### COMMONWEALTH OF KENTUCKY BEFORE THE PUBLIC SERVICE COMMISSION

#### In the Matter of:

ELECTRONIC APPLICATION OF KENTUCKY	)	
POWER COMPANY FOR (1) A GENERAL	)	
ADJUSTMENT OF ITS RATES FOR ELECTRIC	)	
SERVICE; (2) AN ORDER APPROVING ITS 2017	)	Case No. 201700179
ENVIRONMENTAL COMPLIANCE PLAN; (3) AN	)	
ORDER APPROVING ITS TARIFFS AND RIDERS;	)	
(4) AN ORDER APPROVING ACCOUNTING	)	
PRACTICES TO ESTABLISH REGULATORY	)	
ASSETS AND LIABILITIES; AND (5) AN ORDER	)	
GRANTING ALL OTHER REQUIRED APPROVALS	3)	
AND RELIEF	)	

## KENTUCKY POWER RESPONSES TO COMMISSION STAFF'S FOURTH SET OF DATA REQUESTS

**November 22, 2017** 

The undersigned, Andrew R. Carlin, being duly sworn, deposes and says he is the Director, Compensation and Executive Benefits for American Electric Power Service Corporation and that he has personal knowledge of the matters set forth in the forgoing testimony and the information contained therein is true and correct to the best of his information, knowledge and belief.

Andrew R. Carlin

STATE OF OHIO

COUNTY OF FRANKLIN

) Case No. 2017-00179

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Andrew R. Carlin, this 17th day of November, 2017.

E OF CHILI

Cheryl L. Strawser Notary Public, State of Ohio My Commission Expires 10-01-20/2/ Notary Public

My Commission Expires: 📿

The undersigned, Jason A Cash, being duly sworn, deposes and says he is employed by American Electric Power as Accountant Policy and Research Staff that he has personal knowledge of the matters set forth in the forgoing testimony and the information contained therein is true and correct to the best of his information, knowledge and belief

Jason A Cash

STATE OF OHIO

) 2017-00179

**COUNTY OF FRANKLIN** 

Subscribed and sworn to before me, a Notary Public in and before said County and State, by (Insert Name), this the 20th day of November 2017.



Notary Public

Notary ID Number: 2014-RE-488323

My Commission Expires:

The undersigned, Amy J. Elliott, being duly sworn, deposes and says she is a Regulatory Consultant Principal for Kentucky Power Company, that she has personal knowledge of the matters set forth in the forgoing data responses and that the information contained therein is true and correct to the best of her information, knowledge, and belief

COMMONWEALTH OF KENTUCKY )

Case No. 2017-00179

COUNTY OF FRANKLIN )

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Amy J. Elliott, this <u>22</u> day of November 2017.

Notary ID Number: <u>571144</u>

My Commission Expires: January 23, 2021

The undersigned, Debra L Osborne, being duly sworn, deposes and says she is Vice President Generating Assets APCO/KY, that she has personal knowledge of the matters set forth in the testimony for which she is the identified witness and that the information contained therein is true and correct to the best of her information, knowledge, and belief.

STATE OF WEST VIRGINIA
) Case No. 2017-00179
COUNTY OF KANAWHA
)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Debra L. Osborne, this the day of November 2017.

Notary Public

My Commission Expires:

OFFICIAL SEAL
Notary Public, State of West Virginia
DEBORA L. TAYLOR
5511 Church Drive
Charleston, WV 25306
My commission expires March 14, 2021

The undersigned, Tyler H Ross being duly sworn, deposes and says he is the Director Regulatory Accounting Services for American Electric Power, that he has personal knowledge of the matters set forth in the forgoing responses for which he is the identified witness and that the information contained therein is true and correct to the best of his information, knowledge and belief

/	Tyler H Ross
STATE OF OHIO	) Core No. 2017 00170
COUNTY OF FRANKLIN	) Case No. 2017-00179 )

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Tyler H Ross, this the 20th day of November 2017.



Notary Public

My Commission Expires:

04/29/19

The undersigned, Alex E. Vaughan, being duly sworn, deposes and says he is the Manager, Regulatory Pricing and Analysis that he has personal knowledge of the matters set forth in the forgoing testimony and the information contained therein is true and correct to the best of his information, knowledge and belief.

Alex E. Vaughan

STATE OF OHIO

COUNTY OF FRANKLIN

Case No. 2017-00179

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Alex E. Vaughan, this the <u>17</u> day of November 2017.

A PIAL S

Princess M. Brown Notary Public, State of Ohio My Commission Expires 04-19-2020 Notary Public

Notary ID Number:

My Commission Expires: 4/19/2020

#### Kentucky Power Company KPSC Case No. 2017-00179 General Rate Adjustment Kentucky Power Company

Commission Staff's Fourth Set of Data Requests Dated November 9, 2017

#### **DATA REQUEST**

KPSC\_4\_001

Refer to the Application, Section V, Exhibit 2, Worksheet 41, page 42 of 60. Also, refer to Kentucky Power's responses to Commission Staff's Second Request for Information ("Staff's Second Request"), Item 45, and Commission Staff's Third Request for Information ("Staff's Third Request"), Item 13. Provide the projected maintenance expenses for Mitchell and Big Sandy for the fiscal years ending February 2018, 2019, 2020, and 2021, in the format listed in Staff's Third Request, Item 13.

#### **RESPONSE**

Please refer to KPCO\_R\_KPSC\_4\_001\_Attachment1\_Redacted.pdf for the requested information. The Company has provided projected information through February 2021.

Witness: Debra L Osborne

KPSC Case No. 2017-00179 Commission's Fourth Set of Data Requests Dated: November 9, 2017 Item No. 001 Confidential Attachment 1 Page 1 of 1

#### **Big Sandy and Mitchell Plant O&M Forecast 2018-2021**

12 Months ending February

as of November 15, 2017

Account Group		O&M Account	2018	2019	2020	2021
Big Sandy Steam Maintenance	5100000	Maint Supv & Engineering				
	5110000	Maintenance of Structures				
	5120000	Maintenance of Boiler Plant				
	5130000	Maintenance of Electric Plant				
	5140000	Maintenance of Misc Steam Plt				
Big Sandy Steam Maintenance Total						
Mitchell Steam Maintenance	5100000	Maint Supv & Engineering				
	5110000	Maintenance of Structures				
	5120000	Maintenance of Boiler Plant				
	5130000	Maintenance of Electric Plant				
	5140000	Maintenance of Misc Steam Plt				
Mitchell Steam Maintenance Total						

Note: These forecasted numbers are based on current Company information and are subject to change based on operational changes and shifts in scheduled outages. The evidenced variability of the forecast budget year-to-year is further evidence of the volatility of planned maintenance for a limited number of generating units.

#### Kentucky Power Company KPSC Case No. 2017-00179 General Rate Adjustment Kentucky Power Company

Commission Staff's Fourth Set of Data Requests Dated November 9, 2017

#### **DATA REQUEST**

KPSC\_4\_002 Refer to the Direct Testimony of Alex E. Vaughn, page 38,

> regarding Off System Sales Margins ("OSS Margin") contained in the Application, Section V, Exhibit 2,

Worksheet W8.

a. Provide the amount of OSS Margins included in the rates

established in Case No. 2014-00396.

b. Explain the decline in OSS Margins in 2016.

c. Provide the OSS Margins for the test year.

d. Provide the OSS Margins by month for 2017.

#### **RESPONSE**

a. Base rates were developed using OSS margins in the amount of \$15,136,000. For monthly amounts, please refer to the Tariff SSC.

b. Lower off system sales volumes and lower Locational Marginal pricing are responsible for the decline in OSS margins from those in Case No. 2014-00396 to 2016.

c-d. Please refer to KPCO\_R\_KPSC\_4\_002\_Attachment1.xlsx for the requested information.

Witness: Alex E Vaughan

## Kentucky Power Company KPSC Case No. 2017-00179 General Rate Adjustment Kentucky Power Company

Commission Staff's Fourth Set of Data Requests Dated November 9, 2017

Page 1 of 2

#### **DATA REQUEST**

KPSC 4 003

Refer to the Direct Testimony Tyler H. Ross, pages 14-15, regarding the proposed adjustments contained in the Application, Section V, Exhibit 2, Worksheets 33, 34, and 35.

- a. Explain how the adjustments proposed in Worksheets 33, 34, and 35 were determined.
- b. Explain whether the methodology utilized in determining the proposed adjustments consistent with traditional ratemaking adjustments.

#### **RESPONSE**

a. The payroll-related adjustments proposed in Worksheets 33, 34, and 35 are for employee merit adjustments, overtime costs and annualized payroll expense, respectively.

During the test year of March 2016 through February 2017, Kentucky Power employees were awarded annual merit increases and promotions with implementation dates of the increases starting in April, May or June of 2016; thus the test year expense does not reflect a full year of those increases. In order to reflect a full year of the payroll increases awarded in 2016, the Company made an adjustment to annualize payroll expense as shown in Worksheet 35. As discussed on page 15 in the direct testimony of Company witness Ross, this adjustment was determined by first multiplying the Company's February 24, 2017 payroll by 26 pay periods in order to determine the annual payroll based on the then current number of employees and rate of pay. As shown in Worksheet 35, the resulting annualized 2017 payroll of \$32,935,422 was then compared to the Company's test year payroll costs of \$33,283,239 resulting in an overall decrease of \$347,817. After applying corresponding O&M and retail allocation factors, the retail jurisdictional share of the payroll expense decrease is \$244,837.

The Company also proposed an adjustment for employee merit increases to include the effect of the annual budgeted merit increases and promotions starting in April, May or June of 2017 which are not reflected in the test year. In order to reflect the appropriate annual level of payroll expense to be incurred for the annual period after the test year, the Company made an adjustment to reflect the merit increases as shown in Worksheet 33. As discussed on page 14 in the direct testimony of Company witness Ross, this adjustment was determined by prorating the annual merit increases and promotions based on implementation dates of merit increases starting in

# Kentucky Power Company KPSC Case No. 2017-00179 General Rate Adjustment Kentucky Power Company Commission Staff's Fourth Set of Data Requests Dated November 9, 2017

#### Page 2 of 2

April, May or June of 2017. Thus, for increases starting in April, May or June of 2017, the Company included eleven months, ten months or nine months, respectively, of the increases in the cost of service for the twelve months (March 2017 through February 2018) after the test year (March 2016 through February 2017). The resulting prorated merit increases total \$1,174,517. After applying corresponding O&M and retail allocation factors, the retail jurisdictional share of the cost of service increase for merit increases is \$826,770.

As a result of the merit increases starting in April, May or June of 2017, the Company's overtime expense was also adjusted to reflect the percent of the merit increases for base pay. As discussed on pages 14 and 15 in the direct testimony of Company witness Ross, this adjustment was determined by multiplying the overtime costs for the test year ended February 28, 2017 by the approved average merit increase percentages for 2017. These additional overtime costs were then prorated for 2017 based on corresponding 2017 merit implementation dates. As shown in Worksheet 34, the additional overtime costs are \$211,129. After applying corresponding O&M and retail allocation factors, the retail jurisdictional share of the cost of service increase for overtime expense related to merit increases is \$148,618.

b. The methodology described above to determine the proposed adjustments is consistent with traditional ratemaking adjustments. These adjustments are required in order to reflect the appropriate going-level of payroll costs as a result of wage and salary increases that were granted in the test year, and to include a prorated share of the wage and salary increases budgeted for the twelve months after the test year.

Witness: Tyler H. Ross

## Kentucky Power Company KPSC Case No. 2017-00179 General Rate Adjustment Kentucky Power Company

#### Kentucky Power Company

Commission Staff's Fourth Set of Data Requests Dated November 9, 2017

#### Page 1 of 2

#### **DATA REQUEST**

KPSC 4 004

Refer to Kentucky Power's response to Staff's Second Request, Item 18, and the Direct Testimony of Andrew R. Carlin, page 18.

- a. Provide the 2017 and 2018 salary increases in the format listed in Table ARC-2.
- b. Provide the test year adjustment to salary, wage and payroll tax expense if all 2016 and 2017 increases were limited to 3 percent, including any salary, wage and payroll costs allocated to Kentucky Power from affiliates. Exclude any promotional increases in the computation.
- c. Provide the hourly/craft position wage increases for 2016, 2017, and 2018.
- d. Explain whether the hourly/craft positions are under a union contract.

#### **RESPONSE**

- a. Please refer to KPCO\_R\_KPSC\_4\_004\_Attachment1\_Redacted.pdf. The Company notes that the table in witness Carlin's direct testimony, page 18 ("Table ARC-2") correctly indicates a total 19.225% increase for the Companies' executives for the years reflected in the table, including years 2015 and 2016. This total is consistent with the description in the footnote for those two years, describing a 3.5% increase for each year. The table also indicates a 3.0% increase for each of 2015 and 2016, which does not include the additional 0.5% described in the applicable footnote. The corresponding non-confidential numbers in KPCO\_R\_KPSC\_4\_004\_Attachment1\_Redacted.pdf. for years 2015 and 2016 have been corrected, consistent with the information previously provided. This modification does not affect either (a) the applicable footnote and the total percentage previously provided, or (b) the information provided in response to KPCO\_R\_KPSC\_2\_018.
- b. Please refer to KPCO\_R\_KPSC\_4\_004\_Attachment2.xlsx for the requested KPCo test year adjustment to salary, wage and payroll tax expense. These adjustments were calculated using a hypothetical salary increase based on a 2016 payroll budget, hypothetical 3% merit adjustments for 2016 and 2017 and excluding promotional adjustments. Comparing the hypothetical going level payroll expense to the test year ended February 28, 2017 payroll expense results in a \$1,083,780 reduction in Kentucky retail jurisdictional payroll expense related to 2016 increases and a \$591,323 increase in Kentucky retail jurisdictional payroll expense related to 2017 prorated 3% merit increases.

## Kentucky Power Company KPSC Case No. 2017-00179 General Rate Adjustment Kentucky Power Company Commission Staff's Fourth Set of Data Requests Dated November 9, 2017

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Test year actual overtime expense was adjusted for a 3% increase resulting in additional Kentucky retail jurisdictional payroll of \$101,280.

Kentucky retail jurisdictional test year Medicare tax expense and Social Security tax expense (payroll tax expense) were reduced by \$5,672 and \$24,274, respectively related to the three adjustments described above.

- c. Please refer to KPCO\_R\_KPSC\_4\_004\_Attachment1\_Redacted.pdf. 2018 wage increases for physical and craft employees reflect the Company's current position in labor negotiations. These wages increases are subject to collective bargaining and union ratification. They are also confidential for employee relations, employee retention and business management reasons.
- d. Yes, the wages for physical/craft Kentucky Power positions are subject to collective bargaining as part of a union contract.

Witness: Tyler H. Ross/Andrew R Carlin

	Non- exempt	Non- exempt				Page 1 of
	Salaried	Salaried	Exempt	Exempt	Executive	Executive
	(Industry) <sup>1</sup>	(Company)	(Industry) <sup>1</sup>	(Company)	(Industry) <sup>1</sup>	(Company)
2009	2.750%	0.000%	2.500%	0.000%	2.000%	0.000%
2010	2.700%	2.000%	3.000%	2.000%	2.950%	0.000%
2011	3.000%	3.200%	2.900%	3.200%	3.000%	3.200%
2012	2.750%	2.675%	3.000%	2.675%	3.000%	2.675%
2013	3.000%	3.000%	3.000%	3.000%	3.000%	3.000%
2014 <sup>2</sup>	3.000%	3.350%	3.000%	3.350%	3.000%	3.350%
2015 <sup>3</sup>	3.000%	3.500%	3.000%	3.500%	3.000%	3.500%
2016 <sup>3</sup>	3.000%	3.500%	3.000%	3.500%	3.000%	3.500%
2017 <sup>3</sup>	3.000%	3.500%	3.000%	3.500%	3.000%	3.500%
2018 <sup>4</sup>						
Total						
Difference						

Hourly/Craft Employees					
Year	Utility Industry Market Median <sup>1</sup>	The Company			
2009	2.500%	0.000%			
2010	2.850%	2.000%			
2011	2.900%	3.000%			
2012	3.000%	2.000%			
2013	3.000%	2.500%			
2014	3.000%	2.500%			
2015	3.000%	3.500% <sup>5</sup>			
2016	3.000%	3.500% <sup>5</sup>			
2017 <sup>3</sup>	3.000%	5.000% <sup>6</sup>			
2018 <sup>7</sup>					
Total Pay Increase					
Company Employee Pay Increases Compared to Market					

<sup>&</sup>lt;sup>1</sup> The Conference Board Research Report, U.S. Salary Increase Budgets for 2010-2018, actual budgets for 2010-2017 and projected for 2018.

The Company's wage increase budgets consisted of a combination of a 2.5% general increase, a 0.75% market equity adjustment for certain journey level positions and a 0.25% geographic wage equalization adjustment for certain journey level positions

<sup>&</sup>lt;sup>2</sup> The Company's wage increase budgets consisted of a 3.00% merit budget and a 0.35% Promotional & Equity Adjustment budget.

<sup>&</sup>lt;sup>3</sup> The Company's wage increase budgets consisted of a 3.00% merit budget and a 0.5% promotional and equity adjustment budget.

<sup>&</sup>lt;sup>6</sup> The Company's wage increase budgets consisted of a 3.0% general increase, a 1.00% market equity adjustment for certain journey level positions and a 1.00% geographic wage equalization adjustment for certain journey level positions <sup>7</sup> Subject to collective bargaining for union represented employees

## Kentucky Power Company KPSC Case No. 2017-00179 General Rate Adjustment Kentucky Power Company

Commission Staff's Fourth Set of Data Requests Dated November 9, 2017

#### **DATA REQUEST**

KPSC 04 005

Refer to Kentucky Power's responses to Staff's Second Request, Item 21, and Staff's Third Request, Item 7, regarding the deprecation expense for Big Sandy Unit 1.

- a. Explain whether there is a depreciation study planned, in process, or completed for the Clinch River units. If a depreciation study has been completed, provide the results.
- b. Explain whether there were any other comparable units analyzed in determining the estimated life of Big Sandy Unit 1. If so, provide the comparable information.
- c. State whether Kentucky Power is aware of proceedings in other states with respect to the estimated life of single-cycle gas generation units that have been converted from coal-fired units. If so, provide the relevant information.
- d. Provide the net capacity factor for Big Sandy Unit 1 for each month it has been in operation and the projected net capacity factor, by month, through fiscal year ending February 2021.

#### **RESPONSE**

- a. Please see KPCO\_R\_KPSC\_4\_005\_Attachment1.pdf for the most recent completed depreciation study for the Clinch River units. It was filed with the Public Service Commission of West Virginia on behalf of Appalachian Power Company, and includes proposed updated depreciation rates for the Clinch River Plant. The depreciation study was filed in Case No. 14-1151-E-D.
- b. In evaluating the remaining useful life of Big Sandy Unit 1, the Company did not analyze the lifespan of any other generating units. Kentucky Power referred to Clinch River as an example of a comparable coal-to-gas conversion and estimated life cycle. The Clinch River Plant was not relied upon in establishing the 2031 date for Big Sandy.
- c. Kentucky Power is not aware of any proceedings in other states regarding coal-to-gas converted generation units. The Company is aware of a similarly converted generation facility in Virginia owned by Dominion Power. Kentucky Power is not aware of any proceedings regarding that facility.
- d. Please refer to KPCO\_R\_KPSC\_4\_005\_Attachment2\_Redacted.pdf for the monthly net capacity factors for Big Sandy Unit 1 from June 2016 (start of gas-fired operation) through December 2020. The data from Jun 2016-Oct 2017 are actual capacity factors and the data from Oct 2017-Dec 2020 are projected. The Company does not have forecast information beyond December 2020.

