedule and why?

20 A. After the filing of direct, Staff was made aware of several discrepancies in the data  
21 files used by Staff and the Company. Staff had a call with The Empire District Electric Company’s  
22 (“Empire”) consultants on December 8, 2021 to discuss these differences. Empire and Staff were  
23 able to discover the reasoning behind the discrepancies. These discrepancies included removal of  
24 Asbury costs and outlier events from certain accounts by Empire, and grouping errors in

1 Staff's program. This resulted in discrepancies between Staff and Empire's studies on many of the  
2 accounts. Also, some of the issues arose due to the different ways data needs to be formatted to  
3 work with the software programs used by Staff and Empire. Empire and provided Staff with  
4 additional formatted data files. Staff was able to use the new data files with Staff's software to  
5 complete a review of the Empire's plant in service accounts. Staff is submitting the corrected  
6 depreciation schedule as Schedule CEC2 attached to this testimony.

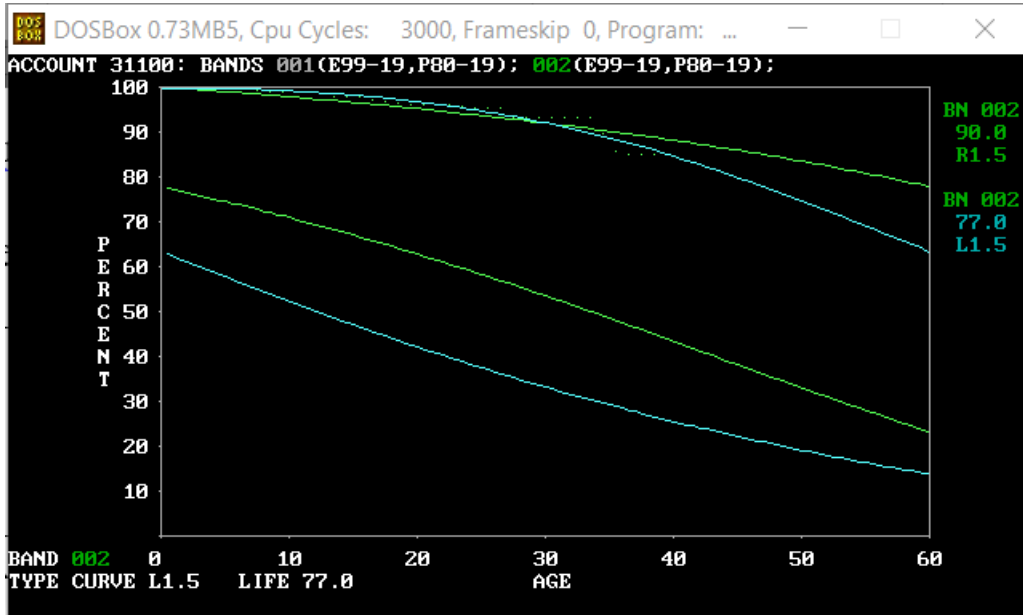
7 Q Are there major differences between the Staff and Empire's depreciation proposals?

8 A. Staff agrees with Empire on salvage rates on all accounts and has adopted  
9 Empire's proposed net Salvage values. Staff differs from the Empire's study on certain average  
10 service life ("ASL") estimates. The differences are in the following accounts:

