**American Electric Power** 

**UMWA Postretirement Health Care Plan** 

Actuarial Valuation Report Postretirement Welfare Cost for Fiscal Year Ending December 31, 2018, under U.S. GAAP

May 2018

# Willis Towers Watson III'I'III

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# Purpose and actuarial statement

### **Purposes of valuation**

American Electric Power retained Towers Watson Delaware Inc. ("Willis Towers Watson"), to perform an actuarial valuation of its postretirement welfare programs for the purpose of determining the following:

(1) The value of benefit obligations as of January 1, 2018 and American Electric Power's postretirement welfare cost for fiscal year ending December 31, 2018 in accordance with FASB Accounting Standards Codification Topic 715 (ASC 715-60). It is anticipated that a separate report will be prepared for year-end financial reporting and disclosure purposes.

### Limitations

This valuation has been conducted for the purposes described above and may not be suitable for any other purpose. In particular, please note the following:

- 1. There may be certain events that have occurred since the valuation date that are not reflected in the current valuation.
- 2. This report does not provide information for plan reporting under ASC 965.

This valuation has been conducted in accordance with generally accepted actuarial principles and practices. However, please note the information discussed below regarding this valuation.

#### Reliances

In preparing the results presented in this report, we have relied upon information regarding plan provisions, participants, claims data, contributions and assets (if any) provided by American Electric Power and other persons or organizations designated by American Electric Power. We have reviewed this information for overall reasonableness and consistency, but have neither audited nor independently verified this information. Based on discussions with and concurrence by the plan sponsor, assumptions or estimates may have been made if data were not available. We are not aware of any errors or omissions in the data that would have a significant effect on the results of our calculations.

We have relied on all the information provided as complete and accurate. The results presented in this report are dependent upon the accuracy and completeness of the underlying data and information. Any material inaccuracy in the data and information provided to us may have produced results that are not suitable for the purposes of this report and such inaccuracies, as corrected by American Electric Power, may produce materially different results that could require that a revised report be issued.

#### **Effects of Health Care Legislation**

In March 2010, the Patient Protection and Affordable Care Act (PPACA) and Health Care and Education Reconciliation Act (HCERA) were enacted. The key aspects of the Acts affecting American Electric Power's benefit obligation and cost of providing retiree medical benefits are:

- Mandatory coverage for adult children until age 26 beginning in 2011
- Loss of the tax free status of the Retiree Drug Subsidy (RDS) beginning in 2013
- Excise ("Cadillac Plan") tax on high-cost plans beginning in 2020

All subsequent measurements for tax purposes reflect current law.

This valuation reflects our understanding of the relevant provisions of PPACA and HCERA. The IRS and HHS have yet to issue final guidance with respect to many aspects of this law. It is possible that future guidance may conflict with our understanding of these laws based on currently available guidance and could therefore affect the results shown in this report.

### Assumptions and methods under U.S. GAAP

As required by U.S. GAAP, the actuarial assumptions and methods employed in the development of the other postretirement benefit cost and other financial reporting have been selected by the Company. Willis Towers Watson has concurred with these assumptions and methods except for the expected return on plan assets selected for fiscal 2018. Evaluation of the expected rate of return assumption was outside the scope of Willis Towers Watson's assignment and would have required substantial additional work that we were not engaged to perform. U.S. GAAP requires that each significant assumption "individually represent the best estimate of a particular future event."

The results shown in this report have been developed based on actuarial assumptions that, to the extent evaluated by Willis Towers Watson, we consider to be reasonable. Other actuarial assumptions could also be considered to be reasonable. Thus, reasonable results differing from those presented in this report could have been developed by selecting different reasonable assumptions.

A summary of the assumptions and methods used is provided in Appendix A.

## Nature of actuarial calculations

The results shown in this report have been developed based on actuarial assumptions that, to the extent evaluated or selected by Willis Towers Watson, we consider to be reasonable. Other actuarial assumptions could also be considered to be reasonable. Thus, reasonable results differing from those presented in this report could have been developed by selecting different reasonable assumptions. The results shown in this report are estimates based on data that may be imperfect and on assumptions about future events that cannot be predicted with certainty. The effects of certain plan provisions may be approximated, or determined to be insignificant and therefore not valued. Assumptions may be made, in consultation with American Electric Power about participant data or other factors. Reasonable efforts were made in preparing this valuation to confirm that items that are significant in the context of the actuarial liabilities or costs are treated appropriately, and are not excluded or included inappropriately. The numbers shown in this report are not rounded. This is for convenience only and should not imply precision; by their nature, actuarial calculations are not precise.

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If overall future plan experience produces higher (lower) benefit payments or lower (higher) investment returns than assumed, the relative level of plan costs or contribution requirements reported in this valuation will likely increase (decline) in future valuations. Future actuarial measurements may differ significantly from the current measurements presented in this report due to many factors, including: plan experience differing from that anticipated by the economic or demographic assumptions; increases or reductions expected as part of the natural operation of the methodology used for the measurements (such as the end of an amortization period); and changes in plan provisions or applicable law. It is beyond the scope of this valuation to analyze the potential range of future postretirement welfare contributions, but we can do so upon request.

See Basis for Valuation in Section 1 above for a discussion of any material events that have occurred after the valuation date that are not reflected in this valuation.