Witness: Debra L Osborne/Jason A Cash

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# APPALACHIAN POWER COMPANY AND WHEELING POWER COMPANY DEPRECIATION STUDY REPORT OF ELECTRIC PLANT IN SERVICE AT DECEMBER 31, 2013

KPSC Case No. 2017-00179
Commission Staff's Fourth Set of Data Requests
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Item No. 5
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#### **DEPRECIATION STUDY REPORT**

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I. <u>INTRODUCTION</u>

This report presents the results of a depreciation study of Appalachian Power

Company's (APCo) and Wheeling Power Company's (WPCo) depreciable electric utility

plant in service at December 31, 2013. The study was prepared by David G. Hummel,

Senior Staff Accountant – Accounting Policy and Research at American Electric Power

Service Corporation (AEPSC). The purpose of the depreciation study was to develop

appropriate annual depreciation accrual rates for each of the primary plant accounts

that comprise the functional groups for which APCo and WPCo compute their annual

depreciation expense.

The recommended depreciation rates are based on the Average Remaining Life

Method of computing depreciation. Further explanation of this method is contained in

Section II of this report.

The definition of depreciation used in my study is the same as that used by the

Federal Energy Regulatory Commission (FERC) and the National Association of

Regulatory Utility Commissioners:

"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."

"Service value means the difference between original cost and the

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net salvage value (net salvage value means the salvage value of the property retired less the cost of removal) of the electric plant." (FERC Accounting and Reporting Requirements for Public Utilities and Licensees, ¶15.001.)

#### APCO Depreciation Rates

Schedule I of this report provides the recommended depreciation accrual rates by primary plant accounts and functional plant classifications including steam production plant rates through May 2015 (before the retirement of Glen Lyn, Kanawha River and Sporn generating stations). Schedule II shows the recommended steam production plant depreciation rates for June 2015 and forward after the retirement of Glen Lyn, Kanawha River and Sporn generating stations. Schedule III compares depreciation expense to rates approved by the Commission and rates recommended by the depreciation study using the steam plant depreciation rates through May 2015. Schedule IV compares steam production depreciation expense for June 2015 and forward using rates approved by the Commission and rates recommended by my depreciation study after the retirement of Glen Lyn, Kanawha River and Sporn generating stations. Schedule V compares the Transmission, Distribution and General mortality characteristics that were used to compute the existing and recommended depreciation rates and accruals. Schedule VI provides the estimated generation plant retirement dates used to calculate depreciation rates.

A comparison of APCo's current functional group composite depreciation rates and accruals to the recommended functional group rates and accruals are provided below by Table 1 (see Schedule III for detail by plant account):

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**Table 1** – APCO Depreciation Rates and Accruals Total Company Amounts Through May 2015 Based on Plant In Service at December 31, 2013

	E	Existing		Study	
Functional Plant Group	Rates	<u>Accruals</u>	<u>Rates</u>	<u>Accruals</u>	<u>Difference</u>
Steam Production (1)	2.61%	150,657,299	3.20%	184,509,803	33,852,504
Hydraulic Production	1.54%	3,408,371	2.91%	6,434,141	3,025,770
Other Production	2.48%	13,973,115	2.35%	13,252,009	-721,106
Transmission	1.65%	33,815,872	1.66%	33,959,455	143,583
Distribution	3.18%	97,834,189	3.92%	120,529,656	22,695,467
General	1.88%	3,365,029	2.22%	3,970,947	605,918
Total Depreciable Plant	2.56%	303,053,875	3.06%	362,656,011	59,602,136

Note: (1) Steam Production, before the May 31, 2015 retirement of Glen Lyn, Kanawha River and Sporn generating stations.

Based on total Company Depreciable Plant In-Service as of December 31, 2013, I am recommending an increase in depreciation rates that result in an increase in annual depreciation expense of \$59,602,136. The depreciation rate changes are necessary because of changes in average service lives and net salvage estimates used to calculate APCo's current depreciation rates. Average service lives of the Company's steam generating stations were influenced by U.S. Environmental Protection Agency (USEPA) national standards for hazardous air pollutants. The depreciation study rates shown on Table 1 (and on Schedule I) for steam production are the rates that are intended to be used through May 2015 which is before the retirement of Glen Lyn, Kanawha River and Sporn generating stations.

A comparison of APCo's current steam plant functional group composite depreciation rates and accruals to the recommended steam plant functional group rates

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and accruals after the retirement of Glen Lyn, Kanawha River and Sporn generating stations is provided below by Table 2 (See Schedule IV for a detail by plant account):

Table 2 – APCO Depreciation Rates and Accruals

Steam Production Plant

Based on Plant In Service at December 31, 2013

After Retirement of Glen Lyn, Kanawha River and Sporn Plants on May 31, 2015

	E	Existing	Study			
Functional Plant Group	Rates	<u>Accruals</u>	Rates	<u>Accruals</u>	<u>Difference</u>	
Steam Production (1)	2.64%	139,582,739	3.50%	184,509,802	44,927,063	

#### WPCo Depreciation Rates

Schedule VI of this report provides the recommended depreciation accrual rates by primary plant accounts and functional plant classifications including steam production plant rates for Mitchell plant. In Case No. 14-0546-E-PC, the transfer of an undivided one-half interest in the two units of the Mitchell plant and associated facilities was requested by WPCo. If the transfer is approved by the Commission, the depreciation study recommends the rates shown in Schedule VII for steam production to be used to depreciate WPCo's investment in Mitchell plant. Schedule VIII compares depreciation expense to rates approved by the Commission and rates recommend by the depreciation study for production plant, transmission plant, distribution plant, and general plant. Since Mitchell plant is not currently included in WPCO's plant in service, the depreciation study rates were included in both the "Current Approved Rate" and "Study Rate" columns. Schedule IX compares the Transmission, Distribution and General mortality characteristics that were used to compute the recommended depreciation rates and accruals. The mortality characteristics used to compute the existing depreciation rates and accruals are not available.

A comparison of WPCo's current functional group composite depreciation rates and accruals to the recommended functional group rates and accruals are provided

KPSC Case No. 2017-00179 Commission Staff's Fourth Set of Data Requests Dated November 9, 2017

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below by Table 3 (see Schedule VIII for detail by plant account):

**Table 3** – WPCo Depreciation Rates and Accruals

Total Company Amounts

Based on Plant In Service at December 31, 2013

	E	Existing		Study	
Functional Plant Group	Rates	Accruals	Rates	<u>Accruals</u>	<u>Difference</u>
Steam Production (1)	2.88%	25,773,581	2.88%	25,773,581	0
Transmission	2.70%	2,916,396	1.84%	1,990,828	-925,568
Distribution	3.40%	4,872,437	3.83%	5,483,877	611,440
General	3.50%	166,748	1.45%	69,074	-97,674
Total Depreciable Plant	2.93%	33,729,162	2.90%	33,317,360	-411,802

Note: (1) WPCo's proposed 50% interest in the Mitchell plant. Since Mitchell plant is not currently included in WPCo plant in service, Table 3 uses a 50% share of plant in service at December 31, 2013, and applies the study depreciation rate to both the "Existing" and "Study" amounts.

#### II. 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 as a separate group for depreciation accounting purposes and an annual depreciation rate for each account is

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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. <u>Determination of Annual Depreciation Rates by the Average Remaining Life Method</u>

APCo's and WPCo's current depreciation rates are based on the Average

Remaining Life Method. The Average Remaining Life Method recovers the

original cost of the plant, adjusted for net salvage, less accumulated

depreciation, over the average remaining life of the plant. By this method, the

annual depreciation rate for each account is determined on the following basis:

Annual

Depreciation Expense =

(Orig. Cost) (Net Salvage Ratio) – Accumulated Depreciation

Average Remaining Life

Annual

Depreciation = Annual Depreciation Expense

Rate Original Cost

3. Methods of Life Analysis

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. These methods are identified and described as

follows:

Life Span Analysis

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The life span analysis was employed for Production Plant. This includes

APCo's investment in steam, hydraulic and other generating plants and WPCo's

proposed 50% interest in Mitchell plant. The life-span method of analysis is

particularly suited to specific location property, such as a generating plant, where

all of the surviving investments are likely to be retired in total at a future date.

The key elements in the life span analysis are the age of the surviving

investments, the projected retirement date of the facility and the expected interim

retirements. Interim retirements are those that are expected to occur between

the date of the depreciation study and the expected final retirement date of the

generating plant. Examples of interim retirements include fans, pumps, motors, a

set of boiler tubes, a turbine rotor, etc. The interim retirement history for each

primary production plant account was analyzed and the results of those analyses

were used to project future interim retirements.

The age of the surviving investments was obtained from the applicable

property accounting records. American Electric Power Service Corporation

(AEPSC) provided the retirement dates used in the life-span analysis for Steam

Production Plant, Hydraulic Production Plant and Other Production Plant. A

discussion of the life analyses for Steam Production, Hydraulic Production and

Other Production Plants follows.

Steam Production Plant

APCo's depreciable investments in Steam Production Plant are the Amos,

Clinch River, Glen Lyn, Kanawha River, Mountaineer and Sporn plants. The

Amos plant is located in St. Albans, West Virginia and includes three generating

units. The Clinch River plant is located in Carbo, Virginia and consists of three

generating units. The Glen Lyn plant is located in Glen Lyn, Virginia and has two

units that are currently operating (units 5 and 6). The Kanawha River plant is

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located in Glasgow, West Virginia and has two units. The Mountaineer plant is located in New Haven, West Virginia and has one unit. The Sporn plant is located in New Haven West Virginia and has two units that are owned by APCo (units 1 and 3). All of APCo's steam production plant is coal fired. The generating units, capacities, fuel type and estimated retirement dates are shown on Schedule VI – Estimated Generation Plant Retirement Dates.

Since APCo's last depreciation study AEP has reevaluated the expected retirement dates for its steam generation plant. The reevaluated retirement dates are shown below on Table 4 including the difference in years of the estimated retirement dates from the prior depreciation study that used plant in service balances at December 31, 2005:

**Table 4 - Estimated Steam Plant Retirement Dates** 

	Estimated		
Steam Production Plants	Year Retired 2005 Study	Estimated Year Retired 2013 Study	Difference in Years from 2005
Amos			
Unit 1	2032	2040	8
Unit 2	2032	2040	8
Unit 3	2033	2040	7
Clinch River			
Unit 1	2021	2025	4
Unit 2	2021	2025	4
Unit 3	2021	2015	-6
Glen Lyn			
Unit 5	2012	2015	3
Unit 6	2015	2015	0
Kanawha River			
Unit 1	2018	2015	-3
Unit 2	2018	2015	-3
Mountaineer			
Unit 1	2040	2040	0

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Sporn

Unit 1 2018 2015 -3 Unit 3 2018 2015 -3

The reevaluation for the three Amos units indicated that their useful life should be extended by 7-8 years versus the previous estimate. Company witness LaFleur discussed the revised retirement date for Amos Plant in his testimony in the Virginia asset transfer case number PUE-2012-00141.

Clinch River Unit 3 is planned for retirement in 2015 along with Glen Lyn, Kanawha River and Sporn plants. According to company witness LaFleur, the 2015 retirement date for these plants/units is influenced by USEPA rulemaking which would require an array of cost-prohibitive environmental retrofits.

APCo plans to convert Clinch River Units 1 and 2 to burn natural gas and estimates that the converted units will be retired in 2025. Consequently, Clinch River Plant's depreciation rate calculation provides for the retirement of Unit 3 and the coal related portions of Units 1 and 2 plus net salvage and recovers these remaining costs through 2025. APCo received a certificate of public convenience and necessity from the Virginia State Corporation Commission in Case No. PUE-2013-00057 and from the Public Service Commission of West Virginia in Case Number 13-0764-E-CN to convert Units 1 and 2 to gas.

Depreciation rates for Amos, Glen Lyn, Kanawha River, Mountaineer and Sporn plants are calculated by plant account by combining the original cost and accumulated depreciation for these facilities. The depreciation rates produced by the calculation are intended to recover the remaining cost for all of these plants including net salvage over the remaining life of Amos and Mountaineer which are both expected to retire in 2040. Two sets of depreciation rates by plant account are developed for these plants in the depreciation study. The first set of rates would be used through May 2015 before the retirement of Glen Lyn, Kanawha River and Sporn plants. The second set of rates would be used from June 2015 forward for Amos and Mountaineer plants after the retirements and would not

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change until the Company files for a change in rates in a future rate proceeding.

The depreciation rates before and after the retirements were intended to produce

a level amount of depreciation expense by plant account.

WPCo's proposed depreciable investment in Steam Production Plant is a

50% interest in Mitchell plant. Mitchell plant is located near Moundsville, WV and

has two units. Kentucky Power Company (KPCo) has a 50% interest in the plant

and is the plant's operator. AEP Generation Resources (AGR) owns the other

50% interest in the plant. If approved by the Commission, AGR's 50% interest

would be transferred to WPCo. Mitchell plant is coal fired with an estimated

retirement year of 2040.

Hydraulic Production Plant

APCo's investment in Hydraulic Production plant consists of the Buck,

Byllesby, Claytor, Leesville, London, Marmet, Niagara, Reusens, Smith Mountain

and Winfield plants. The plants consist of a number of generating units that have

been placed into commercial operation over the period from 1903 through 1965.

There was no change in the estimated retirement year for the hydraulic plants in

the current depreciation study versus the prior depreciation study which used

plant in service balances at December 31, 2005. The hydraulic plants, capacities,

estimated year to be retired and life span are shown on Table 5 below (and also

on Schedule VI):

**Table 5 - Estimated Hydraulic Plant Retirement Dates** 

Life Capacity Year Year Span Plant (MW) Installed Retired (Years)

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Hydraulic Production Plant				
Buck	8.5	1912	2024	112
Byllesby	21.6	1912	2024	112
Claytor	75.0	1939	2041	102
Niagara	2.4	1906	2024	118
Reusens	12.5	1903	2024	121
Leesville	50.0	1964	2040	76
London	14.4	1935	2044	109
Marmet	14.4	1935	2044	109
Winfield	14.8	1938	2044	106
Smith Mountain	586.0	1965	2040	75

#### Other Production Plant

APCo's depreciable investment in Other Production plant consists of the Ceredo and Dresden plants. The other production plants, capacities, estimated year to be retired and life span are shown on Table 6 below (and also on Schedule VI):

**Table 6 - Estimated Other Production Plant Retirement Dates** 

Plant	Capacity (MW)	Year Installed	Year Retired	Life Span (Years)
Other Production Plant				
Ceredo	505.0	2001	2041	40
Dresden	580.0	2012	2047	35

APCo acquired the Ceredo Plant from a subsidiary of Reliant Energy. This generating plant is a natural gas, simple cycle power plant with a nominal generating capacity of 505 megawatts. AEP's Pro Serve Subsidiary built the plant

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for Columbia Energy. It was completed and began commercial operation in 2001.

There was no change in the estimated retirement year for Ceredo plant in the

current depreciation study versus the prior depreciation study which used plant in

service balances at December 31, 2005.

AEP acquired the Dresden Plant in 2007 from Dresden Energy LLC (a

subsidiary of Dominion). The Dresden Plant is a natural gas combined cycle plant

with a nominal generating capacity of 580 megawatts. When acquired, the

Dresden Plant was under construction and was subsequently completed in 2012

when the plant was placed in service. Since the Dresden Plant was not

completed until 2012, it was not included in the Company's prior depreciation

study dated December 31, 2005.

AEPSC estimates that the Dresden Plant will have a 35 year life. The

depreciation study recommended depreciation rates for Dresden are based on the

35 year life including net salvage.

Actuarial Analysis – Transmission, Distribution and General Plant

The actuarial method of analyzing past experience represents the

application to industrial 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 retirements during

each age interval to exposures at the beginning of that interval, the ratio of these

being the annual retirement ratio. Subtracting each retirement ratio from unity

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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 the stub survivor curve in order to compute the area under it from which

the average life is determined, the well-known lowa 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 lowa curves of the

various types and average lives drawn to the same scale, and then determining

which lowa type curve and average life best matches the stub.

The Actuarial Method of Life Analysis was used for the following accounts:

352.0 Transmission Structures & Improvements

353.0 Transmission Station Equipment

361.0 Distribution Structures & Improvements

362.0 Distribution Station Equipment

390.0 General Structures & Improvements

The result of the actuarial analysis for the above accounts is detailed in

the depreciation study work papers.

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Simulated Plant Record Analysis – Transmission and Distribution Plant

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

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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:

- 354.0 Transmission Towers & Fixtures
- 355.0 Transmission Poles & Fixtures
- 356.0 OH Conductor & Devices
- 357.0 Underground Conduit
- 358.0 Underground Conductor
- 364.0 Distribution Poles, Towers & Fixtures
- 365.0 Distribution OH Conductor & Devices
- 366.0 Underground Conduit
- 367.0 Underground Conductor & Devices
- 368.0 Distribution Line Transformers
- 369.0 Distribution Services
- 370.0 Distribution Meters
- 371.0 Installation on Customers Premises
- 372.0 Leased Property on Customers Premises
- 373.0 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 Federal Energy Regulatory

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Commission 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, my recommendation for these accounts is that the current

useful life approved by the Commission be retained and used to continue

amortization of the account balances.

4. Final Selection of Average Life and Curve Type

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.

III. <u>NET SALVAGE</u>

Net Salvage - Steam Production Plant

The net salvage analysis for steam production plant included a review of

the Company's experienced functional interim retirement, salvage and removal

history for the period 1996-2013. This interim salvage analysis calculates annual

life to date salvage, removal and net salvage percentages as compared to

original cost retirements.

While this type of analysis was used to determine the net salvage

applicable to interim retirements for steam production plant, the most significant

net salvage amounts for generating plants occurs at the end of their life.

Therefore, to assist in establishing total net salvage applicable to steam

generating plant, APCo contracted with Brandenburg Industrial Service Company

(Brandenburg) to prepare conceptual demolition cost estimates in 2011 for its

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steam production plants. The 2011 Brandenburg cost estimates were inflated to

2013 to bring the estimated cost to the date of the depreciation study. The

estimates of demolition costs were incorporated into the net salvage ratios for

Steam Production Plant. Brandenburg's demolition cost estimates do not include

Asset Retirement Obligation (ARO) amounts associated with the removal of

asbestos or any cost associated with the final disposition of landfills and ash

ponds since accretion and depreciation associated with these AROs are included

separately in APCo's cost of service.

A conceptual demolition cost estimate for Mitchell plant was prepared by

Sargent & Lundy, LLC (S&L) in 2012. S&L's cost estimate was inflated to 2013

to bring the estimated cost to the date of the depreciation study. The estimate of

demolition costs was incorporated into the net salvage ratios for Mitchell Plant.

S&L's demolition cost estimate does not include Asset Retirement Obligation

(ARO) amounts associated with the removal of asbestos or any cost associated

with the final disposition of landfills and ash ponds since accretion and

depreciation associated with these AROs are included separately in APCo's cost

of service.