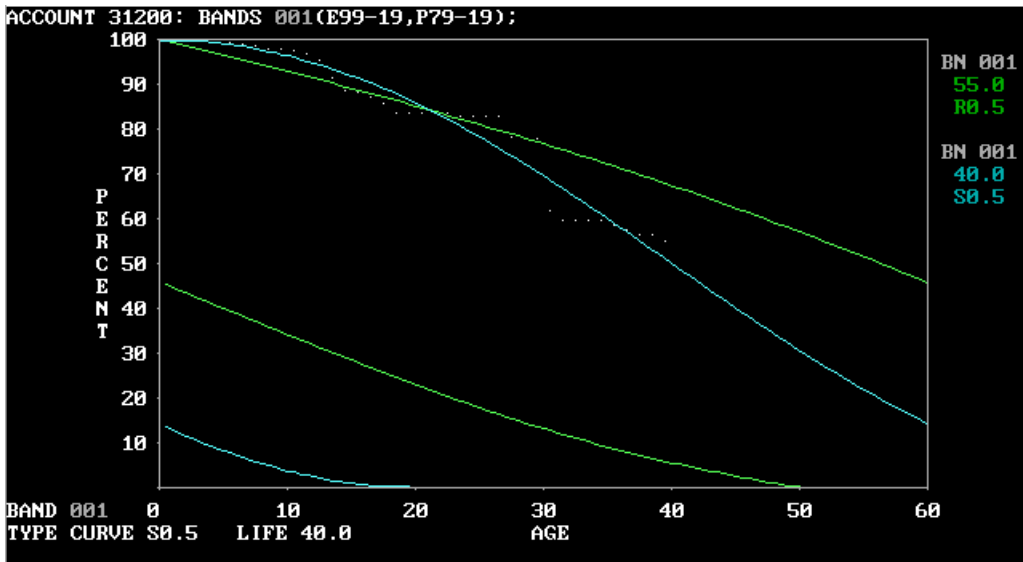
FERC Account	Staff Curve	Empire Curve	Difference in ASL
311 STRUCTURES AND IMPROVEMENTS	77-L1.5	90-R1.5	(13)
312 BOILER PLANT EQUIPMENT	40-S0.5	55-R0.5	(15)
314TURBOGENERATOR UNITS	52-S1.5	60-L1	(8)
343 PRIME MOVERS	50-R2	50-R1.5	Curve type only
344 GENERATORS	50-R1	55-R1	(5)
346 MISC. POWER PLANT EQUIPMENT	60-R2.5	55-R2.5	5
352 STRUCTURES AND IMPROVEMENTS	80-R3	70-R2.5	10
353 STATION EQUIPMENT	50-S1	50-R1.5	Curve type only
356 OVERHEAD CONDUCTORS & DEVICES	70-L3	65-R3	5
392 TRANSPORTATION EQUIPMENT	13-L3	11-L3	2
396 POWER OPERATED EQUIPMENT	17-L3	13-L3	4

1 The following graphs show the curves selected by Staff and Empire for the accounts listed above.  
2 Empire's curves appear in green. Staff's curves appear in blue when a different curve type is  
3 selected. When the same curve type is selected by Staff and Empire, both curves appear green with  
4 the blue arrows identifying the Staff curve and green arrows identifying the Empire curve.

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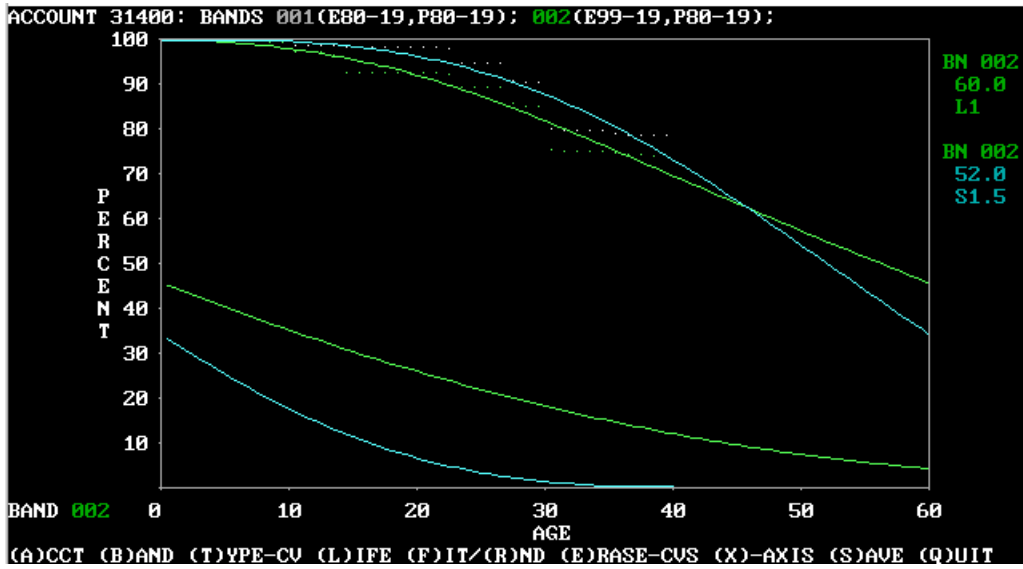


