BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of)	
Ohio Power Company for an)	Case No. 20-585-EL-AIR
Increase in Electric Distribution Rates.)	
In the Matter of the Application of)	
Ohio Power Company)	Case No. 20-586-EL-ATA
for Tariff Approval.)	
In the Matter of the Application of)	
Ohio Power Company for Approval)	Case No. 20-587-EL-AAM
to Change Accounting Methods.)	

DIRECT TESTIMONY OF JASON A. CASH ON BEHALF OF OHIO POWER COMPANY

Management Policies, Practices & Organizations

Operating Income

Rate Base

Allocations

Rate of Return

Rates and Tariffs

X Other

Filed: June 15th, 2020

INDEX TO DIRECT TESTIMONY OF JASON A. CASH

I.	PERSONAL DATA	.1
II.	PURPOSE OF TESTIMONY	.3
III.	DEPRECIATION STUDY OVERVIEW	3
IV.	STUDY METHODS AND PROCEDURES	5
V.	STUDY RESULTS	.7

BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO DIRECT TESTIMONY OF JASON A. CASH ON BEHALF OF OHIO POWER COMPANY

1 I. PERSONAL DATA

2	Q.	PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Jason A. Cash and my business address is 1 Riverside Plaza, Columbus, Ohio
4 43215.

5 Q. BY WHOM ARE YOU EMPLOYED AND WHAT IS YOUR POSITION?

A. I am employed by American Electric Power Service Corporation ("AEPSC") as
Accounting Senior Manager within Corporate Accounting. AEPSC, a wholly-owned
subsidiary of American Electric Power ("AEP"), provides centralized professional and
other services to subsidiaries of AEP. AEP is the parent company of Ohio Power Company
("AEP Ohio" or the "Company").

11 Q. WOULD YOU PLEASE DESCRIBE YOUR EDUCATIONAL AND 12 PROFESSIONAL BACKGROUND?

A. I graduated with a Bachelor of Science degree with a major in Accounting from The Ohio
State University in 2000. In 2000, I joined AEPSC and have held several positions within
the Accounting organization, including general ledger accounting and financial reporting
for AEP Ohio and AEPSC. From 2008 through 2013, I worked in AEPSC's Transmission
Accounting department, where I was promoted to Supervisor of Transmission Accounting
in 2013. From 2014 through 2019, I worked in AEPSC's Accounting Policy & Research

department as a Staff Accountant and later as a Senior Staff Accountant. In 2019, I was
 promoted to my current position of Accounting Senior Manager.

3 Q. WHAT ARE YOUR RESPONSIBILITIES AS ACCOUNTING SENIOR 4 MANAGER FOR AEPSC?

A. My responsibilities include the oversight of AEPSC's Property Accounting department
 along with providing the AEP electric operating subsidiaries with accounting support for
 regulatory filings, including the preparation of depreciation studies and testimony. I also
 monitor regulatory proceedings and legislation for accounting implications and assist in
 determining the appropriate regulatory accounting treatment.

10 Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN ANY REGULATORY 11 PROCEEDINGS?

12 Yes. I have filed testimony before the Virginia State Corporation Commission, the A. Arkansas Public Service Commission, the Michigan Public Service Commission, the 13 14 Indiana Utility Regulatory Commission, the Public Utility Commission of Texas, the 15 Public Service Commission of West Virginia, the Public Service Commission of Kentucky, 16 and the Tennessee Regulatory Authority on behalf of the AEP operating companies in those 17 states. I have also filed testimony before the Federal Energy Regulatory Commission on 18 behalf of subsidiaries of Transource Energy, LLC. Transource Energy, LLC is a joint 19 venture between AEP and Great Plains Energy.

20 Q. HAVE YOU HAD ANY FORMAL TRAINING RELATING TO DEPRECIATION 21 AND UTILITY ACCOUNTING?

A. Yes. I am a member of the Society of Depreciation Professionals ("SDP") and was a
former at-large director for the SDP. I have completed training courses offered by the SDP,

which include Depreciation Fundamentals, Life and Net Salvage Analysis, and Analyzing
the Life of Real World Property. These training classes included topics such as
introduction to plant and depreciation accounting, data requirements and collection,
depreciation models, life cycle analysis, current regulatory issues, actuarial life analysis,
net salvage analysis, and simulation life analysis.

6

II.

PURPOSE OF TESTIMONY

7 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

8 A. The purpose of my testimony is to propose and support revised depreciation accrual rates 9 for the Company's electric plant in service based on a depreciation study for electric utility 10 plant in service at December 31, 2019. Schedules I and II in the Depreciation Study Report 11 (included as Exhibit JAC-1) detail the results of the study. The depreciation rates 12 determined by the study are intended to provide recovery of invested capital, cost of removal, and credit for salvage over the expected life of the property. The revised 13 14 depreciation rates are primarily required due to changes in investment, expected life, and 15 net salvage of AEP Ohio's utility property.