Net Salvage - Hydraulic Plant

The Hydraulic Plant negative net salvage percentage of -15% is based on

an analysis of interim net salvage rates for the period from 1996 to 2013. The

negative net salvage rate changed from -13% in the prior depreciation study to -

15% in this study.

3. Net Salvage - Other Production Plant

The interim net salvage analysis for other production plant included a

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review of the Company's experienced functional interim retirement, salvage and

removal history for the period 2006 - 2013.

The results of the interim net salvage analysis for Other Production Plant, was combined with a terminal net salvage estimate to produce a net salvage ratio used in the depreciation rate calculation. Similar to Steam Production Plant, APCo contracted with Brandenburg Industrial Service Company (Brandenburg) to prepare conceptual demolition cost estimates in 2011 for its Ceredo Plant and in 2013 for its Dresden Plant. The 2011 Brandenburg cost estimate was inflated

to 2013 to bring the estimated cost to the date of the depreciation study. The

estimates of demolition costs were incorporated into the net salvage ratios for

Other Production Plant.

4. Net Salvage – Transmission, Distribution and General Plant

The net salvage percentages used in this report for Transmission,

Distribution and General Plant are expressed as percent of original cost and are

based on the Company's experience combined with the judgment of the analyst.

The net salvage analysis included a review of the Company's experienced

interim retirement, salvage and removal history by account for the period 2001-

2013 (for several accounts history was not available for this entire period). The

salvage and removal percentages for each account were then netted to

determine a net salvage percentage for each account.

The net salvage percents were converted to net salvage ratios (1 minus

the net salvage percentage) and appear in Column IV on Schedule I (APCo) or

Schedule VII (WPCo) and were used to determine the total amount to be

recovered through depreciation. The same net salvage ratio was also reflected

in the determination of the calculated depreciation requirement (theoretical

reserve).

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Net Salvage – Ratios

The net salvage ratios shown in Column IV on Schedule I (APCO) or

Schedule VII (WPCo) 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 .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.

IV. CALCULATION OF DEPRECIATION REQUIREMENT AT DECEMBER 31, 2013

A calculation of a depreciation requirement (theoretical reserve) for each

plant account using the average service life, curve type and net salvage amount

recommended in this study is provided in Column VI of Schedule I (APCo) or

Schedule VII (WPCo).

V. STUDY RESULTS - APCo

Production, Transmission, Distribution and General plant results are

discussed below. In addition, Transmission, Distribution and General Plant

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average service life, retirement dispersion pattern and net salvage percentages

used to calculate each primary plant account depreciation rate are shown on

Schedule V. 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 historical retirement experience. Gross salvage and gross cost

of removal percentages for Transmission, Distribution and General plant were

largely based on the history of the account for the period 2001-2013.

**Steam Production Plant** 

The depreciation rates for Steam Production Plant increased from 2.61%

to 3.20% primarily due to a \$3.3 billion increase in plant investment (primarily in

pollution control equipment) as compared to the currently approved depreciation

rates which were based on depreciable plant in service at December 31, 2005.

The increase is partially offset by the depreciation study's proposed extension of

the recovery of the remaining value of Glen Lyn, Kanawha River, and Sporn

plants which are scheduled to be retired in 2015 through the remaining life of

Amos and Mountaineer plants which are scheduled to be retired in 2040.

According to AEPSC, the earlier retirement date for Glen Lyn, Kanawha

River and Sporn plants was influenced by USEPA rulemaking which would

require an array of cost-prohibitive environmental retrofits.

Similar to Glen Lyn, Kanawha River and Sporn Plants, APCo plans to

retire Clinch River's Unit 3 and the coal related portions of Clinch River Units 1

and 2 in 2015 and to convert the remaining portions of Clinch River Units 1 and 2

to burn natural gas. APCo expects the converted Units 1 and 2 to operate until

2025. The depreciation rate decrease for Clinch River Plant is due to the longer

recovery period through 2025 versus the 2021 retirement date used in the 2005

depreciation study.

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As in the prior study, demolition costs are included in the depreciation

rates. The estimates of demolition costs were developed by Brandenburg

Industrial Services Company.

Hydraulic Production Plant

The depreciation rates for Hydraulic plant increased from 1.54% to 2.91%

primarily due to an increase in the net salvage ratio (1 minus the net salvage

rate) from 1.07 to 1.15. Also contributing to the increase was an increase in plant

investment along with a decrease in the average remaining life since the

Company's last depreciation study using plant in service amounts at December

31, 2005.

Other Production Plant

Depreciation rates for Other Production plant decreased from 2.48% to

2.35% due to a decrease in Ceredo Plant's net salvage ratio (1 minus the net

salvage rate) from 1.08 to 1.00. The Dresden plant is included in this analysis at

an average depreciation rate of 3.01. The Dresden plant was placed in service in

2012 and was not included in the Company's last depreciation rate change which

was based on plant in service as of December 31, 2005.

**Transmission Plant** 

The depreciation rates for Transmission plant increased from 1.65% to

1.66% due to an increase in the net salvage ratio for account 352 and decreases

in the average service life for four accounts (accounts 354, 356, 357 and 358).

The increase was partially offset by a decrease in the net salvage ratio for

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account 356 and increases in the average service life for three accounts

(accounts 352, 353 and 355).

**Distribution Plant** 

The depreciation rates for Distribution plant increased from 3.18% to

3.92% due to increases in the net salvage ratio for eight accounts (accounts 361,

362, 364, 365, 368, 369, 371 and 373) and a decrease in the average service life

for six accounts (accounts 364, 365, 368, 369, 371 and 373). The rate increase

was partially offset by an increase in average service life for four accounts

(account 361, 362, 366 and 367).

**General Plant** 

The depreciation rate for General plant increased from 1.88% to 2.22%

due to increases in the net salvage ratio for five accounts (accounts 390, 391,

392, 394 and 397). The increase was partially offset by an increase in the

average service life for account 390.

VI. STUDY RESULTS - WPCo

Production, Transmission, Distribution and General plant results are

discussed below. In addition, Transmission, Distribution and General Plant

average service life, retirement dispersion pattern and net salvage percentages

used to calculate each primary plant account depreciation rate are shown on

Schedule IX. 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 historical retirement experience. Gross salvage and gross cost

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of removal percentages for Transmission, Distribution and General plant were

largely based on the history of the account for the period 2001-2013.

Steam Production Plant

Mitchell plant is included in this analysis at an average depreciation rate of

2.88%. Since Mitchell plant was not previously included in WPCo's plant in

service balance, the depreciation study calculated depreciation rates were used

for both the current annual accrual and the study accrual on WPCo comparison

Schedule II. Use of the same depreciation rates for the current and study

accruals, causes no difference in the calculated depreciation expense which is

appropriate since this is the first opportunity for the Commission to approve

depreciation rates for the plant.

Demolition costs are included in the depreciation rates. The estimates of

demolition costs were developed by Sargent & Lundy, LLC.

**Transmission Plant** 

The depreciation rates for Transmission plant decreased from 2.70% to

1.84%. Since the average service lives and net salvage values which are the

bases for the current depreciation rates are not available, an analysis of the

causes of the change in the depreciation rate was not made.

**Distribution Plant** 

The depreciation rates for Distribution plant increased from 3.40% to

3.83%. Since the average service lives and net salvage values which are the

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bases for the current depreciation rates are not available, an analysis of the

causes of the change in the depreciation rate was not made.

**General Plant** 

The depreciation rate for General plant decreased from 3.50% to 1.45%.

Since the average service lives and net salvage values which are the bases for

the current depreciation rates are not available, an analysis of the causes of the

change in the depreciation rate was not made.

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#### VII. EXPLANATION OF COLUMN HEADINGS SCHEDULE I AND SCHEDULE VII

Schedule I (APCo) and Schedule VII (WPCo) show 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 at December 31, 2013

Column IV - Net Salvage Ratio

Column V - Total to be Recovered (Column III) \* (Column IV).

Column VI - Calculated Depreciation Requirement

Column VII - Allocated Accumulated Depreciation

Column VIII - Remaining Amount (Column V - Column VII)

Column IX - Average Remaining Life

Column X - Recommended Annual Accrual Amount

Column XI - Recommended Annual Accrual Percent or Depreciation Rate

(Column X/Column III)

# APPALACHIAN POWER COMPANY SCHEDULE I - CALCULATION OF DEPRECIATION RATES BY THE REMAINING LIFE METHOD (STEAM PRODUCTION DEPRECIATION RATES THROUGH MAY 2015) BASED ON PLANT IN SERVICE AT DECEMBER 31, 2013

WV	BASED ON PLANT IN SERVICE AT DECEMBER 31, 2013									
ACCT NO (I)	ACCOUNT TITLE (II)	ORIGINAL COST (III)	NET SALVG. RATIO (IV)	TOTAL TO BE RECOVERED (V)	THEORETICAL RESERVE (VI)	ACCUMULATED DEPRECIATION (VII)	REMAINING AMOUNT (VIII)	AVG. REMAIN LIFE (IX)	ANNUAL ACCRUAL (X)	DEPR. RATE (XI)
STE	AM PRODUCTION PLANT									
	<b>AMOS UNITS 1&amp;2 (1)</b>									
311 312 312 314 315 316	Structures & Improvements Boiler Plant Equipment Boiler Plant Equip. SCR Catalyst Turbogenerator Units Accessory Electrical Equip. Misc. Power Plant Equip.	43,227,781 1,310,182,600 20,422,274 120,924,588 40,140,776 10,235,121	1.01 1.05 1.00 1.06 1.02 1.03	43,660,059 1,375,691,730 20,422,274 128,180,063 40,943,592 10,542,175	22,106,882 371,503,117 7,695,694 56,816,558 21,085,371 4,169,836	26,991,305 362,515,303 7,695,694 8,651,994 8,603,491 2,409,136	16,668,754 1,013,176,427 12,726,580 119,528,069 32,340,101 8,133,039	26.08 24.67 11.00 23.94 25.73 25.20	918,643 37,462,965 1,856,385 2,947,059 719,314 216,167	2.13% 2.86% 9.09% 2.44% 1.79% 2.11%
	Total	1,545,133,140	1.05	1,619,439,892	483,377,458	416,866,923	1,202,572,969		44,120,533	2.86%
	<b>AMOS UNIT 3 (1) (2)</b>	<del></del>								
311 312 312 314 315 316	Structures & Improvements Boiler Plant Equipment Boiler Plant Equip. SCR Catalyst Turbogenerator Units Accessory Electrical Equip. Misc. Power Plant Equip. Total	100,183,997 1,465,418,812 17,384,535 102,998,245 27,371,090 23,580,469	1.01 1.05 1.00 1.06 1.02 1.03	101,185,837 1,538,689,753 17,384,535 109,178,140 27,918,512 24,287,883 1,818,644,659	42,373,120 376,611,944 8,229,144 46,423,646 15,280,523 11,099,892 500,018,269	42,353,296 284,033,668 8,229,144 29,131,284 14,812,556 9,112,919	58,832,541 1,254,656,085 9,155,391 80,046,856 13,105,956 15,174,964 1,430,971,792	26.08 24.67 8.00 23.94 25.73 25.20	2,129,031 41,901,742 2,173,067 2,510,175 490,484 498,023	2.13% 2.86% 12.50% 2.44% 1.79% 2.11%
	CLINCH RIVER (3)									
311 312 314 315 316	Structures & Improvements Boiler Plant Equipment Turbogenerator Units Accessory Electrical Equip. Misc. Power Plant Equip.	40,937,155 289,789,652 60,077,414 13,896,178 7,276,925	1.01 1.01 1.02 1.01 1.01	41,346,527 292,687,549 61,278,962 14,035,140 <u>7,349,694</u>	33,830,084 208,433,184 48,768,834 11,148,809 <u>5,416,423</u>	28,716,589 118,753,004 44,595,857 9,924,567 <u>3,998,672</u>	12,629,938 173,934,545 16,683,105 4,110,573 3,351,022	6.17 6.12 7.87 8.08 7.11	2,046,991 28,420,677 2,119,835 508,734 471,311	5.00% 9.81% 3.53% 3.66% 6.48%
	Total	411,977,324	1.01	416,697,871	307,597,334	205,988,689	210,709,182		33,567,550	8.15%
	<u>GLEN LYN UNIT 5 - (1) (4)</u>									
311 312 314 315 316	Structures & Improvements Boiler Plant Equipment Turbogenerator Units Accessory Electrical Equip. Misc. Power Plant Equip. Total	3,203,526 25,429,843 6,576,230 2,369,413 220,080	1.02 1.02 1.02 1.02 1.02	3,267,597 25,938,440 6,707,755 2,416,801 224,482 38,555,074	3,102,232 24,207,662 6,240,501 2,245,397 192,715	3,184,755 23,608,615 6,349,351 2,173,744 187,076	82,842 2,329,825 358,404 243,057 <u>37,406</u>	1.50 1.49 1.49 1.50 1.50	68,079 727,133 160,270 42,459 <u>4,648</u>	2.13% 2.86% 2.44% 1.79% 2.11%
		51,177,072	1.02	30,333,074	<u> 33,700,307</u>	33,303,341	<u>3,031,333</u>		1,002,507	2.0370
311 312 314 315 316	Structures & Improvements Boiler Plant Equipment Turbogenerator Units Accessory Electrical Equip. Misc. Power Plant Equip. Total	12,873,332 72,071,697 21,820,646 6,291,287 4,381,958 117,438,920	1.02 1.02 1.02 1.02 1.02	13,130,799 73,513,131 22,257,059 6,417,113 4,469,597	12,573,622 68,939,663 21,186,248 6,110,758 4,116,176	11,552,131 60,781,111 20,495,821 5,432,393 3,197,366	1,578,668 12,732,020 1,761,238 984,720 1,272,231 18,328,876	1.50 1.49 1.49 1.50 1.50	273,574 2,060,796 531,792 112,739 92,548 3,071,449	2.13% 2.86% 2.44% 1.79% 2.11% 2.62%
	KANAWHA RIVER - (1) (4)									
311 312 314 315 316	Structures & Improvements Boiler Plant Equipment Turbogenerator Units Accessory Electrical Equip. Misc. Power Plant Equip.	18,673,613 124,776,523 33,878,466 9,108,432 <u>6,714,237</u>	0.99 0.99 0.99 0.99	18,486,877 123,528,758 33,539,681 9,017,348 <u>6,647,095</u>	17,825,213 115,843,670 31,988,172 8,633,086 6,154,960	16,182,088 74,423,813 29,818,432 7,998,530 4,165,634	2,304,789 49,104,945 3,721,249 1,018,818 2,481,461	1.50 1.49 1.49 1.50 1.50	396,837 3,567,822 825,654 163,221 141,806	2.13% 2.86% 2.44% 1.79% 2.11%
	Total	<u>193,151,271</u>	0.99	191,219,758	180,445,101	132,588,497	58,631,261		<u>5,095,340</u>	2.64%
311 312 312 314 315 316	MOUNTAINEER (1)  Structures & Improvements Boiler Plant Equipment Boiler Plant Equip. SCR Catalyst Turbogenerator Units Accessory Electrical Equip. Misc. Power Plant Equip.  Total	194,148,184 1,119,863,999 16,652,662 110,201,667 68,312,795 20,297,934	1.01 1.05 1.00 1.07 1.02 1.04	196,089,666 1,175,857,199 16,652,662 117,915,784 69,679,051 21,109,851	76,937,325 444,265,463 6,586,254 55,128,776 37,902,341 10,061,705	59,471,012 333,872,269 6,586,254 56,079,522 41,722,910 10,018,897	136,618,654 841,984,930 10,066,408 61,836,262 27,956,141 11,090,954	26.08 24.67 8.00 23.94 25.73 25.20	4,125,884 32,021,052 2,081,583 2,685,730 1,224,151 428,695	2.13% 2.86% 12.50% 2.44% 1.79% 2.11%
	TOTAL	<u>1,547,411,441</u>	1.04	<u>1,371,304,413</u>	030,001,004	<u>501,130,004</u>	1,002,333,349		<u>+4,507,093</u>	4.1070

# APPALACHIAN POWER COMPANY SCHEDULE I - CALCULATION OF DEPRECIATION RATES BY THE REMAINNG LIFE METHOD (STEAM PRODUCTION DEPRECIATION RATES THROUGH MAY 2015) BASED ON PLANT IN SERVICE AT DECEMBER 31, 2013