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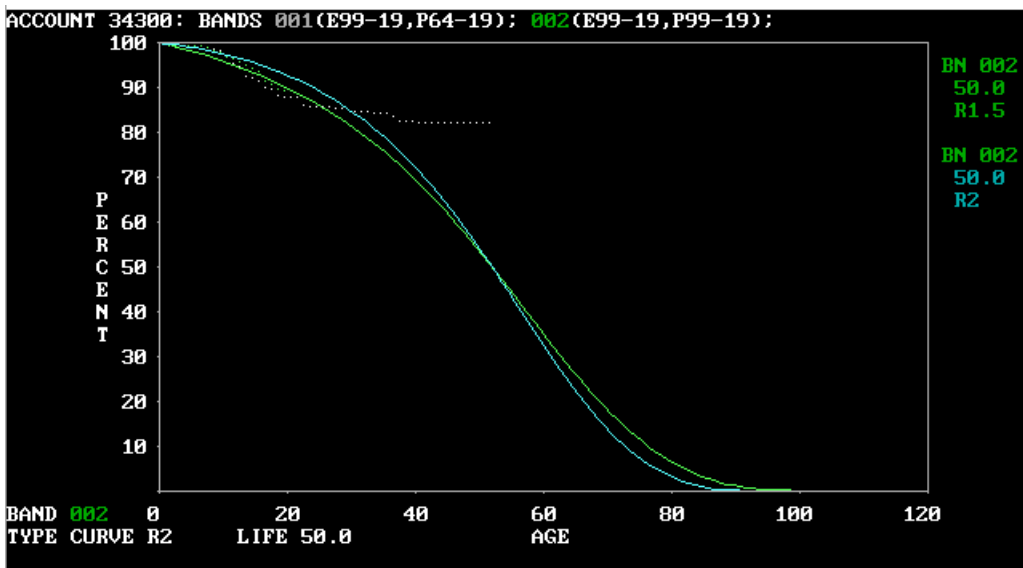
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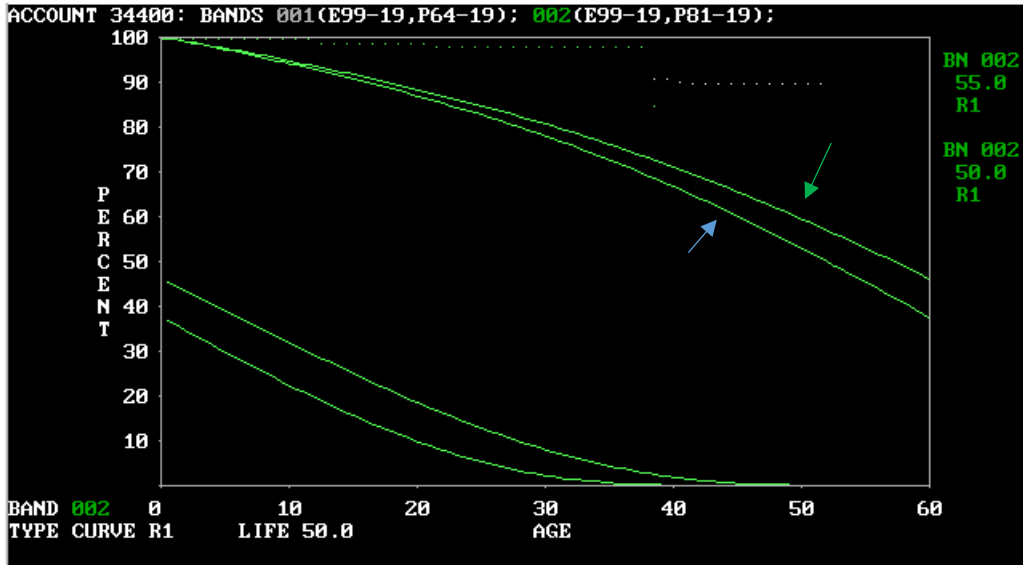