16 Q. ARE YOU SPONSORING ANY EXHIBITS IN THIS PROCEEDING?

- 17 A. Yes. I am sponsoring Exhibit JAC-1, which consists of my depreciation study report and
 18 recommended depreciation rates.
- 19 II

III. <u>DEPRECIATION STUDY OVERVIEW</u>

20 Q. WHEN WERE THE COMPANY'S CURRENT DEPRECIATION RATES 21 ESTABLISHED AND UPON WHAT BASIS?

A. The Company's current depreciation rates are based upon plant in service balances at
 December 31, 2015, and were established through a November 29, 2016 depreciation study

1	filed in Case No. 13-2385-EL-SSO, et al. In its April 25, 2018 Opinion and Order
2	approving the Joint Stipulation and Recommendation in Case Nos. 16-1852-EL-SSO and
3	16-1853-EL-AAM (the "ESP IV Order"), the Public Utilities Commission of Ohio
4	("Commission") directed AEP Ohio to update its depreciation rates to those rates indicated
5	in the November 29, 2016 depreciation study. ¹

6 Q. PLEASE EXPLAIN WHY THE COMPANY IS PROPOSING TO REVISE 7 DEPRECIATION RATES IN THIS CASE.

A. AEP Ohio is proposing updated depreciation rates for its distribution and general property
due to changes in mortality characteristics and net salvage estimates from those in the
November 29, 2016 depreciation study approved in the ESP IV Order.

11 Q. HOW DO THE DEPRECIATION STUDY RATES AND ANNUAL ACCRUALS 12 COMPARE WITH AEP OHIO'S CURRENT RATES AND ACCRUALS?

A. A comparison of AEP Ohio's depreciation study rates and accruals to the current study's
rates and accruals for distribution and general plant is shown below in Table JAC-1 and is
based on total Company depreciable plant balances at December 31, 2019.

<u>Table JAC-1</u> - Depreciation Rates and Accruals Based on Plant In Service at December 31, 2019

		Study	E			
Functional Plant Group	Rates	Accruals	Rates	Accruals	<u>Difference</u>	
Distribution	3.50%	183,895,500	3.59%	188,714,006	(4,818,506)	
General	2.57%	13,058,577	2.57%	13,077,554	(18,977)	
Total Depreciable Plant	3.42%	196,954,077	3.50%	201,791,560	(4,837,483)	

¹ ESP IV Order, ¶ 48.

1Q.WHAT DO YOU RECOMMEND WITH RESPECT TO AEP OHIO'S2DEPRECIATION ACCRUAL RATES?

A. Based on results of the study, I am recommending an overall decrease in AEP Ohio's
 depreciation accrual rates, to be made effective upon implementation of new base rates.
 For purposes of comparison, applying my recommended depreciation rates to total

- 6 Company depreciable plant in service as of December 31, 2019 would produce a decrease
- 7 in annual depreciation expense of \$4,837,483. The main reasons for the decrease are
- 8 discussed later in my testimony.

9 IV. STUDY METHODS AND PROCEDURES

10 Q. PLEASE EXPLAIN THE DEFINITION OF DEPRECIATION USED IN

11 **PREPARING YOUR DEPRECIATION STUDY.**

- 12 A. The definition of depreciation that I used in preparing the study is the same that is used by
- 13 the Federal Energy Regulatory Commission:

14 Depreciation, as applied to depreciable electric plant, means the loss in service value not restored by current maintenance, incurred in connection 15 16 with the consumption or prospective retirement of electric plant in the course of service from causes which are known to be in current operation 17 and against which the utility is not protected by insurance. Among the 18 causes to be given consideration are wear and tear, decay, action of the 19 elements, inadequacy, obsolescence, changes in the art, changes in demand 20 21 and requirements of public authorities.

- Net salvage value means the salvage value of property retired less the costof removal.
- 24Service value means the difference between original cost and the net salvage25value of the electric plant.2

² 18 C.F.R. pt. 101 ("Definitions ¶ 12, 19, 37).

Q. PLEASE BRIEFLY DESCRIBE THE METHODS AND PROCEDURES USED IN THE STUDY.

3 A. The methods and procedures used in the depreciation study are fully described in Exhibit 4 JAC-1, the Depreciation Study Report. In summary, all of the property included in the 5 depreciation report was considered on a group plan. Under the group plan, depreciation is 6 accrued upon the basis of the original cost of all property included in each depreciable plant 7 group instead of individual items of property. Upon retirement of any depreciable property, its full cost, less any net salvage realized, is charged to the accumulated provision for 8 9 depreciation regardless of the age of the particular item retired. Also under this plan, the 10 dollars in each primary plant account are considered as a separate group for depreciation 11 accounting purposes, and an annual depreciation rate for each account is determined. In 12 this study, the plant groups consist of the individual primary plant accounts for distribution 13 and general plant property. The depreciation rates were calculated using the Whole Life 14 Method, which is the same method that was used to calculate the Company's current 15 depreciation rates. The Whole Life Method recovers the original cost of the plant, adjusted 16 for net salvage, over the average service life of the plant.