WV		<b>D</b> F	ASED ON	FLANT IN SEN	VICE AT DEC	ENIDER 31, 201.	3			
ACCT NO	ACCOUNT TITLE	ORIGINAL COST	NET SALVG. RATIO	TOTAL TO BE RECOVERED	THEORETICAL RESERVE	ACCUMULATED DEPRECIATION	REMAINING AMOUNT	AVG. REMAIN LIFE	ANNUAL ACCRUAL	DEPR. RATE
(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)	(IX)	(X)	(XI)
	<b>SPORN</b> (1) (4)									
311	Structures & Improvements	12,885,998	1.01	13,014,858	12,516,332	11,837,988	1,176,870	1.50	273,843	2.13%
312	Boiler Plant Equipment	90,451,731	1.01	91,356,248	85,504,107	73,834,772	17,521,476	1.49	2,586,349	2.86%
314	Turbogenerator Units	21,013,630	1.01	21,223,766	20,183,522	18,157,047	3,066,719	1.49	512,124	2.44%
315	Accessory Electrical Equip.	7,598,808	1.01	7,674,796	7,336,699	6,620,054	1,054,742	1.50	136,169	1.79%
316	Misc. Power Plant Equip.	4,134,456	1.01	4,175,801	3,927,831	<u>3,309,340</u>	866,461	1.50	<u>87,320</u>	2.11%
	Total	136,084,623	1.01	137,445,469	129,468,491	<u>113,759,201</u>	23,686,268		<u>3,595,805</u>	2.64%
	<u>OTHER</u>									
311	Centralized Maintenence	85,770	1.00	85,770	40,119	26,434	59,336	26.08	2,275	2.65%
316	Central Machine Shop	15,478,432	1.00	15,478,432	6,070,413	3,999,763	11,478,669	25.20	455,503	2.94%
311	Little Broad Run Ash Disposal	267,028	1.00	267,028	31,596	20,818	246,210	26.08	9,441	3.54%
312	Little Broad Run Ash Disposal	37,855,651	1.00	37,855,651	8,132,579	5,358,513	32,497,138	24.67	1,317,274	3.48%
315	Little Broad Run Ash Disposal	64,843	1.00	64,843	<u>3,572</u>	<u>2,354</u>	<u>62,489</u>	25.73	<u>2,429</u>	3.75%
	Total	53,751,724	1.00	53,751,724	14,278,279	9,407,882	44,343,842		1,786,921	3.32%
То	tal Steam Production Plant	5,761,750,483	1.04	5,992,846,359	2,394,981,770	1,910,997,286	4,081,849,073	22.12	184,509,803	3.20%
HYI	DRAULIC PRODUCTION PLANT	<u>r</u>								
	<u>BUCK</u>									
331	Structures & Improvements	326,505	1.15	375,481	320,936	240,028	135,453	10.42	12,999	3.98%
332	Reservoirs, Dams & Waterways	5,823,685	1.15	6,697,238	4,670,595	3,096,973	3,600,265	10.44	344,853	5.92%
333	Waterwheels, Turbines & Gen.	1,831,391	1.15	2,106,100	1,478,907	1,270,487	835,613	10.28	81,285	4.44%
334	Accessory Electrical Equip.	2,499,664	1.15	2,874,614	1,812,668	1,276,807	1,597,807	10.10	158,199	6.33%
335	Misc. Power Plant Equip.	250,453	1.15	288,021	184,374	84,512	203,509	10.31	19,739	7.88%
336	Roads, Railroads & Bridges	<u>3,437</u>	1.15	3,953	<u>3,528</u>	<u>2,849</u>	<u>1,104</u>	10.50	<u>105</u>	3.06%
	Total	10,735,135	1.15	12,345,405	8,471,008	<u>5,971,656</u>	6,373,749		<u>617,180</u>	5.75%
	BYLLESBY									
331	Structures & Improvements	862,690	1.15	992,094	781,851	412,221	579,873	10.42	55,650	6.45%
332	Reservoirs, Dams & Waterways	5,839,487	1.15	6,715,410	4,352,455	1,359,475	5,355,935	10.44	513,021	8.79%
333	Waterwheels, Turbines & Gen.	2,377,068	1.15	2,733,628	1,952,592	1,053,271	1,680,357	10.28	163,459	6.88%
334	Accessory Electrical Equip.	847,610	1.15	974,752	781,409	710,098	264,654	10.10	26,203	3.09%
335	Misc. Power Plant Equip.	786,032	1.15	903,937	504,982	<u>248,377</u>	655,560	10.31	<u>63,585</u>	8.09%
	Total	10,712,887	1.15	12,319,820	8,373,289	3,783,442	<u>8,536,378</u>		<u>821,918</u>	7.67%
	<u>CLAYTOR</u>									
331	Structures & Improvements	2,056,809	1.15	2,365,330	1,315,240	1,307,147	1,058,183	26.97	39,236	1.91%
332	Reservoirs, Dams & Waterways	10,006,198	1.15	11,507,128	7,526,887	8,327,358	3,179,770	27.08	117,421	1.17%
333	Waterwheels, Turbines & Gen.	2,248,329	1.15	2,585,578	1,751,945	1,843,962	741,616	25.99	28,535	1.27%
334	Accessory Electrical Equip.	2,945,552	1.15	3,387,385	1,698,471	1,679,473	1,707,912	24.74	69,034	2.34%
335	Misc. Power Plant Equip.	2,466,734	1.15	2,836,744	1,058,011	980,426	1,856,318	26.21	70,825	2.87%
336	Roads, Railroads & Bridges	31,799	1.15	<u>36,569</u>	<u>26,479</u>	<u>30,506</u>	<u>6,063</u>	27.50	<u>220</u>	0.69%
	Total	<u>19,755,421</u>	1.15	22,718,734	13,377,033	<u>14,168,872</u>	<u>8,549,862</u>		325,271	1.65%
	<u>LEESVILLE</u>									
331	Structures & Improvements	2,198,172	1.15	2,527,898	1,630,891	2,063,536	464,362	26.01	17,853	0.81%
332	Reservoirs, Dams & Waterways	10,572,221	1.15	12,158,054	6,808,428	7,269,426	4,888,628	26.11	187,232	1.77%
333	Waterwheels, Turbines & Gen.	3,380,758	1.15	3,887,872	2,430,718	2,787,618	1,100,254	25.10	43,835	1.30%
334 335	Accessory Electrical Equip.	810,415	1.15	931,977	501,668	433,458	498,519	23.94	20,824 38 427	2.57%
335 336	Misc. Power Plant Equip. Roads, Railroads & Bridges	1,519,564 80,790	1.15 1.15	1,747,499 <u>92,909</u>	858,291 <u>60,440</u>	774,921 <u>80,060</u>	972,578 <u>12,849</u>	25.31 26.50	38,427 485	2.53% 0.60%
550								<b>20.JU</b>		
	Total	<u>18,561,920</u>	1.15	21,346,208	12,290,436	13,409,019	7,937,189		<u>308,655</u>	1.66%

# APPALACHIAN POWER COMPANY SCHEDULE I - CALCULATION OF DEPRECIATION RATES BY THE REMAINNG LIFE METHOD (STEAM PRODUCTION DEPRECIATION RATES THROUGH MAY 2015) BASED ON PLANT IN SERVICE AT DECEMBER 31, 2013

WV	BASED ON PLANT IN SERVICE AT DECEMBER 31, 2013 WV									
ACCT NO (I)	ACCOUNT TITLE (II)	ORIGINAL COST (III)	NET SALVG. RATIO (IV)	TOTAL TO BE RECOVERED (V)	THEORETICAL RESERVE (VI)	ACCUMULATED DEPRECIATION (VII)	REMAINING AMOUNT (VIII)	AVG. REMAIN LIFE (IX)	ANNUAL ACCRUAL (X)	DEPR. RATE (XI)
	LONDON									
331	Structures & Improvements	536,856	1.15	617,384	334,167	117,411	499,973	29.85	16,750	3.12%
332	Reservoirs, Dams & Waterways	1,369,743	1.15	1,575,204	722,798	570,313	1,004,891	29.99	33,508	2.45%
333	Waterwheels, Turbines & Gen.	2,632,258	1.15	3,027,097	1,350,515	*	2,274,598	28.64	79,420	3.02%
334	Accessory Electrical Equip.	1,868,915	1.15	2,149,252	1,021,592	,	1,333,390	27.11	49,184	2.63%
335 336	Misc. Power Plant Equip. Roads, Railroads & Bridges	412,306 48,853	1.15 1.15	474,152 <u>56,181</u>	164,336 <u>34,375</u>		359,795 20,498	28.92 30.50	12,441 <u>672</u>	3.02% 1.38%
	Total	6,868,931	1.15	7,899,271	3,627,783		5,493,146		191,975	2.79%
		0,000,731	1.13	1,077,271	<u>3,027,703</u>	<u>2,400,123</u>	<u>5,475,140</u>		<u>171,775</u>	2.17/0
	<u>MARMET</u>									
331	Structures & Improvements	599,168	1.15	689,043	386,973	336,225	352,818	29.85	11,820	1.97%
332	Reservoirs, Dams & Waterways	1,876,778	1.15	2,158,295	793,029	*	1,659,868	29.99	55,347	2.95%
333	Waterwheels, Turbines & Gen.	2,603,361	1.15	2,993,865	1,280,008		2,401,961	28.64	83,867	3.22%
334	Accessory Electrical Equip.	2,162,426	1.15	2,486,790	1,172,877	902,793	1,583,997	27.11	58,429	2.70%
335 336	Misc. Power Plant Equip. Roads, Railroads & Bridges	567,122 1,275	1.15 1.15	652,190 <u>1,466</u>	247,267 <u>901</u>	177,057 <u>961</u>	475,133 505	28.92 30.50	16,429 <u>17</u>	2.90% 1.30%
330	,							30.30		
	Total	7,810,130	1.15	8,981,650	3,881,055	<u>2,507,367</u>	6,474,283		225,909	2.89%
	<u>NIAGARA</u>									
331	Structures & Improvements	196,124	1.15	225,543	192,451	180,027	45,516	10.42	4,368	2.23%
332	Reservoirs, Dams & Waterways	4,904,258	1.15	5,639,897	3,859,415	2,343,191	3,296,706	10.44	315,776	6.44%
333	Waterwheels, Turbines & Gen.	628,318	1.15	722,566	522,889		273,256	10.28	26,581	4.23%
334	Accessory Electrical Equip.	213,394	1.15	245,403	180,349	*	134,994	10.10	13,366	6.26%
335	Misc. Power Plant Equip.	<u>236,941</u>	1.15	<u>272,482</u>	180,795	<u>133,668</u>	<u>138,814</u>	10.31	<u>13,464</u>	5.68%
	Total	<u>6,179,035</u>	1.15	7,105,890	4,935,899	3,216,605	3,889,285		<u>373,556</u>	6.05%
	REUSENS									
331	Structures & Improvements	485,336	1.15	558,136	304,061	168,693	389,443	10.42	37,375	7.70%
332	Reservoirs, Dams & Waterways	1,610,589	1.15	1,852,177	1,346,113	675,448	1,176,729	10.44	112,714	7.00%
333	Waterwheels, Turbines & Gen.	2,551,573	1.15	2,934,309	1,886,560	874,949	2,059,360	10.28	200,327	7.85%
334	Accessory Electrical Equip.	898,460	1.15	1,033,229	739,764	*	546,686	10.10	54,127	6.02%
335	Misc. Power Plant Equip.	600,505	1.15	<u>690,581</u>	<u>328,614</u>	<u>165,547</u>	<u>525,034</u>	10.31	<u>50,925</u>	8.48%
	Total	<u>6,146,463</u>	1.15	7,068,432	4,605,112	<u>2,371,180</u>	4,697,252		<u>455,467</u>	7.41%
	SMITH MOUNTAIN									
331	Structures & Improvements	12,266,136	1.15	14,106,056	8,517,351	10,555,000	3,551,056	26.01	136,527	1.11%
332	Reservoirs, Dams & Waterways	26,088,428	1.15	30,001,692	18,348,253	, , ,	6,622,786	26.11	253,649	0.97%
333	Waterwheels, Turbines & Gen.	66,418,567	1.15	76,381,352	36,630,742	31,415,757	44,965,595	25.10	1,791,458	2.70%
334	Accessory Electrical Equip.	8,788,116	1.15	10,106,333	4,683,975	3,488,776	6,617,557	23.94	276,423	3.15%
335	Misc. Power Plant Equip.	9,220,140	1.15	10,603,161	3,654,274	, ,	8,276,574	25.31	327,008	3.55%
336	Roads, Railroads & Bridges	1,052,133	1.15	1,209,953	753,204	<u>1,007,026</u>	202,927	26.50	<u>7,658</u>	0.73%
	Total Smith Mountain	123,833,520	1.15	<u>142,408,548</u>	<u>72,587,799</u>	<u>72,172,052</u>	<u>70,236,496</u>		<u>2,792,722</u>	2.26%
	WINFIELD									
331	Structures & Improvements	826,446	1.15	950,413	386,737	205,329	745,084	29.85	24,961	3.02%
332	Reservoirs, Dams & Waterways	1,989,678	1.15	2,288,130	995,345	772,048	1,516,082	29.99	50,553	2.54%
333	Waterwheels, Turbines & Gen.	4,422,709	1.15	5,086,115	1,488,527	*	4,668,442	28.64	163,004	3.69%
334	Accessory Electrical Equip.	190,526	1.15	219,105	95,562	, ,	163,723	27.11	6,039	3.17%
335	Misc. Power Plant Equip.	3,131,462	1.15	3,601,181	1,658,156	, , ,	2,206,901	28.92	76,311	2.44%
336	Roads, Railroads & Bridges	<u>23,567</u>	1.15	<u>27,102</u>	<u>9,952</u>		<u>18,847</u>	30.50	<u>618</u>	2.62%
	Total	10,584,388	1.15	12,172,046	4,634,279	<u>2,852,967</u>	9,319,079		<u>321,486</u>	3.04%
	<b>Total Hydraulic Production</b>	<u>221,187,830</u>	1.15	<u>254,366,005</u>	136,783,693	<u>122,859,285</u>	<u>131,506,720</u>	20.44	<u>6,434,139</u>	2.91%

## APPALACHIAN POWER COMPANY SCHEDULE I - CALCULATION OF DEPRECIATION RATES BY THE REMAINING LIFE METHOD (STEAM PRODUCTION DEPRECIATION RATES THROUGH MAY 2015) BASED ON PLANT IN SERVICE AT DECEMBER 31, 2013

	BASED ON PLANT IN SERVICE AT DECEMBER 31, 2013										
WV			NIET					ANC			
ACCT NO	ACCOUNT TITLE	ORIGINAL COST	NET SALVG. RATIO	RECOVERED	RESERVE	ACCUMULATED DEPRECIATION	REMAINING AMOUNT	AVG. REMAIN LIFE	ANNUAL ACCRUAL	DEPR. RATE	
(I) <b>OTE</b>	(II) IER PRODUCTION PLANT	(III)	(IV)	(V)	(VI)	(VII)	(VIII)	(IX)	(X)	(XI)	
	CEREDO										
	<u>CEREDO</u>										
341	Structures & Improvements	1,652,232	1.00	1,652,232	389,925	1,098,253	553,979	27.42	20,203	1.22%	
344	Generators  Aggregative Floating Legyin	176,927,406 23,719,423	1.00	176,927,406	41,586,553	119,847,570	57,079,836	27.50	2,075,630	1.17%	
345 346	Accessory Electrical Equip.  Misc. Power Plant Equip.	1,019,973	1.00 1.00	23,719,423 1,019,973	5,662,444 222,081	15,689,325 250,762	8,030,098 769,211	27.01 19.94	297,301 38,576	1.25% 3.78%	
	-т-т	<u> </u>		_,,,,,,,,,		<u>===,,==</u>	· • · · · · · ·	-,,,			
	Total	203,319,034	1.00	203,319,034	47,861,003	136,885,910	66,433,124		<u>2,431,711</u>	1.20%	
	DRESDEN (5)										
341	Structures & Improvements	38,961,284	1.00	38,961,284	1,632,237	1,208,696	37,752,588	33.39	1,130,656	2.90%	
342	Fuel Holders, Producers & Access.	18,860,915	1.00	18,860,915	606,829	449,366	18,411,549	33.39	551,409	2.92%	
344 345	Generators Accessory Electrical Equip.	252,575,207 22,357,056	1.00 1.00	252,575,207 22,357,056	10,824,652 966,086	8,015,819 715,401	244,559,388 21,641,655	33.50 32.77	7,300,280 660,411	2.89% 2.95%	
346	Misc. Power Plant Equip.	<u>27,248,700</u>	1.01	27,521,187	1,735,987	1,285,525	<u>26,235,662</u>	22.28	1,177,543	4.32%	
	Total	360,003,162	1.00	360,275,649	15,765,791	<u>11,674,807</u>	348,600,842		10,820,299	3.01%	
	<b>Total Other Production Plant</b>	563,322,196	1.00	563,594,683	63,626,794	<u>148,560,717</u>	415,033,966	31.32	<u>13,252,010</u>	2.35%	
	<b>Total Production Plant</b>	6,546,260,509	1.04	6,810,807,047	2,595,392,257	2,182,417,288	4,628,389,759	22.67	204,195,952	3.12%	
IKAN	SMISSION PLANT										
351	Energy Storage Equipment (6)	3,054,157	1.00	3,054,157	1,499,446	658,649	2,395,508	7.64	203,712	6.67%	
352	Structures & Improvements	47,065,579	1.10	51,772,137	21,651,452	26,039,523	25,732,614	36.07	713,408	1.52%	
353	Station Equipment	865,044,846	0.85	735,288,119	208,813,427	267,607,360	467,680,759	32.22	14,515,232	1.68%	
354 355	Towers & Fixtures Poles & Fixtures	413,584,670 223,472,144	1.10 1.15	454,943,137 256,992,966	127,837,828 36,897,160	143,677,294 45,057,165	311,265,843 211,935,801	48.89 35.97	6,366,657 5,892,016	1.54% 2.64%	
356	OH Conductor & Devices	484,481,575	0.88	426,343,786	120,535,716	160,993,798	265,349,988	45.90	5,781,045	1.19%	
357	Underground Conduit	255,431	1.00	255,431	139,537	171,483	83,948	22.69	3,700	1.45%	
358	Underground Conductor	6,691,699	1.00	6,691,699	3,177,681	<u>1,613,003</u>	5,078,696	10.50	<u>483,685</u>	7.23%	
	<b>Total Transmission Plant</b>	<u>2,043,650,101</u>	0.95	1,935,341,432	<u>520,552,247</u>	<u>645,818,275</u>	<u>1,289,523,157</u>	37.97	<u>33,959,454</u>		
DIST	TRIBUTION PLANT - VA (7)										
361	Structures & Improvements	15,517,683	1.12	17,379,805	6,897,609	6,366,510	11,013,295	30.16	374,087	2.41%	
362	Station Equipment	221,416,717	1.02	225,845,051	51,906,685	52,787,343	173,057,708	30.81	5,417,609	2.45%	
364	Poles, Towers, & Fixtures	332,104,009	1.60	531,366,414	153,124,629	159,222,466	372,143,948	19.93	19,138,622	5.76%	
365 366	Overhead Conductor & Devices Underground Conduit	356,561,098 53,023,520	1.08 1.00	385,085,986 53,023,520	63,533,034 15,505,131	72,616,033 16,205,519	312,469,953 36,818,001	29.23 35.38	10,321,585 994,597	2.89% 1.88%	
367	Underground Conductor	148,765,540	1.00	148,765,540	21,179,002	44,542,404	104,223,136	47.17	2,242,961	1.51%	
368	Line Transformers	319,074,864	1.15	366,936,094	100,573,169	99,435,426	267,500,668	19.60	13,524,610	4.24%	
369	Services	155,515,877	1.21	188,174,211	43,016,147	50,303,957	137,870,254	23.14	6,054,547	3.89%	
370	Meters	79,934,311	1.10	87,927,742	27,797,255	15,197,476	72,730,266	17.10	3,523,045	4.41%	
371 372	Installations on Custs. Prem. Leased Property on Cust. Prem.	31,739,210 771	1.20 1.00	38,087,052 771	13,264,902 517	14,087,558 445	23,999,494 326	6.52 8.22	4,197,025 40	13.22% 5.14%	
373	Street Lighting & Signal Sys.	16,938,565	1.07	18,124,265	<u>5,932,066</u>	<u>6,981,448</u>	11,142,817	13.45	<u>1,015,913</u>	6.00%	
	Total Distribution Plant - VA	1,730,592,165	1.19	2,060,716,451	502,730,146	537,746,585	1,522,969,866	22.80	66,804,641	3.86%	
<u>DIS'</u>	TRIBUTION PLANT - WV										
361	Structures & Improvements	15,554,343	1.12	17,420,864	6,913,905	6,111,759	11,309,105	30.16	374,970	2.41%	
362	Station Equipment	157,453,002	1.02	160,602,062	36,911,682	41,905,027	118,697,035	30.81	3,852,549	2.45%	
363	Energy Storage Equipment (8)	5,346,203	1.00	5,346,203	1,914,973	1,698,371	3,647,832	9.63	356,592	6.67%	
364	Poles, Towers, & Fixtures	321,153,547	1.60	513,845,675	148,075,652	144,989,909	368,855,766	19.93	18,507,565	5.76%	
365 366	Overhead Conductor & Devices Underground Conduit	307,070,818 36,959,254	1.08 1.00	331,636,483 36,959,254	54,714,720 10,807,621	71,812,154 12,431,389	259,824,329 24,527,865	29.23 35.38	8,888,961 693,269	2.89% 1.88%	
367	Underground Conductor	75,462,387	1.00	75,462,387	10,743,200	21,794,342	53,668,045	33.38 47.17	1,137,758	1.88%	
368	Line Transformers	211,380,218	1.15	243,087,251	66,627,556	67,475,905	175,611,346	19.60	8,959,763	4.24%	
369	Services	139,427,052	1.21	168,706,733	38,565,930	43,098,725	125,608,008	23.14	5,428,177	3.89%	
370	Meters	46,888,019	1.10	51,576,821	16,305,366	16,238,740	35,338,081	17.10	2,066,554	4.41%	
371 373	Installations on Custs. Prem. Street Lighting & Signal Sys.	22,412,341 8,248,736	1.20 1.07	26,894,809 8,826,148	9,366,885 2,888,796	7,571,557 2,172,042	19,323,252 <u>6,654,106</u>	6.52 13.45	2,963,689 494,729	13.22% 6.00%	
313	Succe Eighting & Signal Sys.	0,240,730	1.0/	0,020,148	<u> 2,000,190</u>	<u> </u>	<u>0,034,100</u>	13.43	<u>474,147</u>	0.00%	
	Total Distribution Plant - WV	1,347,355,920	1.22	1,640,364,690	403,836,286	437,299,920	1,203,064,770		<u>53,724,576</u>	3.99%	