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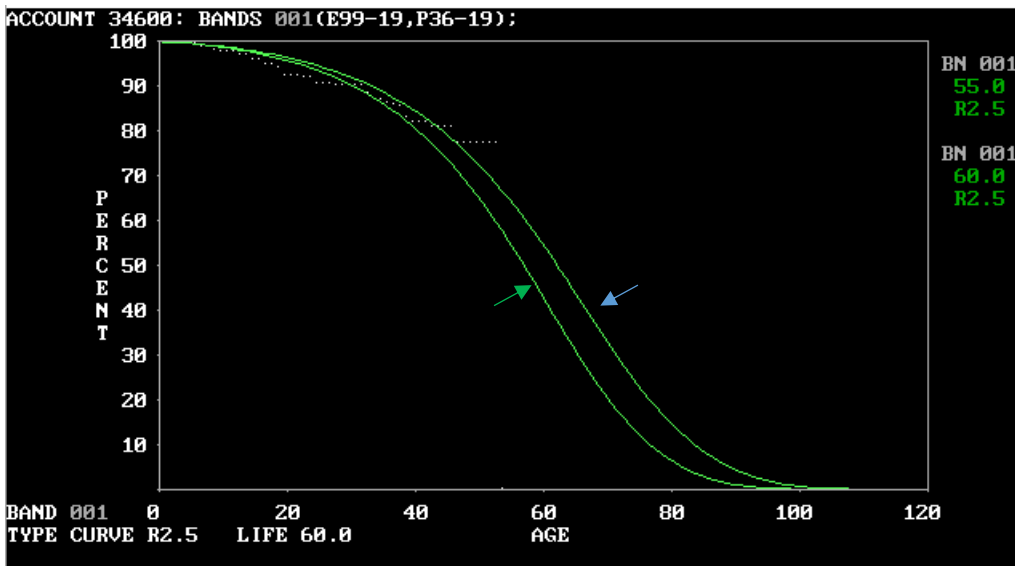
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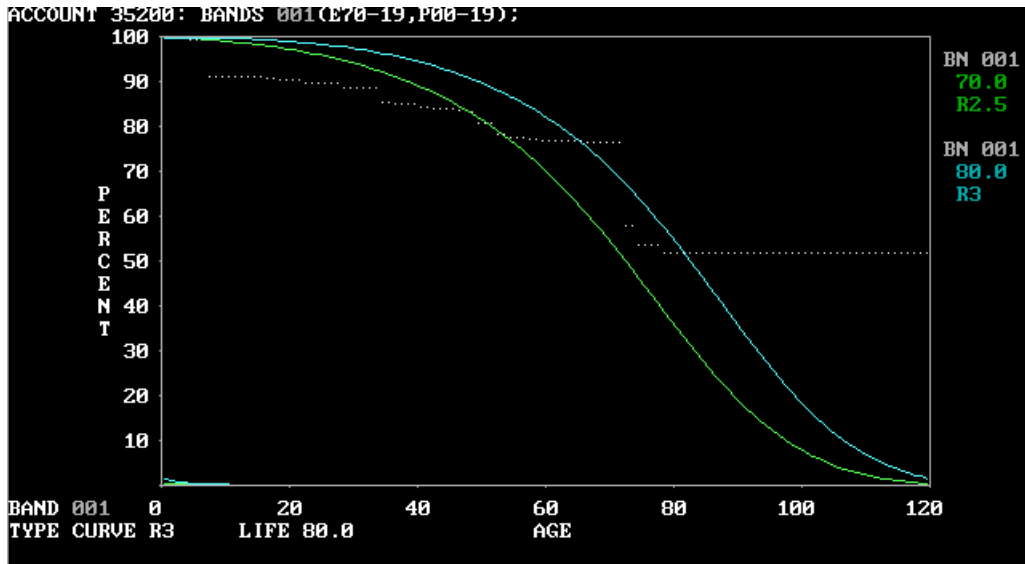
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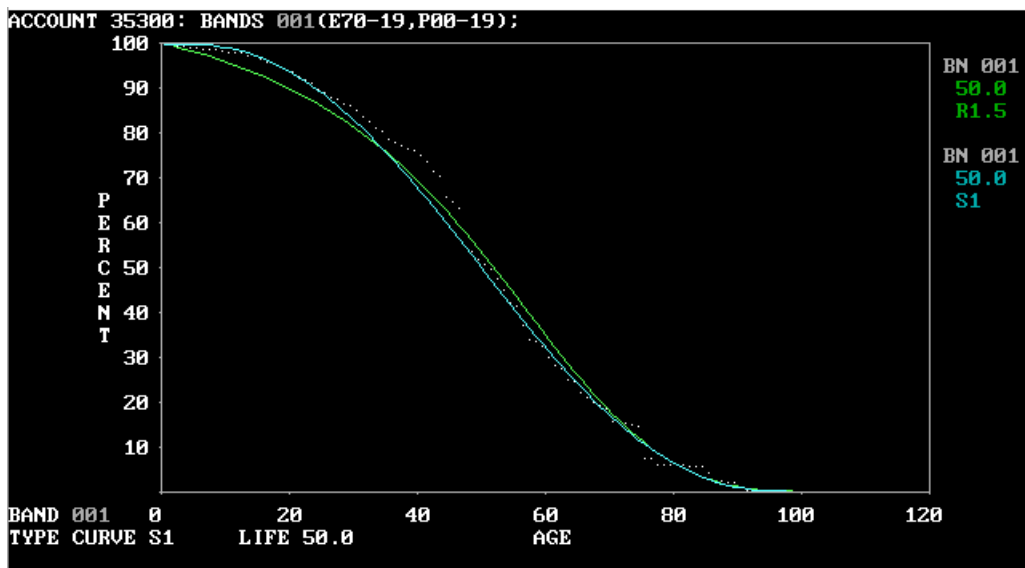