17 Q. HOW WERE THE METHODS AND PROCEDURES USED IN THE STUDY 18 APPLIED TO THE COMPANY'S PLANT IN SERVICE BALANCES?

A. The average service lives of the Company's distribution and general plant were determined
 using statistical procedures similar to those used in the insurance industry in studies of
 human mortality. The historical retirement experience of property groups was studied and
 retirement characteristics of the property were described using the well-known Iowa-type

1		retirement dispersion curves. Net salvage for each property group was determined based
2		on actual historical experience for distribution and general plant accounts.
3	V.	STUDY RESULTS
4	Q.	PLEASE EXPLAIN THE RESULTS OF YOUR STUDY FOR AEP OHIO'S
5		DISTRIBUTION PLANT.
6	A.	The depreciation rate for distribution plant decreased from 3.59% to 3.50% due to an
7		increase in average service life for accounts 361, 362, 364, 367, 368, 369, 371, 372, and
8		373 and a decrease in the net salvage for accounts 370 and 370.16. The decrease was
9		partially offset by increases in the net salvage ratio for accounts 361, 362, 365, 367, and
10		368 and a decrease in the average service life for accounts 366 and 370.
11	Q.	PLEASE EXPLAIN THE RESULTS OF YOUR STUDY FOR AEP OHIO'S
12		GENERAL PLANT.
13	A.	The depreciation rate for general plant decreased slightly due to an increase in the average
14		service life for account 390. The decrease was partially offset by increases in the net
15		salvage ratio for accounts 390, 397, and 397.16.
16	Q.	DURING YOUR STUDY, DID YOU MAKE ANY ADJUSTMENTS TO ACCOUNT
17		FOR ANY DIFFERENCES BETWEEN THE ACCUMULATED DEPRECIATION
18		RESERVE AND THE CALCULATED DEPRECIATION REQUIREMENT (OR
19		THEORETICAL RESERVE)?
20	A.	No. As stated in the Commission's ESP IV Order, AEP Ohio committed that, "for any
21		reserve under accrual, there will not be any amortization to correct it until either the next
22		two rate cases or the reserve recovers from the accelerated gridSMART generated

7

retirements, whichever happens first."³ See the testimony of Company Witness Moore for
 a more detailed explanation of the adjustment that will be made to the Distribution
 Investment Rider when the theoretical amortization adjustment ends.

4 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

5 A. Yes.

³ ESP IV Order, ¶ 48.

Ohio Power Company Case No. 20-0585-EL-AIR Exhibit JAC-1 Page 1 of 15

OHIO POWER COMPANY

DEPRECIATION STUDY REPORT

OF

ELECTRIC PLANT IN SERVICE

AT DECEMBER 31, 2019

Depreciation Study Report

Table of Contents

SUBJECT		PAGE
TITLE PAGE		1
TABLE OF CONTENTS		2
INTRODUCTION		3
DISCUSSION OF METHODS AND PROCEDURES USED IN THE STUDY		5
Group Method Calculation of Annual Depreciation Rates Methods of Life Analysis Final Selection of Average Life and Curve Type		5 5 5 8
Net Salvage	•••••	9
Calculation of Depreciation Requirement Study Results		9 10
SCHEDULES - TITLE PAGE		11
SCHEDULE I - EXPLANATION OF COLUMNS		12
SCHEDULE I - CALCULATION OF DEPRECIATION RATES BY THE WHOLE LIFE METHOD		13
SCHEDULE II - ANNUAL DEPRECIATION RATES AND ACCRUALS BY THE WHOLE LIFE METHOD		14
SCHEDULE III - COMPARISON OF MORTALITY CHARACTERISTICS	•••••	15

INTRODUCTION

This report presents the results of a depreciation study of Ohio Power Company's ("AEP Ohio or the Company") depreciable Distribution and General electric utility plant in service at December 31, 2019. The study was prepared by Jason A. Cash, Accounting Senior Manager at American Electric Power Service Corporation ("AEPSC"). The purpose of this depreciation study was to develop appropriate annual depreciation accrual rates for each of the primary Distribution and General Plant accounts, which comprise the groups for which AEP Ohio computes its annual depreciation expense.

The recommended depreciation rates that were calculated in this study are based on the Whole Life Method of computing depreciation. Further explanation of this method is contained in the "Discussion of Methods and Procedures Used in the Study" section of this report.

The definition of depreciation used in this Study is the same as that used by the Federal Energy Regulatory Commission ("FERC"):

"Depreciation, as applied to depreciable electric plant, means the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of electric plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance. Among the causes to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand and requirements of public authorities."

"Net salvage value means the salvage value of property retired less the cost of removal."

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

(FERC <u>Accounting and Reporting Requirements for Public Utilities and Licensees</u>, ¶15.001.)