KPSC Case No. 2017-00179
Commission Staff's Fourth Set of Data Requests
Dated November 9, 2017
Item No. 5
Attachment 1
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## APPALACHIAN POWER COMPANY SCHEDULE I - CALCULATION OF DEPRECIATION RATES BY THE REMAINING LIFE METHOD (STEAM PRODUCTION DEPRECIATION RATES THROUGH MAY 2015) BASED ON PLANT IN SERVICE AT DECEMBER 31, 2013

ACCT NO (I) <u>DIS</u> T	ACCOUNT TITLE (II)  FRIBUTION PLANT - TN	ORIGINAL COST (III)	NET SALVG. RATIO (IV)	TOTAL TO BE RECOVERED (V)	THEORETICAL RESERVE (VI)	ACCUMULATED DEPRECIATION (VII)	REMAINING AMOUNT (VIII)	AVG. REMAIN LIFE (IX)	ANNUAL ACCRUAL (X)	DEPR. RATE (XI)
370	Meters	<u>47,141</u>	1.10	<u>51,855</u>	<u>16,393</u>	<u>47,462</u>	<u>4,393</u>	10.00	<u>439</u>	0.93%
	Total Distribution Plant - TN	<u>47,141</u>		<u>51,855</u>	<u>16,393</u>	<u>47,462</u>	4,393		<u>439</u>	0.93%
	Total Distribution Plant	3,077,995,226	1.20	3,701,132,996	906,582,825	975,093,967	2,726,039,029	22.62	120,529,656	3.92%
<u>GEN</u>	VERAL PLANT									
390	Structures & Improvements	107,543,532	0.75	80,657,649	31,702,265	46,502,292	34,155,357	25.49	1,339,951	1.25%
391	Office Furniture & Equipment	6,434,097	1.00	6,434,097	2,628,378	3,101,113	3,332,984	17.74	187,880	2.92%
392	Transportation Equipment	445	1.00	445	206	206	239	14.50	16	3.70%
393	Stores Equipment	1,247,885	1.00	1,247,885	380,554	433,877	814,008	38.23	21,292	1.71%
394	Tools Shop & Garage Equipment	23,955,943	1.10	26,351,537	6,361,810	6,583,065	19,768,472	32.62	606,023	2.53%
395	Laboratory Equipment	2,733,895	1.00	2,733,895	1,653,975	1,203,683	1,530,212	14.62	104,666	3.83%
396	Power Operated Equipment	821	1.00	821	805	805	16	0.50	32	3.90%
397	Communication Equipment	30,544,390	1.01	30,849,834	12,956,827	9,386,400	21,463,434	13.92	1,541,913	5.05%
398	Miscellaneous Equipment	<u>6,443,229</u>	1.00	6,443,229	<u>1,894,248</u>	<u>2,262,941</u>	4,180,288	24.71	<u>169,174</u>	2.63%
	<b>Total General Plant</b>	<u>178,904,237</u>	0.86	<u>154,719,392</u>	57,579,068	69,474,382	85,245,010	21.47	<u>3,970,948</u>	2.22%
Total I	Depreciable Plant	11,846,810,073	1.06	12,602,000,867	4,080,106,397	3,872,803,912	8,729,196,955	24.07	<u>362,656,010</u>	3.06%

#### **Notes:**

- 1. Depreciation rates for Amos, Glen Lyn, Kanawha, Mountaineer and Sporn were calculated together combining original cost and accumulated depreciation and recovering these amounts over the remaining life of Amos and Mountaineer which are both expected to retire in 2040. In addition, the Company is requesting a separate depreciation rate for Amos and Mountaineer's SCR Catalyst in account 312 in this filing. The catalyst is a significant cost and has a shorter average life than total account 312. Chao Lin, AEP Senior Engineer Air Emissions Control calculated the SCR Catalyst cost included in Amos and Mountaineer's account 312 and provided an expected life for the catalyst at each of these facilities. The depreciation study uses Mr. Lin's estimates to request a separate depreciation rate for this investment. The total average life estimated by Mr. Lin is shown in the "AVG REMAIN LIFE" column.
- 2. Ohio Power's portion of Amos Unit 3 was transferred to APCo in December 2013 .
- 3. Clinch River Units 1 and 2 to be converted to burn natural gas. Clinch River Unit 3 has an estimated retirement date of May 31, 2015.
- 4. The units at the Glen Lyn, Kanawha River, and Sporn Plants have an estimated retirement date of May 31, 2015.
- 5. The Dresden Plant balance does not include Virginia's AFUDC investment. Dresden Plant was not in service when depreciation rates were changed in 2006 in WV Case No. 05-1278-E-PC-PW-42T. The Company has been using an engineering estimated 35 year life for the plant and is requesting an initially approved depreciation rate in this filing.
- 6. Account 351, Electric Storage Equipment Transmission was established in 2013 as per FERC Order 784 regarding Accounting and Financial Reporting for New Electric Storage Technologies. The amount in account 351 represents the Company's investment in a sodium sulphur (NaS) storage battery at its Chemical 138KV Substation.
- 7. Using West Virginia depreciation rates for total Company comparison purposes, except for account 372 where West Virginia has no investment. This account uses Virginia's depreciation rate.
- 8. Account 363 Energy Storage Equipment uses an engineering estimated 15 year life and represents a sodium sulphur (NaS) battery at APCo's WV Balls Gap 138KV Substation.

### APPALACHIAN POWER COMPANY SCHEDULE II - CALCULATION OF STEAM PRODUCTION DEPRECIATION RATES BY THE REMAINING LIFE METHOD JUNE 2015 FORWARD BASED ON PLANT IN SERVICE AT DECEMBER 31, 2013

WV		В	ASED ON	PLANT IN SEI	RVICE AT DEC	CEMBER 31, 201	3			
ACCT NO (I)	ACCOUNT TITLE (II)	ORIGINAL COST (III)	NET SALVG. RATIO (IV)	TOTAL TO BE RECOVERED (V)	THEORETICAL RESERVE (VI)	ACCUMULATED DEPRECIATION (VII)	REMAINING AMOUNT (VIII)	AVG. REMAIN LIFE (IX)	ANNUAL ACCRUAL (X)	DEPR. RATE (XI)
<u>STE</u>	AM PRODUCTION PLANT									
	<b>AMOS UNITS 1&amp;2 (1)</b>									
311 312 312 314 315 316	Structures & Improvements Boiler Plant Equipment Boiler Plant Equip. SCR Catalyst Turbogenerator Units Accessory Electrical Equip. Misc. Power Plant Equip.	43,227,781 1,310,182,600 20,422,274 120,924,588 40,140,776 10,235,121	1.01 1.05 1.00 1.06 1.02 1.03	43,660,059 1,375,691,730 20,422,274 128,180,063 40,943,592 10,542,175	371,503,117 7,695,694 56,816,558 21,085,371	362,515,303 7,695,694 8,651,994 8,603,491	16,668,754 1,013,176,427 12,726,580 119,528,069 32,340,101 8,133,039	26.08 24.67 11.00 23.94 25.73 25.20	1,048,282 40,470,508 1,856,385 3,681,686 853,660 277,889	2.43% 3.09% 9.09% 3.04% 2.13% 2.72%
	Total	1,545,133,140		1,619,439,892	483,377,458	416,866,923	1,202,572,969		48,188,410	3.12%
	<b>AMOS UNIT 3 (1) (2)</b>									
311 312 312 314 315 316	Structures & Improvements Boiler Plant Equipment Boiler Plant Equip. SCR Catalyst Turbogenerator Units Accessory Electrical Equip. Misc. Power Plant Equip.	100,183,997 1,465,418,812 17,384,535 102,998,245 27,371,090 23,580,469	1.01 1.05 1.00 1.06 1.02 1.03	101,185,837 1,538,689,753 17,384,535 109,178,140 27,918,512 24,287,883	376,611,944 8,229,144 46,423,646 15,280,523	284,033,668 8,229,144 29,131,284 14,812,556	58,832,541 1,254,656,085 9,155,391 80,046,856 13,105,956 15,174,964	26.08 24.67 8.00 23.94 25.73 25.20	2,429,481 45,265,632 2,173,067 3,135,898 582,091 <u>640,223</u>	2.43% 3.09% 12.50% 3.04% 2.13% 2.72%
	Total	1,736,937,148		<u>1,818,644,659</u>	500,018,269	387,672,867	<u>1,430,971,792</u>		54,226,392	3.12%
	CLINCH RIVER (3)									
311 312 314 315 316	Structures & Improvements Boiler Plant Equipment Turbogenerator Units Accessory Electrical Equip. Misc. Power Plant Equip.	40,937,155 289,789,652 60,077,414 13,896,178 7,276,925	1.01 1.01 1.02 1.01 1.01	41,346,527 292,687,549 61,278,962 14,035,140 7,349,694	48,768,834 11,148,809	118,753,004 44,595,857 9,924,567	12,629,938 173,934,545 16,683,105 4,110,573 3,351,022	6.17 6.12 7.87 8.08 7.11	2,046,991 28,420,677 2,119,835 508,734 471,311	5.00% 9.81% 3.53% 3.66% 6.48%
	Total	411,977,324		416,697,871	307,597,334	205,988,689	210,709,182		33,567,550	8.15%
	MOUNTAINEER (1)									
311 312 312 314 315 316	Structures & Improvements Boiler Plant Equipment Boiler Plant Equip. SCR Catalyst Turbogenerator Units Accessory Electrical Equip. Misc. Power Plant Equip.	194,148,184 1,119,863,999 16,652,662 110,201,667 68,312,795 20,297,934	1.01 1.05 1.00 1.07 1.02 1.04	196,089,666 1,175,857,199 16,652,662 117,915,784 69,679,051 21,109,851	444,265,463 6,586,254	333,872,269 6,586,254 56,079,522 41,722,910	136,618,654 841,984,930 10,066,408 61,836,262 27,956,141 11,090,954	26.08 24.67 8.00 23.94 25.73 25.20	4,708,131 34,591,716 2,081,583 3,355,215 1,452,784 551,101	2.43% 3.09% 12.50% 3.04% 2.13% 2.72%
	Total	1,529,477,241		1,597,304,213	630,881,864	507,750,864	1,089,553,349		46,740,530	3.06%
	<u>OTHER</u>									
311 316 311 312 315	Centralized Maintenence Central Machine Shop Little Broad Run Ash Disposal Little Broad Run Ash Disposal Little Broad Run Ash Disposal	85,770 15,478,432 267,028 37,855,651 <u>64,843</u>	1.00 1.00 1.00 1.00 1.00	85,770 15,478,432 267,028 37,855,651 <u>64,843</u>	6,070,413 31,596 8,132,579	3,999,763 20,818 5,358,513	59,336 11,478,669 246,210 32,497,138 <u>62,489</u>	26.08 25.20 26.08 24.67 25.73	2,275 455,503 9,441 1,317,274 2,429	2.65% 2.94% 3.54% 3.48% 3.75%
	Total	53,751,724		53,751,724	14,278,279	10,682,514	44,343,842		<u>1,786,921</u>	3.32%
To	tal Steam Production Plant	<u>5,277,276,577</u>	1.04	<u>5,505,838,360</u>	<u>1,936,153,204</u>	<u>1,528,961,857</u>	3,978,151,135		<u>184,509,802</u>	3.50%

#### Notes:

<sup>1.</sup> Depreciation rates for Amos and Mountaineer include the remaining net value of Glen Lyn, Kanawha River and Sporn in accumulated depreciation. The rates for Amos and Mountaineer were calculated together combining original cost and accumulated depreciation and recovering these amounts over the remaining life of Amos and Mountaineer which are both expected to retire in 2040. In addition, the Company is requesting a separate depreciation rate for Amos and Mountaineer's SCR Catalyst in account 312 in this filing. The catalyst is a significant cost and has a shorter average life than total account 312. Chao Lin, AEP Senior Engineer Air Emissions Control calculated the SCR Catalyst cost included in Amos and Mountaineer's account 312 and provided an expected life for the catalyst at each of these facilities. The depreciation study uses Mr. Lin's estimates to request a separate depreciation rate for this investment. The total average life estimated by Mr. Lin is shown in the "AVG REMAIN LIFE" column.

<sup>2.</sup> Ohio Power's portion of Amos Unit 3 was transferred to APCo in December 2013 .

<sup>3.</sup> Clinch River Units 1 and 2 to be refueled to burn natural gas. Clinch River Unit 3 has an estimated retirement date of May 31, 2015.

# APPALACHIAN POWER COMPANY ANNUAL DEPRECIATION RATES AND ACCRUALS BY THE REMAINING LIFE METHOD SCHEDULE III - COMPARE DEPRECIATION EXPENSE USING CURRENT AND STUDY RATES (STEAM PRODUCTION DEPRECIATION RATES THROUGH MAY 2015) BASED ON PLANT IN SERVICE AT DECEMBER 31, 2013

\A/\/	BASE	D ON PLANT IN	SERVICE AT L	DECEMBER 31,	2013		
WV	TITLE	ORIGINAL COST	CURRENT APPROVED RATE	ANNUAL ACCRUAL	STUDY RATE	STUDY ACCRUAL	DIFFERENCE (DECREASE)
<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	( <u>5)</u>	<u>(6)</u>	(7)	( <u>8)</u>
Stea	am Production Plant						
	AMOS UNITS 1&2						
311 312 312 314 315 316	Structures & Improvements Boiler Plant Equipment Boiler Plant Equip. SCR Catalyst Turbogenerator Units Accessory Electrical Equipment Misc. Power Plant Equip.	43,227,781 1,310,182,600 20,422,274 120,924,588 40,140,776 10,235,121	2.12% 3.20% 3.20% 2.77% 2.43% 2.44%	916,429 41,925,843 653,513 3,349,611 975,421 249,737	2.13% 2.86% 9.09% 2.44% 1.79% 2.11%	918,643 37,462,965 1,856,385 2,947,059 719,314 216,167	2,214 -4,462,878 1,202,872 -402,552 -256,107 -33,570
	Total	<u>1,545,133,140</u>	3.11%	48,070,554	2.86%	44,120,533	-3,950,021
	AMOS UNIT 3 (1)						
311 312 312 314 315 316	Structures & Improvements Boiler Plant Equipment Boiler Plant Equip. SCR Catalyst Turbogenerator Units Accessory Electrical Equipment Misc. Power Plant Equip.	100,183,997 1,465,418,812 17,384,535 102,998,245 27,371,090 23,580,469	2.06% 2.83% 2.83% 2.76% 2.24% 2.84%	2,063,790 41,471,352 491,982 2,842,752 613,112 669,685	2.13% 2.86% 12.50% 2.44% 1.79% 2.11%	2,129,031 41,901,742 2,173,067 2,510,175 490,484 498,023	65,241 430,390 1,681,085 -332,577 -122,628 <u>-171,662</u>
	Total	1,736,937,148	2.77%	48,152,673	2.86%	49,702,522	<u>1,549,849</u>
	CLINCH RIVER (2)						
311 312 314 315 316	Structures & Improvements Boiler Plant Equipment Turbogenerator Units Accessory Electrical Equipment Misc. Power Plant Equip.	40,937,155 289,789,652 60,077,414 13,896,178 <u>7,276,925</u>	2.58% 3.26% 2.67% 2.32% 3.05%	1,056,179 9,447,143 1,604,067 322,391 <u>221,946</u>	5.00% 9.81% 3.53% 3.66% 6.48%	2,046,991 28,420,677 2,119,835 508,734 471,311	990,812 18,973,534 515,768 186,343 <u>249,365</u>
	Total	411,977,324	3.07%	12,651,726	8.15%	33,567,548	20,915,822
	GLEN LYN UNIT 5 (3)						
311 312 314 315 316	Structures & Improvements Boiler Plant Equipment Turbogenerator Units Accessory Electrical Equipment Misc. Power Plant Equip.	3,203,526 25,429,843 6,576,230 2,369,413 <u>220,080</u>	4.06% 4.92% 5.53% 5.17% 10.47%	130,063 1,251,148 363,666 122,499 <u>23,042</u>	2.13% 2.86% 2.44% 1.79% 2.11%	68,079 727,133 160,270 42,459 <u>4,648</u>	-61,984 -524,015 -203,396 -80,040 <u>-18,394</u>
	Total	37,799,092	5.00%	<u>1,890,418</u>	2.65%	1,002,589	<u>-887,829</u>
	GLEN LYN UNIT 6 (3)						
311 312 314 315 316	Structures & Improvements Boiler Plant Equipment Turbogenerator Units Accessory Electrical Equipment Misc. Power Plant Equip.	12,873,332 72,071,697 21,820,646 6,291,287 4,381,958	3.14% 4.31% 3.63% 3.39% 4.61%	404,223 3,106,290 792,089 213,275 202,008	2.13% 2.86% 2.44% 1.79% 2.11%	273,574 2,060,796 531,792 112,739 <u>92,548</u>	-130,649 -1,045,494 -260,297 -100,536 -109,460
	Total	117,438,920	4.02%	<u>4,717,885</u>	2.62%	3,071,449	<u>-1,646,436</u>
	KANAWHA RIVER (3)						
311 312 314 315 316	Structures & Improvements Boiler Plant Equipment Turbogenerator Units Accessory Electrical Equipment Misc. Power Plant Equip.	18,673,613 124,776,523 33,878,466 9,108,432 <u>6,714,237</u>	0.35% 1.40% 1.02% 0.82% 2.09%	65,358 1,746,871 345,560 74,689 <u>140,328</u>	2.13% 2.86% 2.44% 1.79% 2.11%	396,837 3,567,822 825,654 163,221 <u>141,806</u>	331,479 1,820,951 480,094 88,532 <u>1,478</u>
	Total	<u>193,151,271</u>	1.23%	<u>2,372,806</u>	2.64%	<u>5,095,340</u>	<u>2,722,534</u>
	MOUNTAINEER						
311 312 312 314 315 316	Structures & Improvements Boiler Plant Equipment Boiler Plant Equip. SCR Catalyst Turbogenerator Units Accessory Electrical Equipment Misc. Power Plant Equip.	194,148,184 1,119,863,999 16,652,662 110,201,667 68,312,795 20,297,934	1.67% 2.01% 2.01% 1.92% 1.65% 1.87%	3,242,275 22,509,266 334,719 2,115,872 1,127,161 379,571	2.13% 2.86% 12.50% 2.44% 1.79% 2.11%	4,125,884 32,021,052 2,081,583 2,685,730 1,224,151 428,695	883,609 9,511,786 1,746,864 569,858 96,990 49,124
	Total	<u>1,529,477,241</u>	1.94%	<u>29,708,864</u>	2.78%	<u>42,567,095</u>	12,858,231