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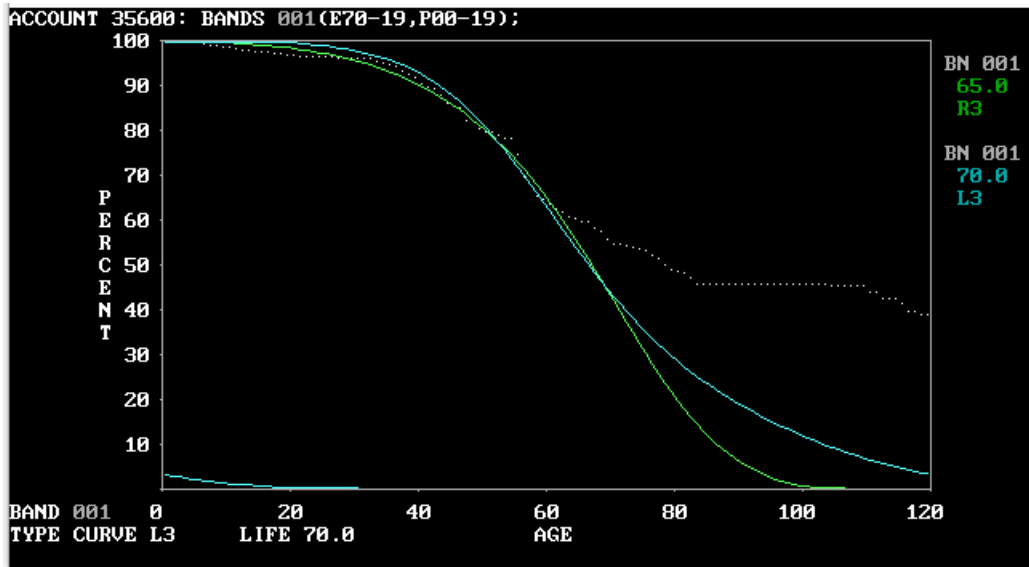
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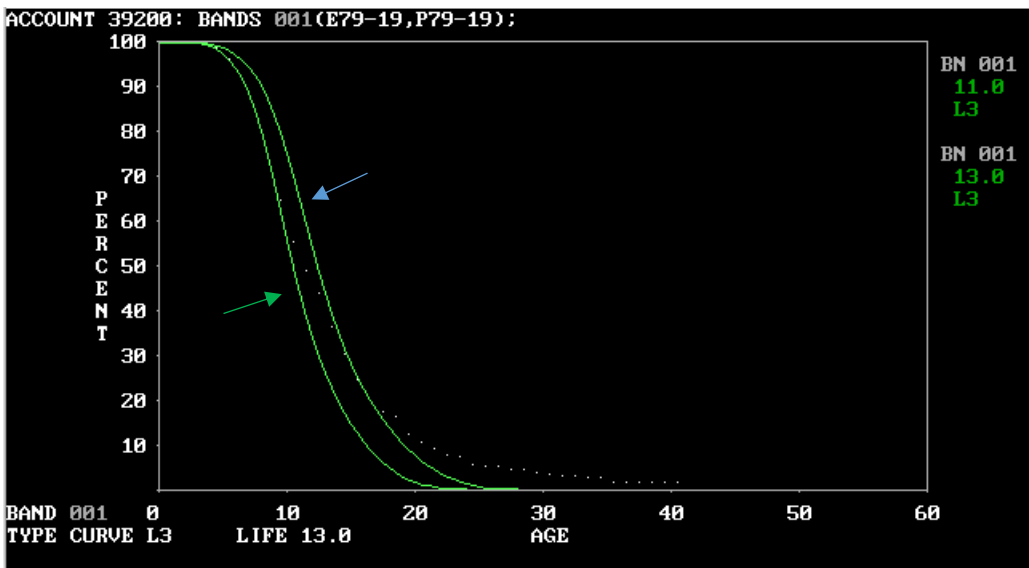