Schedule I of this report shows the calculated depreciation accrual rates by primary plant accounts and composite rates to functional plant classifications. Schedule II shows a comparison of AEP Ohio's current depreciation rates and accruals to the rates and accruals calculated in this study using the Company's Distribution Plant Balances in accounts 361 to 373 and General Plant balances in accounts 390 to 398. Schedule III provides a comparison of the current Depreciation rates and the mortality characteristics that were used to compute the recommended depreciation rates and accruals (from the Company's ESP II¹ case). A comparison of AEP Ohio's depreciation study rates and accruals to the current study's rates and accruals for distribution and general plant are provided below in Table 1:

<u>Table 1</u> - Depreciation Rates and Accruals Based on Plant In Service at December 31, 2019

		Study	E			
Functional Plant Group	Rates	Accruals	Rates	Accruals	Difference	
Distribution	3.50%	183,895,500	3.59%	188,714,006	(4,818,506)	
General	2.57%	13,058,577	2.57%	13,077,554	(18,977)	
Total Depreciable Plant	3.42%	196,954,077	3.50%	201,791,560	(4,837,483)	

Based on Distribution and General Depreciable Plant in Service as of December 31, 2019, I am recommending an overall decrease in annual depreciation expense of \$4,837,483. The depreciation rate changes are primarily due to increases in the estimated average service life for nine Distribution accounts. These changes use AEP Ohio's current study depreciation rates and compare to the depreciation rates approved in the Commission's ESP IV² order (See Schedule II).

¹ Case Nos. 13-2385-EL-SSO, et al.

² Case Nos. 16-1852-EL-SSO and 16-1853-EL-AAM.

DISCUSSION OF METHODS AND PROCEDURES USED IN THE STUDY

1. Group Method

All of the depreciable property included in this report was considered on a group plan. Under the group plan, depreciation expense is accrued upon the basis of the original cost of all property included in each depreciable plant account. Upon retirement of any depreciable property, its full cost, less any net salvage realized, is charged to the accrued depreciation reserve regardless of the age of the particular item retired. Also, under this plan, the dollars in each primary plant account are considered a separate group for depreciation accounting purposes and an annual depreciation rate for each account is determined. The annual accruals by primary account were then summed, to arrive at the total accrual for each functional group. The total accrual divided by the original cost yields the functional group accrual rate.

2. Calculation of Annual Depreciation Rates By the Whole Life Method

AEP Ohio's current depreciation rates and the amounts calculated in this study are based on the Whole Life Method for Distribution and General Plant. The Whole Life Method recovers the original cost of the plant, adjusted for net salvage, over the average service life of the plant. By using this method, the annual depreciation rate for each account is determined on the following basis:

> Annual Depreciation Expense = (Orig. Cost) (Net Salvage Ratio) Average Service Life

3. <u>Methods of Life Analysis</u>

Depending upon the type of property and the nature of the data available from the property accounting records, one of three life analyses was used to arrive at the historically realized mortality characteristics and service lives of the depreciable plant investments.

Actuarial Analysis

This method of analyzing past experience represents the application to utility property of statistical procedures developed in the life insurance field for investigating human mortality. It is distinguished from other methods of life estimation by the requirement that it is necessary to know the age of the property at the time of its retirement and the age of survivors, or plant remaining in service; that is, the installation date must be known for each particular retirement and for each particular survivor.

The application of this method involves the statistical procedure known as the "annual rate method" of analysis. This procedure relates the retirements during each age interval to the exposures at the beginning of that interval, the ratio of these being the annual retirement ratio. Subtracting each retirement ratio from unity yields a sequence of annual survival ratios from which a survivor curve can be determined. This is accomplished by the consecutive multiplication of the survivor ratios. The length of this curve depends primarily upon the age of the oldest property. Normally, if the period of years from the inception of the account to the time of the study is short in relation to the expected maximum life of the property, an incomplete or stub survivor curve results.

While there are a number of acceptable methods of smoothing and extending this stub survivor curve in order to compute the area under it from which the average life is determined, the well-known Iowa Type Curve Method was used in this study.

By this procedure, instead of mathematically smoothing and projecting the stub survivor curve to determine the average life of the group, it was assumed that the stub curve would have the same mortality characteristics as the type curve selected. The selection of the appropriate type curve and average life is accomplished by plotting the stub curve, superimposing on it Iowa curves of the various types and average lives drawn to the same scale, and then determining which Iowa type curve and average life best matches the stub. The Actuarial Method of Life Analysis was utilized for the following accounts:

- 361.0 Distribution Structures and Improvements
- 362.0 Distribution Station Equipment
- 367.0 Distribution Underground Conductor & Devices
- 370.0 Distribution Meters
- 370.16 Distribution AMI Meters
- 390.0 General Structures & Improvements

Simulated Plant Record Analysis

The Simulated Plant Record ("SPR") method designates a class of statistical techniques that provide an estimate of the age distribution, mortality dispersion and average service life of property accounts whose recorded history provides no indication of the age of the property units when retired from service. For each such account, the available property records usually reveal only the annual gross additions, annual retirements and balances with no indication of the age of either plant retirements or annual plant balances. For this study, the "Balances Method" of analysis was used. The SPR Balances Method is a trial and error procedure that attempts to duplicate the annual balance of a plant account by distributing the actual annual gross additions over time according to an assumed mortality distribution. Specifically, the dollars remaining in service at any date are estimated by multiplying each year's additions by the successive proportion surviving at each age as given by the assumed survivor characteristics. For a given year, the balance indicated is the accumulation of survivors from all vintages and this is compared with the actual book balance. This process is repeated for different survivor curves and average life combinations until a pattern is discovered which produces a series of "simulated balances" most nearly equaling the actual balances shown in a company's books.