# APPALACHIAN POWER COMPANY ANNUAL DEPRECIATION RATES AND ACCRUALS BY THE REMAINING LIFE METHOD SCHEDULE III - COMPARE DEPRECIATION EXPENSE USING CURRENT AND STUDY RATES (STEAM PRODUCTION DEPRECIATION RATES THROUGH MAY 2015) BASED ON PLANT IN SERVICE AT DECEMBER 31, 2013

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WV			0.155515				
NO.	TITLE SPORN (3)	ORIGINAL COST	CURRENT APPROVED RATE	ANNUAL ACCRUAL	STUDY RATE	STUDY ACCRUAL	DIFFERENCE (DECREASE)
311 312 314 315 316	Structures & Improvements Boiler Plant Equipment Turbogenerator Units Accessory Electrical Equipment Misc. Power Plant Equip.	12,885,998 90,451,731 21,013,630 7,598,808 4,134,456	0.22% 1.92% 0.98% 0.97% 1.18%	28,349 1,736,673 205,934 73,708 48,787	2.13% 2.86% 2.44% 1.79% 2.11%	273,843 2,586,349 512,124 136,169 <u>87,320</u>	245,494 849,676 306,190 62,461 38,533
	Total	136,084,623	1.54%	<u>2,093,451</u>	2.64%	<u>3,595,805</u>	<u>1,502,354</u>
	OTHER						
311 316 311 312 315	Centralized Maintenance Central Machine Shop Little Broad Run Ash Disposal Little Broad Run Ash Disposal Little Broad Run Ash Disposal	85,770 15,478,432 267,028 37,855,651 <u>64,843</u>	2.07% 2.10% 1.76% 1.76% 1.76%	1,775 325,047 4,700 666,259 <u>1,141</u>	2.65% 2.94% 3.54% 3.48% 3.75%	2,275 455,503 9,441 1,317,274 <u>2,429</u>	500 130,456 4,741 651,015 <u>1,288</u>
	Total	53,751,724	1.86%	998,922	3.32%	<u>1,786,922</u>	<u>788,000</u>
	Total Steam Production Plant	<u>5,761,750,483</u>	2.61%	<u>150,657,299</u>	3.20%	<u>184,509,803</u>	<u>33,852,504</u>
Hyd	raulic Production Plant						
	BUCK						
331 332 333 334 335 336	Structures & Improvements Reservoirs, Dams & Waterways Waterwheels, Turbines & Generators Accessory Electric Equipment Micellaneous Power Plant Equipment Roads, Railroads & Bridges	326,505 5,823,685 1,831,391 2,499,664 250,453 3,437	1.08% 2.57% 4.87% 2.99% 1.94% 1.05%	3,526 149,669 89,189 74,740 4,859 <u>36</u>	3.98% 5.92% 4.44% 6.33% 7.88% 3.06%	12,999 344,853 81,285 158,199 19,739 <u>105</u>	9,473 195,184 -7,904 83,459 14,880 <u>69</u>
	Total Buck Plant	<u>10,735,135</u>	3.00%	322,019	5.75%	617,180	<u>295,161</u>
	BYLLESBY						
331 332 333 334 335	Structures & Improvements Reservoirs, Dams & Waterways Waterwheels, Turbines & Generators Accessory Electric Equipment Micellaneous Power Plant Equipment	862,690 5,839,487 2,377,068 847,610 <u>786,032</u>	1.09% 3.08% 3.98% 2.21% 1.86%	9,403 179,856 94,607 18,732 <u>14,620</u>	6.45% 8.79% 6.88% 3.09% 8.09%	55,650 513,021 163,459 26,203 <u>63,585</u>	46,247 333,165 68,852 7,471 48,965
	Total Byllesby Plant	10,712,887	2.96%	317,218	7.67%	<u>821,918</u>	504,700
	CLAYTOR						
331 332 333 334 335 336	Structures & Improvements Reservoirs, Dams & Waterways Waterwheels, Turbines & Generators Accessory Electric Equipment Micellaneous Power Plant Equipment Roads, Railroads & Bridges	2,056,809 10,006,198 2,248,329 2,945,552 2,466,734 31,799	1.28% 0.87% 0.72% 1.78% 2.18% 0.55%	26,327 87,054 16,188 52,431 53,775 <u>175</u>	1.91% 1.17% 1.27% 2.34% 2.87% 0.69%	39,236 117,421 28,535 69,034 70,825 <u>220</u>	12,909 30,367 12,347 16,603 17,050 <u>45</u>
	Total Claytor Plant	<u>19,755,421</u>	1.19%	235,950	1.65%	325,271	<u>89,321</u>
	LEESVILLE						
331 332 333 334 335 336	Structures & Improvements Reservoirs, Dams & Waterways Waterwheels, Turbines & Generators Accessory Electric Equipment Micellaneous Power Plant Equipment Roads, Railroads & Bridges	2,198,172 10,572,221 3,380,758 810,415 1,519,564 80,790	0.86% 1.34% 0.91% 1.14% 1.49% 0.85%	18,904 141,668 30,765 9,239 22,642 <u>687</u>	0.81% 1.77% 1.30% 2.57% 2.53% 0.60%	17,853 187,232 43,835 20,824 38,427 <u>485</u>	-1,051 45,564 13,070 11,585 15,785 -202
	Total Leesville Plant	18,561,920	1.21%	<u>223,905</u>	1.66%	<u>308,656</u>	<u>84,751</u>
	LONDON						
331 332 333 334 335 336	Structures & Improvements Reservoirs, Dams & Waterways Waterwheels, Turbines & Generators Accessory Electric Equipment Micellaneous Power Plant Equipment Roads, Railroads & Bridges	536,856 1,369,743 2,632,258 1,868,915 412,306 48,853	1.75% 1.54% 1.52% 2.17% 2.20% 1.43%	9,395 21,094 40,010 40,555 9,071 <u>699</u>	3.12% 2.45% 3.02% 2.63% 3.02% 1.38%	16,750 33,508 79,420 49,184 12,441 <u>672</u>	7,355 12,414 39,410 8,629 3,370 <u>-27</u>
	Total London Plant	<u>6,868,931</u>	1.76%	<u>120,824</u>	2.79%	<u>191,975</u>	<u>71,151</u>

#### **APPALACHIAN POWER COMPANY** ANNUAL DEPRECIATION RATES AND ACCRUALS BY THE REMAINING LIFE METHOD SCHEDULE III - COMPARE DEPRECIATION EXPENSE USING CURRENT AND STUDY RATES (STEAM PRODUCTION DEPRECIATION RATES THROUGH MAY 2015)

	•	ON PLANT IN S				13)	
WV			CURRENT	·			
NO.	TITLE MARMET	ORIGINAL COST	APPROVED RATE	ANNUAL ACCRUAL	STUDY RATE	STUDY ACCRUAL	DIFFERENCE (DECREASE)
331 332 333 334 335 336	Structures & Improvements Reservoirs, Dams & Waterways Waterwheels, Turbines & Generators Accessory Electric Equipment Micellaneous Power Plant Equipment Roads, Railroads & Bridges	599,168 1,876,778 2,603,361 2,162,426 567,122 <u>1,275</u>	1.69% 1.62% 1.54% 2.22% 2.23% 1.48%	10,126 30,404 40,092 48,006 12,647 <u>19</u>	1.97% 2.95% 3.22% 2.70% 2.90% 1.30%	11,820 55,347 83,867 58,429 16,429 <u>17</u>	1,694 24,943 43,775 10,423 3,782
	Total Marmet Plant	7,810,130	1.81%	<u>141,294</u>	2.89%	225,909	<u>84,615</u>
	NIAGARA						
331 332 333 334 335	Structures & Improvements Reservoirs, Dams & Waterways Waterwheels, Turbines & Generators Accessory Electric Equipment Micellaneous Power Plant Equipment	196,124 4,904,258 628,318 213,394 236,941	1.34% 2.16% 4.43% 2.02% 3.42%	2,628 105,932 27,834 4,311 <u>8,103</u>	2.23% 6.44% 4.23% 6.26% 5.68%	4,368 315,776 26,581 13,366 <u>13,464</u>	1,740 209,844 -1,253 9,055 <u>5,361</u>
	Total Niagara Plant	<u>6,179,035</u>	2.41%	<u>148,808</u>	6.05%	<u>373,555</u>	<u>224,747</u>
	REUSENS						
331 332 333 334 335	Structures & Improvements Reservoirs, Dams & Waterways Waterwheels, Turbines & Generators Accessory Electric Equipment Micellaneous Power Plant Equipment	485,336 1,610,589 2,551,573 898,460 600,505	0.77% 1.27% 2.24% 1.19% 3.04%	3,737 20,454 57,155 10,692 <u>18,255</u>	7.70% 7.00% 7.85% 6.02% 8.48%	37,375 112,714 200,327 54,127 <u>50,925</u>	33,638 92,260 143,172 43,435 <u>32,670</u>
	Total Reusens Plant	6,146,463	1.79%	110,293	7.41%	<u>455,468</u>	<u>345,175</u>
	SMITH MOUNTAIN						
331 332 333 334 335 336	Structures & Improvements Reservoirs, Dams & Waterways Waterwheels, Turbines & Generators Accessory Electric Equipment Micellaneous Power Plant Equipment Roads, Railroads & Bridges	12,266,136 26,088,428 66,418,567 8,788,116 9,220,140 1,052,133	1.04% 0.95% 1.44% 1.57% 1.54% 0.94%	127,568 247,840 956,427 137,973 141,990 <u>9,890</u>	1.11% 0.97% 2.70% 3.15% 3.55% 0.73%	136,527 253,649 1,791,458 276,423 327,008 <u>7,658</u>	8,959 5,809 835,031 138,450 185,018 -2,232
	Total Smith Mountain Plant	123,833,520	1.31%	<u>1,621,688</u>	2.26%	2,792,723	<u>1,171,035</u>
	WINFIELD						
331 332 333 334 335 336	Structures & Improvements Reservoirs, Dams & Waterways Waterwheels, Turbines & Generators Accessory Electric Equipment Micellaneous Power Plant Equipment Roads, Railroads & Bridges	826,446 1,989,678 4,422,709 190,526 3,131,462 <u>23,567</u>	1.61% 1.62% 1.24% 1.49% 2.00% 2.22%	13,306 32,233 54,842 2,839 62,629 <u>523</u>	3.02% 2.54% 3.69% 3.17% 2.44% 2.62%	24,961 50,553 163,004 6,039 76,311 <u>618</u>	11,655 18,320 108,162 3,200 13,682 <u>95</u>
	Total Winfield Plant	<u>10,584,388</u>	1.57%	<u>166,372</u>	3.04%	<u>321,486</u>	<u>155,114</u>
	Total Hydraulic Production Plant	<u>221,187,830</u>	1.54%	<u>3,408,371</u>	2.91%	<u>6,434,141</u>	3,025,770
<u>Oth</u>	er Production Plant						
	CEREDO						
341 344 345 346	Structures & Improvements Generators Accessory Electrical Equip. Misc. Power Plant Equip.	1,652,232 176,927,406 23,719,423 <u>1,019,973</u>	1.22% 1.60% 1.22% 1.22%	20,157 2,830,838 289,377 <u>12,444</u>	1.22% 1.17% 1.25% 3.78%	20,203 2,075,630 297,301 <u>38,576</u>	46 -755,208 7,924 <u>26,132</u>
	Total	203,319,034	1.55%	<u>3,152,816</u>	1.20%	2,431,710	<u>-721,106</u>
	DRESDEN (4)						
341 342 344 345 346	Structures & Improvements Fuel Holders, Producers and Access. Generators Accessory Electrical Equip. Misc. Power Plant Equip.	38,961,284 18,860,915 252,575,207 22,357,056 27,248,700	2.90% 2.92% 2.89% 2.95% 4.32%	1,130,656 551,409 7,300,280 660,411 1,177,543	2.90% 2.92% 2.89% 2.95% 4.32%	1,130,656 551,409 7,300,280 660,411 1,177,543	0 0 0 0 <u>0</u>
	Total	360,003,162	3.01%	10,820,299	3.01%	10,820,299	<u>0</u>
	Total Other Production Plant	<u>563,322,196</u>	2.48%	<u>13,973,115</u>	2.35%	13,252,009	<u>-721,106</u>
	Total Production Plant	6,546,260,509	2.57%	<u>168,038,785</u>	3.12%	<u>204,195,953</u>	<u>36,157,168</u>

# APPALACHIAN POWER COMPANY ANNUAL DEPRECIATION RATES AND ACCRUALS BY THE REMAINING LIFE METHOD SCHEDULE III - COMPARE DEPRECIATION EXPENSE USING CURRENT AND STUDY RATES (STEAM PRODUCTION DEPRECIATION RATES THROUGH MAY 2015) BASED ON PLANT IN SERVICE AT DECEMBER 31, 2013

WV

WV							
			CURRENT			_	_
		ORIGINAL	APPROVED	ANNUAL	STUDY	STUDY	DIFFERENCE
NO.	TITLE	COST	RATE	ACCRUAL	RATE	ACCRUAL	(DECREASE)
<u>TRA</u>	ANSMISSION PLANT						
351	Electric Storage Equipment (5)	3,054,157	6.67%	203,712	6.67%	203,712	0
352	Structures & Improvements	47,065,579	1.55%	729,516	1.52%	713,408	-16,108
353	Station Equipment	865,044,846	1.95%	16,868,374	1.68%	14,515,232	-2,353,142
354	Towers & Fixtures	413,584,670	1.14%	4,714,865	1.54%	6,366,657	1,651,792
355	Poles & Fixtures	223,472,144	2.77%	6,190,178	2.64%	5,892,016	-298,162
356	OH Conductor & Devices	484,481,575	1.01%	4,893,264	1.19%	5,781,045	887,781
357	Underground Conduit	255,431	1.24%	3,167	1.45%	3,700	533
358	Underground Conductor	6,691,699	3.18%	212,796	7.23%	483,685	<u>270,889</u>
330	Onderground Conductor	0,031,033	J. 10 /0	<u> 212,790</u>	1.25/0	400,000	<u>210,009</u>
	Total Transmission Plant	<u>2,043,650,101</u>	1.65%	<u>33,815,872</u>	1.66%	<u>33,959,455</u>	<u>143,583</u>
DIS.	TRIBUTION PLANT - VA (6)						
264	Ctrusturas 9 Improvements	4E E47 C00	0.400/	220 205	0.440/	274 007	25 002
361	Structures & Improvements	15,517,683	2.18%	338,285	2.41%	374,087	35,802 546,441
362	Station Equipment	221,416,717	2.20%	4,871,168	2.45%	5,417,609	546,441
364	Poles, Towers, & Fixtures	332,104,009	4.90%	16,273,096	5.76%	19,138,622	2,865,526
365	Overhead Conductor & Devices	356,561,098	1.93%	6,881,629	2.89%	10,321,585	3,439,956
366	Underground Conduit	53,023,520	2.04%	1,081,680	1.88%	994,597	-87,083
367	Underground Conductor	148,765,540	1.89%	2,811,669	1.51%	2,242,961	-568,708
368	Line Transformers	319,074,864	3.30%	10,529,471	4.24%	13,524,610	2,995,139
369	Services	155,515,877	3.05%	4,743,234	3.89%	6,054,547	1,311,313
370	Meters	79,934,311	4.11%	3,285,300	4.41%	3,523,045	237,745
371	Installations on Custs. Prem.	31,739,210	8.94%	2,837,485	13.22%	4,197,025	1,359,540
372	Leased Property on Customers Premises	771	5.70%	44	5.14%	40	-4
373	Street Lighting & Signal Sys.	16,938,565	4.04%	<u>684,318</u>	6.00%	<u>1,015,913</u>	<u>331,595</u>
	Total Distribution Plant - VA	<u>1,730,592,165</u>	3.14%	54,337,379	3.86%	66,804,641	12,467,262
DIG.	TRIBUTION PLANT - WV						
<u> </u>	INIBOTION LAINT - WV						
361	Structures & Improvements	15,554,343	2.18%	339,085	2.41%	374,970	35,885
362	Station Equipment	157,453,002	2.20%	3,463,966	2.45%	3,852,549	388,583
363		5,346,203	6.67%	356,592	6.67%	356,592	· _
	Energy Storage Equipment (7)	, ,		•		•	0 2,771,041
364	Poles, Towers, & Fixtures	321,153,547	4.90%	15,736,524	5.76%	18,507,565	, ,
365	Overhead Conductor & Devices	307,070,818	1.93%	5,926,467	2.89%	8,888,961	2,962,494
366	Underground Conduit	36,959,254	2.04%	753,969	1.88%	693,269	-60,700
367	Underground Conductor	75,462,387	1.89%	1,426,239	1.51%	1,137,758	-288,481
368	Line Transformers	211,380,218	3.30%	6,975,547	4.24%	8,959,763	1,984,216
369	Services	139,427,052	3.05%	4,252,525	3.89%	5,428,177	1,175,652
370	Meters	46,888,019	4.11%	1,927,098	4.41%	2,066,554	139,456
371	Installations on Custs. Prem.	22,412,341	8.94%	2,003,663	13.22%	2,963,689	960,026
373	Street Lighting & Signal Sys.	8,248,736	4.04%	333,249	6.00%	494,729	<u>161,480</u>
	Total Distribution Plant - WV	1,347,355,920	3.23%	43,494,924	3.99%	<u>53,724,576</u>	10,229,652
DIG.	TRIBUTION PLANT - TN				-		
פום	INDUITORI LANI - IN						
370	Meters	<u>47,141</u>	4.00%	<u>1,886</u>	0.93%	<u>439</u>	<u>-1,447</u>
	Total Distribution Plant - TN	<u>47,141</u>	4.00%	<u>1,886</u>		<u>439</u>	<u>-1,447</u>
	Total Distribution Plant	3,077,995,226	3.18%	97,834,189	3.92%	<u>120,529,656</u>	<u>22,695,467</u>

KPSC Case No. 2017-00179
Commission Staff's Fourth Set of Data Requests
Dated November 9, 2017
Item No. 5
Attachment 1
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# APPALACHIAN POWER COMPANY ANNUAL DEPRECIATION RATES AND ACCRUALS BY THE REMAINING LIFE METHOD SCHEDULE III - COMPARE DEPRECIATION EXPENSE USING CURRENT AND STUDY RATES (STEAM PRODUCTION DEPRECIATION RATES THROUGH MAY 2015) BASED ON PLANT IN SERVICE AT DECEMBER 31, 2013

WV

VVV		ORIGINAL	CURRENT APPROVED	ANNUAL	STUDY	STUDY	DIFFERENCE
NO.	TITLE	COST	RATE	ACCRUAL	RATE	ACCRUAL	(DECREASE)
	NERAL PLANT	0001		, 100110/12		7100110712	(523.12/132)
390	Structures & Improvements	107,543,532	1.42%	1,527,118	1.25%	1,339,951	-187,167
391	Office Furniture & Equipment	6,434,097	2.57%	165,356	2.92%	187,880	22,524
392	Transportation Equipment	445	1.15%	5	3.70%	16	11
393	Stores Equipment	1,247,885	1.34%	16,722	1.71%	21,292	4,570
394	Tools Shop & Garage Equipment	23,955,943	2.14%	512,657	2.53%	606,023	93,366
395	Laboratory Equipment	2,733,895	1.39%	38,001	3.83%	104,666	66,665
396	Power Operated Equipment	821	0.76%	6	3.90%	32	26
397	Communication Equipment	30,544,390	3.19%	974,366	5.05%	1,541,913	567,547
398	Miscellaneous Equipment	6,443,229	2.03%	130,798	2.63%	<u>169,174</u>	<u>38,376</u>
	Total General Plant	<u>178,904,237</u>	1.88%	<u>3,365,029</u>	2.22%	<u>3,970,947</u>	<u>605,918</u>
	Total Depreciable Plant	11,846,810,073	2.56%	<u>303,053,875</u>	3.06%	<u>362,656,011</u>	<u>59,602,136</u>

#### Notes:

- 1. Includes Ohio Power's December 31, 2013 portion of Amos Unit 3 transferred to APCo in December 2013.
- 2. Clinch River Units 1 and 2 to be refueled to burn natural gas. Clinch River Unit 3 has an estimated retirement date of May 31, 2015.
- 3. The units at the Glen Lyn, Kanawha River, and Sporn Plants have an estimated retirement date of May 31, 2015.
- 4. The Dresden Plant balance does not include Virginia's AFUDC investment. Dresden Plant was not in service when depreciation rates were set in WV Case No. 05-1278-E-PC-PW-42T. The Company has been using an engineering estimated 35 year life for the plant and is requesting an initially approved depreciation rate in this filing. Since the Dresden Plant was not in plant in-service in 2005 when current depreciation rates were last set, there is no change in depreciation expense due to a change in approved rates and the currently requested rates were used in both the "Current Approved Rate" and "Study Rate" columns on this analysis.
- 5. Account 351, Electric Storage Equipment Transmission was established in 2013 as per FERC Order 784 regarding Accounting and Financial Reporting for New Electric Storage Technologies. The amount in account 351 represents the Company's investment in a sodium sulphur (NaS) storage battery at its Chemical 138KV Substation and it uses an engineering estimated 15 year life.
- 6. Using West Virginia depreciation rates for comparison purposes.
- 7. Account 363 Energy Storage Equipment uses an engineering estimated 15 year life and represents a sodium sulphur NaS battery at APCp's WV Balls Gap 139KV Substation.