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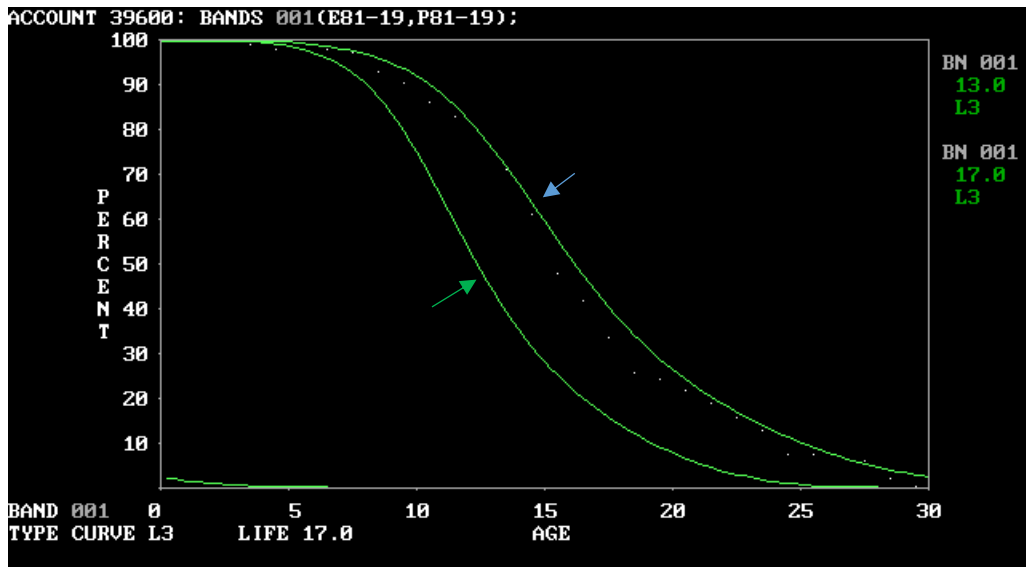
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Q. Does this conclude your rebuttal testimony?