This determination is based on the distribution producing the minimum sum of squared differences between the simulated balance and the actual balances over a test period of years.

The iterative nature of the simulated methods makes them ideally suited for computerized analysis. For each analysis of a given property account, the computer program provides a single page summary containing the results of each analysis indicating the "best fit" based on criteria selected by the user.

The results of the analysis using the Balance Method is shown in the depreciation study work papers. The analysis also shows the value of the Index of Variation of the difference that is calculated according to the Balances Method where a lower value for the Index of Variation indicates better agreement with the actual data.

The SPR Method of Life Analysis was utilized for the following accounts:

- 364.0 Distribution Poles, Towers & Fixtures
- 365.0 Distribution OH Conductor & Devices
- 366.0 Distribution Underground Conduit
- 368.0 Distribution Line Transformers
- 369.0 Distribution Services
- 371.0 Distribution Installation on Customers Premises
- 372.0 Distribution Leased Property on Customers Premises
- 373.0 Distribution Street Lighting & Signal Systems

Vintage Year Accounting - General Equipment

In 1998, the Company began using a vintage year accounting method for general plant accounts 391 to 398 in accordance with FERC Accounting Release Number 15 ("AR-15"). This accounting method requires the amortization of vintage groups of property over their useful lives. AR-15 also requires that property be retired when it meets its average service life.

As a result, this study continues to use the current useful life approved by the Commission to calculate the depreciation rates for general plant accounts 391 to 398.

4. <u>Final Selection of Average Life and Curve Type</u>

The final selection of average life and curve type for each depreciable plant account analyzed by the Actuarial and SPR Methods was primarily based on the results of the mortality analyses of past retirement history.

8

5. <u>Net Salvage</u>

The net salvage percentages used in this report are expressed as percent of original cost and are based primarily on the Company's experience combined with the judgment of the analyst. To aid in the selection of net salvage percentages, a review was made of the Company's experience for each primary account within each functional plant group for years 1969 - 2019.

The salvage program analyzes historical experience on an annual basis, on the cumulative history basis and for 5-year moving averages to get the historical net salvage, as well as indicated trends.

The net salvage percents selected were converted to net salvage ratios and appear in Column V on Schedule I and were used to determine the total amount to be recovered through depreciation. The same net salvage was also reflected in the determination of the calculated depreciation requirement.

The net salvage ratios shown in Column V on Schedule I of this report may be explained as follows:

- a. Where the ratio is shown as unity (1.00), it was assumed that the net salvage in that particular account would be zero.
- b. Where the ratio is less than unity, it was assumed that the salvage exceeded the removal costs. For example, if the net salvage were 20%, the net salvage ratio would be expressed as 0.80.
- c. Where the ratio is greater than unity, it was assumed that the salvage was less than the cost of removal. For example, if the net salvage were minus 5%, the net salvage ratio would be expressed as 1.05.

6. <u>Calculation of Depreciation Requirement at December 31, 2019</u>

The accumulated depreciation by individual plant accounts was taken from the Company's books at December 31, 2019. The calculation of a theoretical reserve for each plant account is provided on Schedule I for information purposes. AEP Ohio's current depreciation rates and the amounts calculated in this study for Distribution and General Plant are Whole Life

rates that do not take into account over or under accruals that result from changes in estimates of service lives and net salvage.

7. <u>Study Results</u>

For Distribution and General Property, the average service life, retirement dispersion pattern and net salvage pattern used to calculate each primary plant account rate are shown on Schedule III. The mortality characteristics and net salvage values for the current rates are also shown. The changes to the mortality characteristics follow the trends shown by the historical retirement experience. The gross salvage and gross cost of removal percentages were largely based on the history of the account for the period 1969-2019.

Distribution Plant

The depreciation rate for distribution plant decreased from 3.59% to 3.50% due to an increase in average service life for accounts 361, 362, 364, 367, 368, 369, 371, 372, and 373 and a decrease in the net salvage for accounts 370 and 370.16. The decrease was partially offset by increases in the net salvage ratio for accounts 361, 362, 365, 367, and 368 and a decrease in the average service life for accounts 366 and 370.

General Plant

The depreciation rate for general plant decreased slightly due to an increase in the average service life for account 390. The decrease was partially offset by increases in the net salvage ratio for accounts 390, 397, and 397.16.