## APPALACHIAN POWER COMPANY ANNUAL STEAM PRODUCTION DEPRECIATION RATES AND ACCRUALS BY THE REMAINING LIFE METHOD SCHEDULE IV - COMPARE STEAM PRODUCTION DEPRECIATION EXPENSE USING CURRENT AND STUDY RATES JUNE 2015 FORWARD BASED ON PLANT IN SERVICE AT DECEMBER 31, 2013

WV		ORIGINAL	CURRENT APPROVED	ANNUAL	STUDY	STUDY	DIFFERENCE
NO. <u>(1)</u>	TITLE <u>(2)</u>	COST ( <u>3)</u>	RATE <u>(4)</u>	ACCRUAL <u>(5)</u>	RATE ( <u>6)</u>	ACCRUAL <u>(7)</u>	(DECREASE) ( <u>8)</u>
Stea	am Production Plant						
	AMOS UNITS 1&2						
311 312 312 314 315 316	Structures & Improvements Boiler Plant Equipment Boiler Plant Equip. SCR Catalyst Turbogenerator Units Accessory Electrical Equipment Misc. Power Plant Equip.	43,227,781 1,310,182,600 20,422,274 120,924,588 40,140,776 10,235,121	2.12% 3.20% 3.20% 2.77% 2.43% 2.44%	916,429 41,925,843 653,513 3,349,611 975,421 249,737	2.43% 3.09% 9.09% 3.04% 2.13% 2.72%	1,048,282 40,470,508 1,856,385 3,681,686 853,660 277,889	131,853 -1,455,335 1,202,872 332,075 -121,761 <u>28,152</u>
	Total	<u>1,545,133,140</u>	3.11%	<u>48,070,554</u>	3.12%	<u>48,188,410</u>	<u>117,856</u>
	AMOS UNIT 3 (1)						
311 312 312 314 315 316	Structures & Improvements Boiler Plant Equipment Boiler Plant Equip. SCR Catalyst Turbogenerator Units Accessory Electrical Equipment Misc. Power Plant Equip.	100,183,997 1,465,418,812 17,384,535 102,998,245 27,371,090 23,580,469	2.06% 2.83% 2.83% 2.76% 2.24% 2.84%	2,063,790 41,471,352 491,982 2,842,752 613,112 669,685	2.43% 3.09% 12.50% 3.04% 2.13% 2.72%	2,429,481 45,265,632 2,173,067 3,135,898 582,091 <u>640,223</u>	365,691 3,794,280 1,681,085 293,146 -31,021 -29,462
	Total	1,736,937,148	2.77%	48,152,673	3.12%	54,226,392	6,073,719
	CLINCH RIVER (2)						
311 312 314 315 316	Structures & Improvements Boiler Plant Equipment Turbogenerator Units Accessory Electrical Equipment Misc. Power Plant Equip.	40,937,155 289,789,652 60,077,414 13,896,178 7,276,925	2.58% 3.26% 2.67% 2.32% 3.05%	1,056,179 9,447,143 1,604,067 322,391 221,946	5.00% 9.81% 3.53% 3.66% 6.48%	2,046,991 28,420,677 2,119,835 508,734 471,311	990,812 18,973,534 515,768 186,343 249,365
	Total	411,977,324	3.07%	12,651,726	8.15%	33,567,548	20,915,822
	MOUNTAINEER						
311 312 312 314 315 316	Structures & Improvements Boiler Plant Equipment Boiler Plant Equip. SCR Catalyst Turbogenerator Units Accessory Electrical Equipment Misc. Power Plant Equip.	194,148,184 1,119,863,999 16,652,662 110,201,667 68,312,795 20,297,934	1.67% 2.01% 2.01% 1.92% 1.65% 1.87%	3,242,275 22,509,266 334,719 2,115,872 1,127,161 <u>379,571</u>	2.43% 3.09% 12.50% 3.04% 2.13% 2.72%	4,708,131 34,591,716 2,081,583 3,355,215 1,452,784 <u>551,101</u>	1,465,856 12,082,450 1,746,864 1,239,343 325,623 <u>171,530</u>
	Total	1,529,477,241	1.94%	29,708,864	3.06%	46,740,530	17,031,666
	OTHER						
311 316 311 312 315	Centralized Maintenance Central Machine Shop Little Broad Run Ash Disposal Little Broad Run Ash Disposal Little Broad Run Ash Disposal	85,770 15,478,432 267,028 37,855,651 <u>64,843</u>	2.07% 2.10% 1.76% 1.76% 1.76%	1,775 325,047 4,700 666,259 <u>1,141</u>	2.65% 2.94% 3.54% 3.48% 3.75%	2,275 455,503 9,441 1,317,274 <u>2,429</u>	500 130,456 4,741 651,015 <u>1,288</u>
	Total	53,751,724	1.86%	998,922	3.32%	1,786,922	788,000
	Total Steam Production Plant	<u>5,277,276,577</u>	2.64%	<u>139,582,739</u>	3.50%	<u>184,509,802</u>	44,927,063

#### Notes:

- 1. Includes Ohio Power's December 31, 2013 portion of Amos Unit 3 transferred to APCo in December 2013.
- 2. Clinch River Units 1 and 2 to be refueled to burn natural gas. Clinch River Unit 3 has an estimated retirement date of May 31, 2015.

#### APPALACHIAN POWER COMPANY SCHEDULE V - COMPARISON OF MORTALITY CHARACTERISTICS DEPRECIATION STUDY AS OF DECEMBER 31, 2013

WV

	(1)	(2)	(3)	(4)	(5)	(6)		(7)	(8)	(9)	(10)	(11)
		Existing Rates (a)				Current Study Rate						
		Avg. Service Life	Iowa Curve	Salvage	Cost of Removal	Net Salvage Factor		Avg. Service Life	Iowa Curve	Salvage	Cost of Removal	Net Salvage Factor
	SMISSION PLANT	<b>3.7</b> / A	37/4	27/4	27/4	<b>.</b>				<b>5</b> 0.	<b>=</b> 0.4	0.04
351	Energy Storage Equipment	N/A	N/A	N/A	N/A	N/A		15	SQ	5%	5%	0%
352	Structures & Improvements	55 25	R3.0	5%	5%	0%		62	R4.0	5%	15%	-10%
353	Station Equipment	35	R2.0	40%	25%	15%		45	R1.5	28%	13%	15%
354	Towers & Fixtures	87	R2.5	25%	35%	-10%		68	R3.0	25%	35%	-10%
355	Poles & Fixtures	37	L2.0	5%	20%	-15%		42	R0.5	5%	20%	-15%
356	Overhead Conductor & Devices	80	R2.5	15%	5%	10%		64	R3.0	30%	18%	12%
357	Underground Conduit	55	S2.0	0%	0%	0%		50	R2.0	0%	0%	0%
358	Underground Conductor and Devices	25	L3.0	0%	0%	0%		20	L4.0	0%	0%	0%
DISTR	RIBUTION PLANT											
361	Structures & Improvements	43	R4.0	5%	5%	0%		50	R3.0	4%	16%	-12%
362	Station Equipment	37	R1.0	40%	25%	15%		40	R1.0	7%	9%	-2%
363	Energy Storage Equipment	N/A	N/A	N/A	N/A	N/A		15	SQ	5%	5%	0%
364	Poles, Towers, & Fixtures	30	R1.5	5%	60%	-55%		28	R0.5	17%	77%	-60%
365	Overhead Conductor & Devices	43	L0.0	40%	25%	15%		35	L0.0	24%	32%	-8%
366	Underground Conduit	47	S6.0	0%	0%	0%		50	S4.0	0%	0%	0%
367	Underground Conductor	52	R0.5	0%	0%	0%		55	R0.5	0%	0%	0%
368	Line Transformers	32	R0.5	25%	35%	-10%		27	R0.5	9%	24%	-15%
369	Services	36	R0.5	2%	15%	-13%		30	R0.5	1%	22%	-21%
370	Meters	25	S6.0	10%	20%	-10%		25	S6.0	10%	20%	-10%
371	Installations on Custs. Prem.	11	S6.0	2%	10%	-8%		10	R0.5	3%	23%	-20%
372	Leased Property on Custs. Prem.	25	L3.0	0%	0%	0%		25	L3.0	0%	0%	0%
373	Street Lighting & Signal Sys.	21	S6.0	10%	5%	5%		20	R0.5	9%	16%	-7%
GENE	RAL PLANT											
390	Structures & Improvements	38	R3.0	30%	2%	28%		42	R2.5	36%	11%	25%
391	Office Furniture & Equipment	30	L3.0	5%	0%	5%		30	SQ	0%	0%	0%
392	Transportation Equipment	27	S6.0	5%	0%	5%		27	SQ	0%	0%	0%
393	Stores Equipment	55	R4.0	0%	0%	0%		55	SQ	0%	0%	0%
394	Tools Shop & Garage Equipment	43	R0.5	0%	0%	0%		43	SQ	0%	10%	-10%
395	Laboratory Equipment	37	S2.0	0%	0%	0%		37	SQ	0%	0%	0%
396	Power Operated Equipment	25	L2.0	0%	0%	0%		25	SQ	0%	0%	0%
397	Communication Equipment	24	R0.5	5%	0%	5%		24	SQ	0%	1%	-1%
398	Miscellaneous Equipment	35	S6.0	0%	0%	0%		35	SQ	0%	0%	0%
370	14115Conditions Equipment	55	50.0	0 /0	0 /0	0 /0		55	50	0 /0	0 /0	0 /0

N/A = Not Available

<sup>(</sup>a) Existing rates were set in 2006 in Case No. 05-1278-E-PC-PW-42T.

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#### APPALACHIAN POWER COMPANY SCHEDULE VI - ESTIMATED GENERATION PLANT RETIREMENT DATES DEPRECIATION STUDY AS OF DECEMBER 31, 2013

Plant	Capacity (MW)	Fuel	Year Installed	Year Retired	Life Span (Years)
Steam Production Plant					
<b>Mountaineer</b> Unit 1	1,300	Coal	1980	2040	60
Kanawha River Unit 1	200	Coal	1953	2015	62
Unit 2	200	Coal	1953	2015	62
Amos	000	01	4074	0040	00
Unit 1	800	Coal	1971	2040	69
Unit 2	800	Coal	1972	2040	68
Unit 3	1,300	Coal	1973	2040	67
Sporn					
Unit 1	150	Coal	1950	2015	65 64
Unit 3	150	Coal	1951	2015	64
Clinch River					
Unit 1	235	Coal	1958	2025	67 67
Unit 2	235	Coal	1958	2025	67 54
Unit 3	235	Coal	1961	2015	54
Glen Lyn					
Unit 5	95	Coal	1944	2015	71
Unit 6	240	Coal	1957	2015	58
Hydraulic Production Plant					
Buck	8.5	Hydro	1912	2024	112
Byllesby	21.6	Hydro	1912	2024	112
Claytor	75.0	Hydro	1939	2041	102
Niagara	2.4	Hydro	1906	2024	118
Reusens	12.5	Hydro	1903	2024	121
Leesville	50.0	Hydro	1964	2040	76
London	14.4	Hydro	1935	2044	109
Marmet	14.4	Hydro	1935	2044	109
Winfield	14.8	Hydro	1938	2044	106
Smith Mountain	586.0	Hydro	1965	2040	75
Other Production Plant					
Ceredo	505.0	Gas	2001	2041	40
Dresden	580.0	Gas	2012	2047	35

## WHEELING POWER COMPANY SCHEDULE VII - CALCULATION OF DEPRECIATION RATES BY THE REMAINING LIFE METHOD BASED ON PLANT IN SERVICE AT DECEMBER 31, 2013

ACCT NO (I)	ACCOUNT TITLE (II)	ORIGINAL COST (III)	NET SALVG. RATIO (IV)	TOTAL TO BE RECOVERED (V)	THEORETICAL RESERVE (VI)	ACCUMULATED DEPRECIATION (VII)	REMAINING AMOUNT (VIII)	AVG. REMAIN LIFE (IX)	ANNUAL ACCRUAL (X)	DEPR. RATE (XI)
STEA	M PRODUCTION PLANT (1)									
311	Structures & Improvements	42,000,197	1.02	42,840,201	17,759,830	16,183,401	26,656,800	25.01	1,065,846	2.54%
312	Boiler Plant Equipment	765,644,984	1.02	780,957,884	238,315,228	, ,	542,439,453	24.25	22,368,637	2.92%
312	Boiler Plant Equip. SCR Catalyst (2)	8,190,115	1.00	8,190,115	3,218,715	2,378,494	5,811,621	6.07	1,023,764	12.50%
314	Turbogenerator Units	53,295,697	1.02	54,361,611	28,275,041	33,613,523	20,748,088	23.84	870,306	1.63%
315	Accessory Electrical Equip.	17,080,672	1.02	17,422,285	9,195,626	, ,	6,379,000	25.81	247,152	1.45%
316	Misc. Power Plant Equip.	7,693,412	1.02	<u>7,847,280</u>	3,182,218	3,072,521	4,774,759	24.13	<u>197,876</u>	2.57%
	<b>Total Steam Production Plant</b>	<u>893,905,077</u>	1.02	911,619,376	<u>299,946,658</u>	<u>304,809,655</u>	606,809,721		<u>25,773,581</u>	2.88%
TRAN	SMISSION PLANT									
352	Structures & Improvements	767,827	1.10	844,610	386,186	666,896	177,714	33.65	5,281	0.69%
353	Station Equipment	47,974,096	0.85	40,777,982	4,907,928	8,475,397	32,302,585	39.58	816,134	1.70%
354	Towers & Fixtures	4,376,150	1.10	4,813,765	2,754,691	4,757,017	56,748	29.09	1,951	0.04%
355	Poles & Fixtures	35,894,469	1.15	41,278,639	1,713,718	, ,	38,319,256	40.26	951,795	2.65%
356	OH Conductor & Devices	18,914,188	0.88	16,644,485	3,396,597	, ,	10,778,973	50.94	211,601	1.12%
357	Underground Conduit	10,982	1.00	10,982	6,447	· ·	4,535	20.65	220	2.00%
358	Underground Conductor	<u>76,937</u>	1.00	<u>76,937</u>	71,629	71,629	<u>5,308</u>	1.38	<u>3,846</u>	5.00%
	<b>Total Transmission Plant</b>	<u>108,014,649</u>	0.97	<u>104,447,400</u>	<u>13,237,196</u>	<u>22,802,281</u>	<u>81,645,119</u>	41.01	<u>1,990,828</u>	1.84%
DISTR	RIBUTION PLANT									
361	Structures & Improvements	526,952	1.12	590,186	335,177	327,216	262,970	21.60	12,175	2.31%
362	Station Equipment	22,871,851	1.02	23,329,288	5,426,809	5,297,915	18,031,373	30.70	587,341	2.57%
364	Poles, Towers, & Fixtures	30,007,702	1.60	48,012,323	13,806,034	, ,	34,534,201	19.95	1,731,038	5.77%
365	Overhead Conductor & Devices	24,176,461	1.08	26,110,578	5,379,303	, ,	20,859,041	27.79	750,595	3.10%
366	Underground Conduit	9,796,771	1.00	9,796,771	2,503,117	, ,	7,353,106	37.22	197,558	2.02%
367	Underground Conductor Line Transformers	13,524,939	1.00	13,524,939	1,404,901	1,371,533	12,153,406	49.29	246,569	1.82%
368 369	Services	21,873,360 12,085,263	1.15 1.21	25,154,364 14,623,168	6,228,831 3,975,036	6,080,888 3,880,623	19,073,476 10,742,545	20.31 21.85	939,117 491,650	4.29% 4.07%
370	Meters	5,028,375	1.10	5,531,213	540,039	, ,	5,004,001	22.56	221,809	4.07%
371	Installations on Custs. Prem.	1,725,969	1.20	2,071,163	1,161,107	,	937,634	4.39	213,584	12.37%
373	Street Lighting & Signal Sys.	1,689,314	1.07	1,807,566	890,437	, ,	938,278	10.15	92,441	5.47%
	Total Distribution Plant	<u>143,306,957</u>	1.19	<u>170,551,559</u>	<u>41,650,791</u>	40,661,527	<u>129,890,031</u>	23.69	<u>5,483,877</u>	3.83%
GENE	RAL PLANT									
390	Structures & Improvements	2,819,165	0.75	2,114,374	733,355	1,428,822	685,552	27.43	24,993	0.89%
391	Office Furniture & Equipment	49,011	1.00	49,011	15,253		19,293	20.66	934	1.91%
393	Stores Equipment	1,548	1.00	1,548	70		1,412	52.50	27	1.74%
394	Tools Shop & Garage Equipment	419,921	1.10	461,913	82,959	161,632	300,281	35.28	8,511	2.03%
397	Communication Equipment	1,329,568	1.01	1,342,864	422,942	824,033	518,831	16.44	31,559	2.37%
398	Miscellaneous Equipment	145,019	1.00	145,019	<u>31,548</u>	61,466	83,553	27.39	<u>3,050</u>	2.10%
	<b>Total General Plant</b>	<u>4,764,232</u>	0.86	<u>4,114,729</u>	<u>1,286,127</u>	<u>2,505,807</u>	<u>1,608,922</u>	23.29	<u>69,074</u>	1.45%
Total l	Depreciable Plant	<u>1,149,990,915</u>	1.04	<u>1,190,733,064</u>	<u>356,120,772</u>	<u>370,779,270</u>	<u>819,953,793</u>	24.61	<u>33,317,361</u>	2.90%

#### **Notes:**

- 1. West Virginia's share of Mitchell Plant at 50% of its original cost and accumulated depreciation.
- 2. According to AEP Air Emissions Control, the average life for SCR catalyst at Mitchell is 8 years. Accordingly used a 12.5% rate (1/8) to depreciate catalyst at Mitchell.