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A. Yes.

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

In the Matter of the Request of The Empire            )  
District Electric Company d/b/a Liberty for            )  
Authority to File Tariffs Increasing Rates for        )  
Electric Service Provided to Customers in its        )  
Missouri Service Area                                    )

Case No. ER-2021-0312

**AFFIDAVIT OF CEDRIC E. CUNIGAN, PE**

STATE OF MISSOURI        )  
                                      )  
COUNTY OF COLE        )        ss.

**COMES NOW CEDRIC E. CUNIGAN, PE**, and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Rebuttal Testimony of Cedric E. Cunigan, PE*; and that the same is true and correct according to his best knowledge and belief.

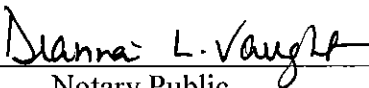
Further the Affiant sayeth not.

  
\_\_\_\_\_  
**CEDRIC E. CUNIGAN, 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 15<sup>th</sup> day of December, 2021.

DIANNA L. VAUGHT  
Notary Public - Notary Seal  
State of Missouri  
Commissioned for Cole County  
My Commission Expires: July 18, 2023  
Commission Number: 15207377

  
\_\_\_\_\_  
Notary Public

EMPIRE DISTRICT ELECTRIC COMPANY  
DEPRECIATION SCHEDULE

<u>DEPRECIABLE GROUP</u>	<u>PROB.</u> <u>RET. DATE</u>	<u>SURVIVOR</u> <u>CURVE</u>	<u>NET SALV.</u> <u>PCT.</u>	<u>REM. LIFE</u> <u>RATE</u>	<u>COMP.</u> <u>REM. LIFE.</u>
311 Structures & Improvements					
IATAN 1	Dec-40	77-L1.5	-7	1.99	19.1
IATAN 2	Dec-70	77-L1.5	-7	2.08	44.2
IATAN COMMON	Dec-70	77-L1.5	-7	2.22	44.6
PLUM POINT	Dec-60	77-L1.5	-7	2.41	37.3
312 Boiler Plant Equipment					
IATAN 1	Dec-40	40-S0.5	-10	3.57	17.6
IATAN 2	Dec-70	40-S0.5	-10	3.10	31.2
IATAN COMMON	Dec-70	40-S0.5	-10	3.11	30.5
PLUM POINT	Dec-60	40-S0.5	-10	3.23	28.6
312.1 Unit Train/Train Lease					
IATAN 1 UNIT TRAIN		15-SQ	0	17.89	2.5
PLUM POINT TRAIN LEASE		15-SQ	0	7.98	5
UNIT TRAIN PLUM POINT		15-SQ	0	8.45	8.5
314 Turbogenerator Units					
IATAN 1	Dec-40	52-S1.5	-15	4.00	18.8
IATAN 2	Dec-70	52-S1.5	-15	2.58	38.9
IATAN COMMON	Dec-70	52-S1.5	-15	2.68	38.3
PLUM POINT	Dec-60	52-S1.5	-15	2.84	34.5
315 Accessory Electric Equipment					
IATAN 1	Dec-40	50-S0.5	-8	3.37	18.5
IATAN 2	Dec-70	50-S0.5	-8	2.56	36.9
IATAN COMMON	Dec-70	50-S0.5	-8	2.62	36.6
PLUM POINT	Dec-60	50-S0.5	-8	2.72	32.6
316 Misc. Power Plant Equipment					
IATAN 1	Dec-40	40-L0.5	-4	2.96	16.9
IATAN 2	Dec-70	40-L0.5	-4		
IATAN COMMON	Dec-70	40-L0.5	-4	3.15	30.7
PLUM POINT	Dec-60	40-L0.5	-4	3.01	27.2
331 Structures & Improvements	Dec-53	100-R1.5	-10	2.94	32.1
332 Reservoirs, Dams,& Waterways Water Wheels, Turbines,&	Dec-53	85-R0.5	-10	2.15	29.7
333 Generators	Dec-53	90-S6	-10	6.60	13.7
334 Accessory Electric Equipment	Dec-53	70-L2.5	-10	2.72	29.2
335 Misc. Power Plant Equipment	Dec-53	45-R0.5	0	3.56	26.7
341 Structures & Improvements					
ASBURY WIND SERVICES	Dec-57	75-R3	-2	2.07	35.4
ENERGY CENTER	Dec-26	75-R3	-2	7.33	7
ENERGY CENTER FT8	Dec-43	75-R3	-2	3.37	23.5
RIVERTON 12	Dec-57	75-R3	-2	2.57	37.2

<u>DEPRECIABLE GROUP</u>	<u>PROB.</u> <u>RET. DATE</u>	<u>SURVIVOR</u> <u>CURVE</u>	<u>NET SALV.</u> <u>PCT.</u>	<u>REM. LIFE</u> <u>RATE</u>	<u>COMP.</u> <u>REM. LIFE.</u>
RIVERTON 9, 10, 11	Dec-33	75-R3	-2	6.57	11.9
STATE LINE 1	Dec-40	75-R3	-2	0.73	20.4
STATE LINE CC	Dec-51	75-R3	-2	2.36	30.8
STATE LINE COMMON	Dec-51	75-R3	-2	2.31	30.7
342 Fuel Holders, Producers & Access.					
ASBURY WIND SERVICES	Dec-57	75-R2.5	-2	1.29	34.9
ENERGY CENTER	Dec-26	75-R2.5	-2		
ENERGY CENTER FT8	Dec-43	75-R2.5	-2	2.95	23.3
RIVERTON 12	Dec-57	75-R2.5	-2	2.20	35.9
RIVERTON 9, 10, 11	Dec-33	75-R2.5	-2	4.18	13.7
STATE LINE 1	Dec-40	75-R2.5	-2	1.51	20.2
STATE LINE CC	Dec-51	75-R2.5	-2		31
STATE LINE COMMON	Dec-51	75-R2.5	-2		
343 Prime Movers					
ENERGY CENTER	Dec-26	50-R2	-2	5.34	6.7
ENERGY CENTER FT8	Dec-43	50-R2	-2	4.06	21.8
RIVERTON 12	Dec-57	50-R2	-2	2.84	33.8
RIVERTON 9, 10, 11	Dec-33	50-R2	-2	5.77	13
STATE LINE 1	Dec-40	50-R2	-2	2.92	18.7
STATE LINE CC	Dec-51	50-R2	-2	2.80	26.8
STATE LINE COMMON	Dec-51	50-R2	-2	3.38	29.7
344 Generators					
ENERGY CENTER	Dec-26	50-R1	-1	5.79	6.8
ENERGY CENTER FT8	Dec-43	50-R1	-1	4.61	22.1
RIVERTON 12	Dec-57	50-R1	-1	2.86	31.7
RIVERTON 9, 10, 11	Dec-33	50-R1	-1	4.21	12.5
STATE LINE 1	Dec-40	50-R1	-1	3.69	18.9
STATE LINE CC	Dec-51	50-R1	-1	2.96	26.6
345 Accessory Electric Equipment					
ASBURY WIND SERVICES	Dec-57	55-R0.5	-5	0.63	27
ENERGY CENTER	Dec-26	55-R0.5	-5	5.67	6.7
ENERGY CENTER COMMON	Dec-43	55-R0.5	-5	3.45	21.3
RIVERTON 12	Dec-57	55-R0.5	-5	2.91	31.9
RIVERTON 9, 10, 11	Dec-33	55-R0.5	-5	5.45	13.1
STATE LINE 1	Dec-40	55-R0.5	-5	2.97	18.9
STATE LINE CC	Dec-51	55-R0.5	-5	2.58	27
STATE LINE COMMON	Dec-51	55-R0.5	-5	2.99	27.5
346 Misc. Power Plant Equipment					
ASBURY WIND SERVICES	Dec-57	60-R2.5	-5	1.96	33.8
ENERGY CENTER	Dec-26	60-R2.5	-5	0.44	7
ENERGY CENTER FT8	Dec-43	60-R2.5	-5	3.20	22.7
RIVERTON 12	Dec-57	60-R2.5	-5	2.39	35.2
RIVERTON 9, 10, 11	Dec-33	60-R2.5	-5	6.27	13.8