Ohio Power Company Case No. 20-0585-EL-AIR Exhibit JAC-1 Page 11 of 15

SCHEDULES

<u>SCHEDULE I – Explanation of Columns</u>

Schedule I shows the determination of the recommended annual depreciation accrual rate by primary plant accounts by the straight line remaining life method. An explanation of the schedule follows:

Column I	-	Account number.
Column II	-	Account title.
Column III	-	Original Cost
Column IV	-	Average Life and (Iowa) Curve Type.
Column V	-	Net Salvage Ratio.
Column VI	-	Total to be Recovered (Column III) * (Column V).
Column VII	-	Calculated Depreciation Requirement.
Column VIII	-	Accumulated Depreciation – AEP Ohio's accumulated depreciation by plant account
Column IX	-	Remaining to be Recovered (Column VI - Column VIII).
Column X	-	Whole Life.
Column XI	-	Annual Accrual Amount.
Column XII	_	Accrual Percent (Column XI/Column III).

OHIO POWER COMPANY CALCULATION OF DISTRIBUTION AND GENERAL PLANT DEPRECIATION RATES BY THE WHOLE LIFE METHOD BASED ON PLANT IN SERVICE AT DECEMBER 31, 2019 SCHEDULE I - WHOLE LIFE ACCRUAL RATES (USING TOTAL COMPANY GENERAL EQUIPMENT BALANCES)

No.	Title	Original Cost	Average Life & Curve Type	Net Salvage Ratio	Total To Be Recovered	Calculated Depreciation Requirement	Accumulated Depreciation	Remaining to be Recovered	Whole Life (Years)	Accrual Amount	Accrual %
<u>(I)</u>	<u>(II)</u>	<u>(III)</u>	<u>(IV)</u>	<u>(V)</u>	<u>(VI)</u>	<u>(VII)</u>	(VIII)	<u>(IX)</u>	<u>(X)</u>	<u>(XI)</u>	<u>(XII)</u>
DISTRIBU	TION PLANT										
361.0	Structures & Improvements	44,737,962	70 R2.0	1.22	54,580,314	9,920,025	10,811,227	43,769,087	70.00	779,719	1.74%
362.0	Station Equipment	887,134,272	55 L0.0	1.13	1,002,461,727	128,852,035	215,144,997	787,316,730	55.00	18,226,577	2.05%
363.0	Storage Battery Equipment	5,117,366	15 SQ	1.00	5,117,366	3,892,789	3,897,295	1,220,071	15.00	341,158	6.67%
364.0	Poles, Towers, & Fixtures	795,852,068	38 R0.5	1.87	1,488,243,367	378,825,444	424,216,966	1,064,026,401	38.00	39,164,299	4.92%
365.0	Overhead Conductor & Devices	894,822,501	32 L0.0	1.18	1,055,890,551	209,702,864	201,558,765	854,331,786	32.00	32,996,580	3.69%
366.0	Underground Conduit	334,308,145	60 R3.0	1.00	334,308,145	66,151,374	60,001,202	274,306,943	60.00	5,571,802	1.67%
367.0	Underground Conductor	732,263,412	50 R1.5	1.13	827,457,656	184,817,961	252,425,003	575,032,653	50.00	16,549,153	2.26%
368.0	Line Transformers	849,973,360	32 L0.0	1.16	985,969,098	221,023,409	264,903,447	721,065,651	32.00	30,811,534	3.62%
369.0	Services	345,050,002	43 R0.5	1.34	462,367,003	122,325,474	150,676,332	311,690,671	43.00	10,752,721	3.12%
370.0	Meters	95,062,401	11 L1.5	1.08	102,667,393	44,229,997	-24,429,326	127,096,719	11.00	9,333,399	9.82%
3/0.16	AMI Meters (1)	166,561,609	15 S0.5	1.08	179,886,538	16,339,159	27,399,026	152,487,512	15.00	11,992,436	7.20%
3/1.0	Installations on Custs. Prem.	59,229,951	15 L0.0	1.28	/5,814,337	26,080,383	45,946,108	29,868,229	15.00	5,054,289	8.53%
372.0	Leased Property on Custs. Prem.	103,067	44 R0.5	1.00	103,067	58,064	//,466	25,601	44.00	2,342	2.27%
373.0	Street Lighting & Signal Sys.	41,152,255	22 L0.0	1.24	51,028,796	17,873,484	22,749,514	28,279,282	22.00	2,319,491	5.64%
	Total Distribution Plant	<u>5,251,368,371</u>			<u>6.625,895,358</u>	<u>1,430,092,462</u>	<u>1.655.378.022</u>	4,970,517,336		<u>183.895.500</u>	3.50%
GENERAL	- PLANT (Total Company) (2)										
390.0	Structures & Improvements (3)	298.947.563	50 L0.0	1.05	313.894.941	40.039.971	49.002.259	264.892.682	50.00	6.277.899	2.10%
391.0	Office Furniture & Equipment	22,954,490	30 SQ	1.00	22,954,490	5.578.989	5.625.343	17.329.147	30.00	765.150	3.33%
392.0	Transportation Equipment	128,289	50 SQ	1.00	128,289	14.208	86.996	41.293	50.00	2.566	2.00%
393.0	Stores Equipment	1.094.763	34 SQ	1.00	1.094.763	347.751	349,495	745,268	34.00	32,199	2.94%
394.0	Tools Shop & Garage Equipment	49,800,232	30 SQ	1.06	52,788,246	19,327,225	18,680,154	34,108,092	30.00	1,759,608	3.53%
395.0	Laboratory Equipment	348,489	28 SQ	1.00	348,489	165,492	272,154	76,335	28.00	12,446	3.57%
396.0	Power Operated Equipment	6,768	26 SQ	1.00	6,768	6,045	5,629	1,139	26.00	260	3.84%
397.0	Communication Equipment	127,448,709	35 SQ	1.05	133,821,144	34,134,353	26,756,039	107,065,105	35.00	3,823,461	3.00%
397.16	AMI Communication Equipment (1)	2,853,377	15 SQ	1.05	2,996,046	1,224,579	1,803,740	1,192,306	15.00	199,736	7.00%
398.0	Miscellaneous Equipment	4,631,304	25 SQ	1.00	4,631,304	1,989,943	2,123,667	2,507,637	25.00	185,252	4.00%
	Total General Plant	<u>508.213.984</u>			532,664,480	<u>102,828,556</u>	<u>104,705,476</u>	427,959,004		13.058.577	2.57%
	Total Depreciable Plant	5,759,582,355			7,158,559,838	<u>1,532,921,018</u>	1,760,083,498	5,398,476,340		196,954,077	<u>3.42</u> %