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## WHEELING POWER COMPANY ANNUAL DEPRECIATION RATES AND ACCRUALS BY THE REMAINING LIFE METHOD SCHEDULE VIII - COMPARE DEPRECIATION EXPENSE USING CURRENT AND STUDY RATES BASED ON PLANT IN SERVICE AT DECEMBER 31, 2013

NO. (1)	TITLE (2)	ORIGINAL COST <u>(3)</u>	CURRENT APPROVED RATE <u>(4)</u>	CURRENT ANNUAL ACCRUAL (5)	STUDY RATE (6)	STUDY ACCRUAL <u>(7)</u>	DIFFERENCE (DECREASE) (8)
Stea	am Production Plant						
	MITCHELL PLANT (1)						
311 312 312 314 315 316	Structures & Improvements Boiler Plant Equipment Boiler Plant Equip. SCR Catalyst (2) Turbogenerator Units Accessory Electrical Equipment Misc. Power Plant Equip.	42,000,197 765,644,984 8,190,115 53,295,697 17,080,672 7,693,412	2.54% 2.92% 12.50% 1.63% 1.45% 2.57%	1,065,846 22,368,637 1,023,764 870,306 247,152 197,876	2.54% 2.92% 12.50% 1.63% 1.45% 2.57%	1,065,846 22,368,637 1,023,764 870,306 247,152 197,876	0 0 0 0 0
	Total Steam Production Plant	893,905,077	2.88%	<u>25,773,581</u>	2.88%	<u>25,773,581</u>	<u>0</u>
TRA	ANSMISSION PLANT						
352 353 354 355 356 357 358	Structures & Improvements Station Equipment Towers & Fixtures Poles & Fixtures OH Conductor & Devices Underground Conduit Underground Conductor	767,827 47,974,096 4,376,150 35,894,469 18,914,188 10,982 <u>76,937</u>	2.70% 2.70% 2.70% 2.70% 2.70% 2.70% 2.70%	20,731 1,295,301 118,156 969,151 510,683 297 2,077	0.69% 1.70% 0.04% 2.65% 1.12% 2.00% 5.00%	5,281 816,134 1,951 951,795 211,601 220 3,846	-15,450 -479,167 -116,205 -17,356 -299,082 -77 <u>1,769</u>
	Total Transmission Plant	<u>108,014,649</u>	2.70%	<u>2,916,396</u>	1.84%	<u>1,990,828</u>	<u>-925,568</u>
<u>DIS</u>	TRIBUTION PLANT						
361 362 364 365 366 367 368 369 370 371 373	Structures & Improvements Station Equipment Poles, Towers, & Fixtures Overhead Conductor & Devices Underground Conduit Underground Conductor Line Transformers Services Meters Installations on Custs. Prem. Street Lighting & Signal Sys.	526,952 22,871,851 30,007,702 24,176,461 9,796,771 13,524,939 21,873,360 12,085,263 5,028,375 1,725,969 1,689,314	3.40% 3.40% 3.40% 3.40% 3.40% 3.40% 3.40% 3.40% 3.40% 3.40%	17,916 777,643 1,020,262 822,000 333,090 459,848 743,694 410,899 170,965 58,683 57,437	2.31% 2.57% 5.77% 3.10% 2.02% 1.82% 4.29% 4.07% 4.41% 12.37% 5.47%	12,175 587,341 1,731,038 750,595 197,558 246,569 939,117 491,650 221,809 213,584 <u>92,441</u>	-5,741 -190,302 710,776 -71,405 -135,532 -213,279 195,423 80,751 50,844 154,901 <u>35,004</u>
	Total Distribution Plant	143,306,957	3.40%	<u>4,872,437</u>	3.83%	<u>5,483,877</u>	<u>611,440</u>

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## WHEELING POWER COMPANY ANNUAL DEPRECIATION RATES AND ACCRUALS BY THE REMAINING LIFE METHOD SCHEDULE VIII - COMPARE DEPRECIATION EXPENSE USING CURRENT AND STUDY RATES BASED ON PLANT IN SERVICE AT DECEMBER 31, 2013

NO. <u>(1)</u>	TITLE <u>(2)</u>	ORIGINAL COST (3)	CURRENT APPROVED RATE <u>(4)</u>	CURRENT ANNUAL ACCRUAL ( <u>5)</u>	STUDY RATE (6)	STUDY ACCRUAL <u>(7)</u>	DIFFERENCE (DECREASE) (8)
<u>GEN</u>	NERAL PLANT						
390 391 393 394 397 398	Structures & Improvements Office Furniture & Equipment Stores Equipment Tools Shop & Garage Equipment Communication Equipment Miscellaneous Equipment	2,819,165 49,011 1,548 419,921 1,329,568 <u>145,019</u>	3.50% 3.50% 3.50% 3.50% 3.50%	98,671 1,715 54 14,697 46,535 <u>5,076</u>	0.89% 1.91% 1.74% 2.03% 2.37% 2.10%	24,993 934 27 8,511 31,559 <u>3,050</u>	-73,678 -781 -27 -6,186 -14,976 <u>-2,026</u>
	Total General Plant	<u>4,764,232</u>	3.50%	<u>166,748</u>	1.45%	<u>69,074</u>	<u>-97,674</u>
	Total Depreciable Plant	<u>1,149,990,915</u>	2.93%	<u>33,729,162</u>	2.90%	<u>33,317,360</u>	<u>-411,802</u>

#### Notes:

<sup>1.</sup> WPCo's proposed 50% interest in the Mitchell Plant at December 31, 2013. Since this schedule measures the change in depreciation expense caused by a change in depreciation rates and since Mitchell was not previously connected to WPCo, the change in depreciation expense due to a change in depreciation rates is \$0 and the currently requested Mitchell depreciation rates were used in the Current Annual Accrual.

<sup>2.</sup> According to AEP Air Emissions Control, the average life for SCR catalyst at Mitchell is 8 years. Accordingly used a 12.5% rate (1/8) to depreciate catalyst at Mitchell.

### WHEELING POWER COMPANY SCHEDULE IX - COMPARISON OF MORTALITY CHARACTERISTICS DEPRECIATION STUDY AS OF DECEMBER 31, 2013

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		
	_			Existing Ra	ates		 Current Study Rates (a)						
TID A N	CMICCION DI ANTE	Avg. Service Life	Iowa Curve	Salvage	Cost of Removal	Net Salvage Factor	Avg. Service Life	Iowa Curve	Salvage	Cost of Removal	Net Salvage Factor		
	SMISSION PLANT  Structures & Improvements	NI/A	NI/A	NI/A	NI/A	NI/A	62	R4.0	50/	150/	100/		
352	Structures & Improvements	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	62 45	R4.0 R1.5	5% 28%	15% 13%	-10% 15%		
353 354	Station Equipment Towers & Fixtures	N/A	N/A N/A			N/A N/A	43 68	R1.5					
355	Poles & Fixtures	N/A N/A	N/A	N/A N/A	N/A N/A	N/A N/A	42	R0.5	25% 5%	35% 20%	-10% -15%		
356	Overhead Conductor & Devices	N/A N/A	N/A	N/A N/A	N/A N/A	N/A N/A	42 64	R3.0	30%	18%	12%		
357	Underground Conduit	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	50	R2.0	30% 0%	0%	0%		
358	Underground Conductor and Devices	N/A	N/A	N/A	N/A	N/A N/A	20	L4.0	0%	0%	0%		
336	Onderground Conductor and Devices	11/14	1 <b>\</b> / /A	1 <b>V</b> / F <b>A</b>	1 <b>\</b> / /A	1 <b>V</b> /A	20	L4.0	070	070	070		
DISTE	RIBUTION PLANT												
361	Structures & Improvements	N/A	N/A	N/A	N/A	N/A	50	R3.0	4%	16%	-12%		
362	Station Equipment	N/A	N/A	N/A	N/A	N/A	40	R1.0	7%	9%	-2%		
364	Poles, Towers, & Fixtures	N/A	N/A	N/A	N/A	N/A	28	R0.5	17%	77%	-60%		
365	Overhead Conductor & Devices	N/A	N/A	N/A	N/A	N/A	35	L0.0	24%	32%	-8%		
366	Underground Conduit	N/A	N/A	N/A	N/A	N/A	50	S4.0	0%	0%	0%		
367	Underground Conductor	N/A	N/A	N/A	N/A	N/A	55	R0.5	0%	0%	0%		
368	Line Transformers	N/A	N/A	N/A	N/A	N/A	27	R0.5	9%	24%	-15%		
369	Services	N/A	N/A	N/A	N/A	N/A	30	R0.5	1%	22%	-21%		
370	Meters	N/A	N/A	N/A	N/A	N/A	25	S6.0	10%	20%	-10%		
371	Installations on Custs. Prem.	N/A	N/A	N/A	N/A	N/A	10	R0.5	3%	23%	-20%		
373	Street Lighting & Signal Sys.	N/A	N/A	N/A	N/A	N/A	20	R0.5	9%	16%	-7%		
GENE	RAL PLANT												
390	Structures & Improvements	N/A	N/A	N/A	N/A	N/A	42	R2.5	36%	11%	25%		
391	Office Furniture & Equipment	N/A	N/A	N/A	N/A	N/A	30	SQ	0%	0%	0%		
393	Stores Equipment	N/A	N/A	N/A	N/A	N/A	55	SQ	0%	0%	0%		
394	Tools Shop & Garage Equipment	N/A	N/A	N/A	N/A	N/A	43	SQ	0%	10%	-10%		
397	Communication Equipment	N/A	N/A	N/A	N/A	N/A	24	SQ	0%	1%	-1%		
200	T T	· ·		/ A	37/4			~ ~	0.04	0.04	0.04		

35

SQ

0%

0%

0%

N/A

N/A = Not Available

398 Miscellaneous Equipment

N/A

N/A

N/A

N/A

<sup>(</sup>a) Used mortality statistics from APCo's Depreciation Study dated December 31, 2013

#### CONFIDENTIAL

#### Monthly Net Capacity Factors for Big Sandy Unit 1 June 2016-December 2020

Unit Name	Date	Capacity Factor (%)
BS1	June, 2016	25.8
BS1	July, 2016	48.2
BS1	August, 2016	62.4
BS1	September, 2016	29.0
BS1	October, 2016	16.2
BS1	November, 2016	60.7
BS1	December, 2016	15.3
BS1	January, 2017	13.7
BS1	February, 2017	9.5
BS1	March, 2017	32.1
BS1	April, 2017	10.1
BS1	May, 2017	1.4
BS1	June, 2017	20.0
BS1	July, 2017	38.3
	•	
BS1 BS1	August, 2017	20.7
_	September, 2017	24.8
BS1	October, 2017	48.8
BS1	November, 2017	
BS1	December, 2017	
BS1	January, 2018	
BS1	February, 2018	
BS1	March, 2018	
BS1	April, 2018	
BS1	May, 2018	
BS1	June, 2018	
BS1	July, 2018	
BS1	August, 2018	
BS1	September, 2018	
BS1	October, 2018	
BS1	November, 2018	
BS1	December, 2018	
BS1	January, 2019	
BS1	February, 2019	
BS1	March, 2019	
BS1	April, 2019	
BS1	May, 2019	
BS1	June, 2019	
BS1	July, 2019	
BS1	August, 2019	
BS1	September, 2019	
BS1	October, 2019	
BS1	November, 2019	
BS1	December, 2019	
BS1	January, 2020	
BS1	February, 2020	
BS1	March, 2020	
BS1	April, 2020	
BS1	May, 2020	
BS1	June, 2020	
BS1	July, 2020	
BS1	August, 2020	
BS1	September, 2020	
BS1	October, 2020	
BS1	November, 2020	
BS1	December, 2020	

Note: Source of historical performance data is GADS.

#### Kentucky Power Company KPSC Case No. 2017-00179 General Rate Adjustment Kentucky Power Company

Commission Staff's Fourth Set of Data Requests Dated November 9, 2017

#### **DATA REQUEST**

KPSC 4 006

Refer to Kentucky Power's response to Staff's Second Request, Item 56 d., regarding medical insurance. Provide an update to the response assuming that the employee would pay 21 percent of the total cost for single coverage and 33 percent for all other types of coverage, compared to the amount of healthcare/medical insurance expense incurred during the test year.

#### **RESPONSE**

Using the assumptions identified in the data request, the jurisdictional medical insurance adjustment would be \$140,715 instead of \$560,719 as filed in the case by the Company. Please refer to KPCO\_R\_KPSC\_4\_006\_Attachment1.xlsx for details.

Witness: Tyler H. Ross

### Kentucky Power Company KPSC Case No. 2017-00179 General Rate Adjustment Kentucky Power Company

Commission Staff's Fourth Set of Data Requests Dated November 9, 2017

#### Page 1 of 2

#### **DATA REQUEST**

KPSC\_4\_007

Refer to Kentucky Power's response to Staff's Third Request, Item 9, Attachment 1.

- a. Confirm that the adjusted base environmental revenue requirement does not include Kentucky Power's proposed gross-up factor for uncollectible accounts and the PSC assessment fee to be applied to O&M expenses, and explain whether this omission is intentional.
- b. Confirm that the "KPSC Maintenance Assessment Fee" included in the weighted average cost of capital ('WACC") and gross revenue conversion factor ("GRCF") calculation should be 0.1996.
- c. If Kentucky Power intends to continue to propose a gross-up factor for environmental O&M expenses, provide a revised Exhibit AJE-1 S and supporting work papers that includes the gross-up calculation in Excel spreadsheet format, with formulas intact and unprotected and all rows and columns accessible.
- d. If the Commission were to ultimately grant a return on equity ("ROE") different from Kentucky Power's requested 10.31 percent, explain whether adjustments should be made to the environmental revenue requirement included in base rates and describe the necessary adjustments.

#### **RESPONSE**

- a. Confirmed. This omission is intentional. The ES forms have been updated to reflect that the gross-up is applied only to the difference in the O&M from the base level. Please refer to KPCO\_R\_KPSC\_4\_007\_Attachment1.xlsx for the revised Environmental Surcharge forms.
- b. The Company will incorporate the most recently-received KRS 278.130 assessment fee in its final gross revenue conversion factor ultimately used to determine the environmental surcharge base revenue requirement. Please refer also to subpart d below.
- c. Kentucky Power is proposing a gross-up factor for only the difference in environmental O &M expenses from the base level. No update to AJE-1 is required for the Company's proposed methodology. Please refer also to subpart a above.

## Kentucky Power Company KPSC Case No. 2017-00179 General Rate Adjustment Kentucky Power Company Commission Staff's Fourth Set of Data Requests Dated November 9, 2017

#### Page 2 of 2

d. The Company's base revenue requirement is based on test year amounts and the proposals in this case. Any change to the Company's proposal may affect the Environmental Surcharge base revenue requirement. For example, if the Commission were to ultimately grant a return on equity (ROE) different from Kentucky Power's requested 10.31 percent, it will be necessary to adjust the environmental base revenue requirement to reflect the approved ROE. The subsequent adjustments would include a change to the weighted average cost of capital and ultimately the return component of the environmental surcharge base revenue requirement. An example of this type of change is evidenced by the Company's update for its June financing activities. Likewise, other changes to the Company's proposal could affect the Environmental Surcharge base revenue requirement

Witness: Amy J Elliott

#### Kentucky Power Company KPSC Case No. 2017-00179 General Rate Adjustment Kentucky Power Company

Commission Staff's Fourth Set of Data Requests Dated November 9, 2017

#### **DATA REQUEST**

KPSC 4 008 Refer to Kentucky Power's response to Staff's Second Request, Items

26.a and 26.c. Explain whether the operating expenses discussed in this response are recovered elsewhere in Kentucky Power's revenue requirement for this case. If the expenses are recovered, explain where

they are included in the revenue requirement.

#### **RESPONSE**

The identified operating expenses are included in the Company's revenue requirement. The Company's cost of service study includes amounts paid for the assessment levied pursuant to KRS 278.130 and uncollectible expenses. The KRS 278.130 assessment is included in account 4081018; uncollectible expenses are included in account 9040007.

Witness: Amy J Elliott

#### Kentucky Power Company KPSC Case No. 2017-00179 General Rate Adjustment Kentucky Power Company

Commission Staff's Fourth Set of Data Requests Dated November 9, 2017

#### **DATA REQUEST**

KPSC\_4\_009 Refer to Kentucky Power's response to Staff's Second Request, Item

No. 26.d. Explain whether Kentucky Power still intends to request an informal conference with Commission Staff to discuss future filing

forms for the environmental surcharge.

#### **RESPONSE**

The Company intends to request an informal conference after the hearing in this case to discuss the Purchase Power Adjustment Forms, the System Sales Clause Forms, and the Environmental Surcharge forms. This is the same schedule the Company suggested in Case No. 2014-00396.

Witness: Amy J Elliott

#### Kentucky Power Company KPSC Case No. 2017-00179 General Rate Adjustment

#### Kentucky Power Company

Commission Staff's Fourth Set of Data Requests Dated November 9, 2017

#### **DATA REQUEST**

KPSC\_4\_010

Refer to Kentucky Power's response to Staff's Second Request, Item 27.d.

- a. Explain why it is necessary for Kentucky Power to employ deferral accounting for the items listed.
- b. Provide examples of the transactions recorded for these items.
- c. Explain how these items ultimately flow through the environmental surcharge mechanism.

#### **RESPONSE**

A. Deferral accounting is required by the applicable accounting standards. Financial Accounting Standards Board's (FASB's) Accounting Standards Codification (ASC) 980-340-25-1 (regulatory assets) requires deferral accounting when there is probability of recovery from customers in the future for an under-recovery of costs. ASC 980-405-25-1 (regulatory liabilities) requires deferral accounting when a liability to ratepayers is probable such as a true-up to actual costs which results in an over-recovery and refund to customers in the future.

Tariff E.S. provides for a reconciliation for the difference between base rates and actual environmental costs, which requires the recording of a regulatory asset or regulatory liability for such difference thus implicating both accounting requirements:

The environmental surcharge shall provide for monthly adjustments based on a percent of revenues, equal to the difference between the environmental compliance costs in the base period as provided in Paragraph 2 below and in the current period as provided in Paragraph 3 below.

- B. As shown in Attachment KPCO R KPSC 4 010 Attachment1.xls, the total retail amount to be collected through the Environmental Surcharge for billing in August 2016 was \$3,942,548 consisting of: 1) \$3,997,363 applicable to actual cost for June 2016 and 2) \$(54,815) overrecovery applicable to the true-up of April 2016. These amounts were recorded on Kentucky Power's books as follows:
- 1) June 2016 actuals were recorded in July 2016
- 2) April 2016 true-up was recorded in June 2016

Note that the true-up to actual costs for this rider is determined on a two-month lag.

C. Only the actual costs are included in the environmental surcharge mechanism.

Witness: Amy J Elliott/Tyler H Ross