<u>DEPRECIABLE GROUP</u>	<u>PROB.</u>	<u>SURVIVOR</u>	<u>NET SALV.</u>	<u>REM. LIFE</u>	<u>COMP.</u>
	<u>RET. DATE</u>	<u>CURVE</u>	<u>PCT.</u>	<u>RATE</u>	<u>REM. LIFE.</u>
STATE LINE 1	Dec-40	60-R2.5	-5	3.59	20.6
STATE LINE CC	Dec-51	60-R2.5	-5	2.80	29.1
STATE LINE COMMON	Dec-51	60-R2.5	-5	1.80	46.4
352 Structures & Improvements		80-R3	-10	1.07	71.3
353 Station Equipment		50-S1	-20	2.44	39.1
354 Towers & Fixtures		75-R4	-10	1.17	64.2
355 Poles & Fixtures		59-L4	-100	3.60	47.2
356 Overhead Conductors & Devices		70-L3	-25	1.82	52.9
361 Structures & Improvements		55-R1.5	-10	1.94	47.4
362 Station Equipment		51-R1.5	-15	2.11	42.3
364 Poles, Towers & Fixtures		51-R4	-125	5.05	34.9
365 Overhead Conductors & Devices		64-R2.5	-100	3.10	48.4
366 Underground Conduit		53 -L3	-20	1.76	43.9
367 Underground Conductors & Devices		54-R2	-25	1.56	44.7
368 Line Transformers		50-L1.5	-10	1.88	39.2
369 Overhead Services		54-R5	-100	3.32	38.6
370 Meters		30-R1.5	-2	4.39	16
371 Installations on Customers' Premises		28-R2	-40	3.48	17.6
373 Street Lighting & Signal Systems		45-R0.5	-60	3.90	34.7
375 Charging Stations		20-SQ	0	5.00	17.5
390 Structures & Improvements		45-R1	-10	1.73	35.9
391.1 Office Furniture & Equipment		20-SQ	0	5.00	12.2
391.3 COMPUTER EQUIPMENT		5-SQ	0	20.00	3.5
392 Transportation Equipment		13-L2	10	5.20	10.3
393 Stores Equipment		35-SQ	0	2.86	31.9
394 Tools, Shop & Garage Equipment		20-SQ	0	5.00	15
395 Laboratory Equipment		20-SQ	0	5.00	16.8
396 Power Oper. Eqpt.		17-L3	5	4.62	12.6
397 Communication Equipment		15-SQ	0	6.67	6
398 Miscellaneous Equipment		34-SQ	0	2.94	27.3