N/A = not applicable

NOTES: (1) The useful life for AMI Meters and AMI Communication Equipment is 15 years. The net salvage ratio for each account uses the same net salvage ratio calculated for Accounts 370 and 397, respectively.

(2) Used total company general plant balances at December 31, 2019 for purposes of calculating accrual rates in the Depreciation Study.
 (3) Account 390 excludes the owned structure investment associated with leased buildings.

OHIO POWER COMPANY ANNUAL DEPRECIATION RATES AND ACCRUALS BY THE WHOLE LIFE METHOD SCHEDULE II - COMPARE DEPRECIATION EXPENSE USING CURRENT AND STUDY RATES BASED ON PLANT IN SERVICE AT DECEMBER 31, 2019 (USING TOTAL COMPANY GENERAL EQUIPMENT BALANCES)

NO. <u>(1)</u>	TITLE (<u>2)</u>	ORIGINAL COST AT 12/31/2019 <u>(3)</u>	CURRENT APPROVED RATE <u>(4)</u>	CURRENT ANNUAL ACCRUAL <u>(5)</u>	STUDY RATE <u>(6)</u>	STUDY ACCRUAL <u>(7)</u>	DIFFERENCE (DECREASE) <u>(8)</u>
DISTRIBUT	ION PLANT						
361.0	Structures & Improvements	44,737,962	1.77%	791,862	1.74%	779,719	-12,143
362.0	Station Equipment	887,134,272	2.47%	21,912,217	2.05%	18,226,577	-3,685,640
363.0	Storage Battery Equipment	5,117,366	6.67%	341,328	6.67%	341,158	-170
364.0	Poles, Towers, & Fixtures	795,852,068	5.19%	41,304,722	4.92%	39,164,299	-2,140,423
365.0	Overhead Conductor & Devices	894,822,501	3.63%	32,482,057	3.69%	32,996,580	514,523
366.0	Underground Conduit	334,308,145	1.56%	5,215,207	1.67%	5,571,802	356,595
367.0	Underground Conductor	/32,263,412	2.60%	19,038,849	2.26%	16,549,153	-2,489,696
300.0	Services	245 050 002	3.00%	32,290,900	3.03%	10 752 721	-1,407,404
370.0	Meters	95 062 401	3.27 /o 4 07%	3 869 040	9.12%	9 333 399	5 464 359
370.16	AMI Meters (1)	166 561 609	7.33%	12 208 966	7 20%	11 992 436	-216 530
371.0	Installations on Custs Prem	59 229 951	9 14%	5 413 618	8 53%	5 054 289	-359 329
372.0	Leased Property on Custs Prem	103 067	2 50%	2 577	2 27%	2 342	-235
373.0	Street Lighting & Signal Sys.	41,152,255	6.20%	2,551,440	5.64%	2,319,491	-231,949
	Total Distribution Plant	<u>5,251,368,371</u>	3.59%	<u>188,714,006</u>	3.50%	183,895,500	-4,818,506
GENERAL I	PLANT (Total Company) (2)						
390.0	Structures & Improvements (3)	298,947,563	2.17%	6,487,162	2.10%	6,277,899	-209,263
391.0	Office Furniture & Equipment	22,954,490	3.33%	764,385	3.33%	765,150	765
392.0	Transportation Equipment	128,289	2.00%	2,566	2.00%	2,566	0
393.0	Stores Equipment	1,094,763	2.94%	32,186	2.94%	32,199	13
394.0	Tools Shop & Garage Equipment	49,800,232	3.53%	1,757,948	3.53%	1,759,608	1,660
395.0	Laboratory Equipment	348,489	3.57%	12,441	3.57%	12,446	5
396.0	Power Operated Equipment	6,/68	3.85%	261	3.85%	260	-1
397.0	AMI Communication Equipment (1)	127,448,709	2.80%	3,645,033	3.00%	3,823,401	1/8,428
397.10	Aivir Communication Equipment (1)	2,000,077	0.07%	190,320	7.00%	199,730	9,416
398.0	Miscellarieous Equipment	4,631,304	4.00%	185,252	4.00%	185,252	<u>U</u>
	Total General Plant	<u>508,213,984</u>	2.57%	13,077,554	2.57%	<u>13,058,577</u>	<u>-18,977</u>
	Total Depreciable Plant	5,759,582,355	<u>3.50</u> %	201,791,560	<u>3.42</u> %	196,954,077	-4,837,483

(1) The useful life for AMI Meters and AMI Communication Equipment is 15 years. The net salvage ratio for each account uses the same net salvage ratio calculated for Accounts 370 and 397, respectively. NOTES:

(2) Used total company general plant balances at December 31, 2019 for purposes of calculating accrual rates in the Depreciation Study.
 (3) Account 390 excludes the owned structure investment associated with leased buildings.

OHIO POWER COMPANY SCHEDULE III - COMPARISON OF MORTALITY CHARACTERISTICS DEPRECIATION STUDY AS OF DECEMBER 31, 2019

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
Existing Rates (See Note)							Study Rates					
	Average Cost of Net					Net	Average			Cost of	Net	
		Service	Iowa	Salvage	Removal	Salvage	Service	Iowa	Salvage	Removal	Salvage	
		Life	Curve	Factor	Factor	Factor	Life	Curve	Factor	Factor	Factor	
		(Years)					(Years)					
DIST	TRIBUTION PLANT											
361.0	Structures & Improvements	65	R3.0	9%	24%	-15%	70	R2.0	8%	30%	-22%	
362.0	Station Equipment	45	R1.0	18%	29%	-11%	55	L0.0	16%	29%	-13%	
363.0	Storage battery equipment	15	SQ	0%	0%	0%	15	SQ	3%	3%	0%	
364.0	Poles, Towers, & Fixtures	36	R0.5	9%	96%	-87%	38	R0.5	9%	96%	-87%	
365.0	Overhead Conductor & Devices	32	L0.0	19%	35%	-16%	32	L0.0	18%	36%	-18%	
366.0	Underground Conduit	64	R2.5	0%	0%	0%	60	R3.0	0%	0%	0%	
367.0	Underground Conductor	43	R2.0	3%	15%	-12%	50	R1.5	8%	21%	-13%	
368.0	Line Transformers	30	L0.0	19%	33%	-14%	32	L0.0	16%	32%	-16%	
369.0	Services	41	R0.5	10%	44%	-34%	43	R0.5	9%	43%	-34%	
370.0	Meters	27	S1.0	22%	32%	-10%	11	L1.5	16%	24%	-8%	
370.16	AMI Meters	15	SQ	22%	32%	-10%	15	S0.5	16%	24%	-8%	
371.0	Installations on Custs. Prem.	14	L0.0	12%	40%	-28%	15	L0.0	11%	39%	-28%	
372.0	Leased Property on Custs. Prem.	40	R0.5	0%	0%	0%	44	R0.5	0%	0%	0%	
373.0	Street Lighting & Signal Sys.	20	L0.0	14%	38%	-24%	22	L0.0	13%	37%	-24%	
GEN	FRAL PLANT											
390.0	Structures & Improvements	47	100	15%	17%	-2%	50	100	13%	18%	-5%	
391.0	Office Furniture & Equipment	30	SO	0%	0%	0%	30	SO	0%	0%	0%	
392.0	Transportation Equipment	50	so	0%	0%	0%	50	so	0%	0%	0%	
393.0	Stores Equipment	34	so	0%	0%	0%	34	SO	0%	0%	0%	
394.0	Tools Shop & Garage Equipment	30	sõ	7%	13%	-6%	30	so	6%	12%	-6%	
395.0	Laboratory Equipment	28	so	0%	0%	0%	28	SO	0%	0%	0%	
396.0	Power Operated Equipment	26	so	0%	0%	0%	26	so	0%	0%	0%	
397.0	Communication Equipment	35	SO	0%	0%	0%	35	SO	0%	5%	-5%	
397.16	AMI Communication Equipment	15	SQ	0%	0%	0%	15	SQ	0%	5%	-5%	
398.0	Miscellaneous Equipment	25	SQ	0%	0%	0%	25	SQ	0%	0%	0%	

NA = Not Available

CERTIFICATE OF SERVICE

In accordance with Rule 4901-1-05, Ohio Administrative Code, the PUCO's e-filing system will electronically serve notice of the filing of this document upon the following parties. In addition, I hereby certify that a service copy of the foregoing *Direct Testimony of Jason A*. *Cash* was sent by, or on behalf of, the undersigned counsel to the following parties of record this 15th day of June 2020, via electronic transmission.

/s/ Steven T. Nourse

Steven T. Nourse

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Summary: Testimony -Direct Testimony of Jason A. Cash on Behalf of Ohio Power Company electronically filed by Mr. Steven T Nourse on behalf of Ohio Power Company