#### Limitations on use

This report is provided subject to the terms set out herein and in our master consulting services agreement dated July 29, 2004, and any accompanying or referenced terms and conditions.

The information contained in this report was prepared for the internal use of American Electric Power and its auditors in connection with our actuarial valuation of the postretirement welfare plan as described in Purposes of Valuation above. It is not intended for and may not be used for other purposes, and we accept no responsibility or liability in this regard. American Electric Power may distribute this actuarial valuation report to the appropriate authorities who have the legal right to require American Electric Power to provide them this report, in which case American Electric Power will use best efforts to notify Willis Towers Watson in advance of this distribution. Further distribution to, or use by, other parties of all or part of this report is expressly prohibited without Willis Towers Watson's prior written consent. Willis Towers Watson accepts no responsibility for any consequences arising from any other party relying on this report or any advice relating to its contents.

#### **Professional qualifications**

The undersigned consulting actuaries are members of the Society of Actuaries and meet the "Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States" relating to postretirement welfare plans. Our objectivity is not impaired by any relationship between American Electric Power and our employer, Towers Watson Delaware Inc.

Mastin P. Tranginger

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(had. Greemal

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Joseph A. Perko, FSA, EA, MAAA Director, Retirement Valuation Actuary

The Pricing Specialist is responsible for developing and/or determining the reasonableness of retiree welfare plan trend and participation assumptions as well as assumed per capita claims costs (including the aging/morbidity assumption, if applicable). The Valuation Actuary is responsible for other aspects of the valuation (e.g., developing and/or reviewing the reasonableness of other valuation assumptions and methods, ensuring that the valuation model reasonably reflects the substantive plan and actual plan operation, preparing demographic data, performing the valuation, implementing the correct accounting or funding calculations, etc.).

Towers Watson Delaware Inc.

May 2018

WillisTowers Watson III'I'II

# Section 1: Summary of key results

## Benefit cost, assets & obligations

	All monetary amounts shown in US D	ollars	
Fiscal Year Begin	ining	January 1, 2018	January 1, 2017
Benefit Cost/ (Income)	Net Periodic Postretirement Benefit Cost/(Income)	3,544,717	2,928,032
Measurement Dat	te	January 1, 2018	January 1, 2017
Plan Assets	Fair Value of Assets (FVA)	36,801,767	31,414,235
Benefit Obligations	Accumulated Postretirement Benefit Obligation (APBO)	100,941,397	85,221,031
Funded Status	Funded Status	(64,139,630)	(53,806,796)
Accumulated	Net Transition Obligation/(Asset)	0	0
Other	Net Prior Service Cost/(Credit)	0	0
Comprehensive (Income)/Loss	Net Loss/(Gain)	29,560,286	18,264,322
(	Total Accumulated Other Comprehensive (Income)/Loss	29,560,286	18,264,322
Assumptions <sup>1</sup>	Discount Rate	3.70%	4.10%
	Expected Long-term Return on Plan Assets	7.25%	6.75%
	Current Health Care Cost Trend Rate	6.50%	6.75%
	Ultimate Health Care Cost Trend Rate	5.00%	5.00%
	Year of Ultimate Trend Rate	2024	2024
Participant Data	Census Date	January 1, 2018	January 1, 2017
Plan reporting (AS	SC 965) for Plan Year Beginning	January 1, 2018	January 1, 2017
	Present value of accumulated benefits	107,959,803	91,833,261
	Market value of assets	36,801,767	31,414,235
_	Plan reporting discount rate	3.70%	4.10%
	utions (net of Medicare subsidy)	Plan Year 2018	Plan Year 2017
Cash Flow	Expected benefit payments and expenses net of participant contributions (excluding Cook Coal) and cash contributions (Cook Coal only)	4,137,148	3,725,886

## **Employer Contributions**

Employer contributions are the amounts paid by American Electric Power to provide for postretirement benefits, net of participant contributions and Medicare subsidy for non-Cook Coal locations plus the Net Periodic Benefit Cost for Cook Coal.

American Electric Power's funding policy for non-Cook Coal locations is to pay claims costs for the year and administrative expenses, less participant contributions and any Medicare Part D subsidy (RDS) received. For Cook Coal, the funding policy is to contribute an amount equal to the postretirement welfare cost plus retiree drug subsidy payments received (the sum of which can be no

<sup>&</sup>lt;sup>1</sup> Rates are expressed on an annual basis where applicable.

less than zero). We understand the sponsor may deviate from this policy, as permitted by its terms, based on cash, tax or other considerations.

#### Postretirement welfare cost and funded position

The cost of the postretirement welfare plan is determined in accordance with generally accepted accounting principles in the U.S. ("U.S. GAAP"). The fiscal 2018 postretirement welfare benefit cost for the plan is \$3,544,717. Under U.S. GAAP, the funded position (fair value of plan assets less the projected benefit obligation, or "APBO") of each postretirement welfare plan at the plan sponsor's fiscal year-end (measurement date) is required to be reported as a liability. The APBO is the actuarial present value of benefits attributed to service rendered prior to the measurement date, taking into consideration expected future pay increases for pay-related plans. The plan's overfunded (underfunded) APBO as of January 1, 2018, was \$(64,139,630), based on the fair value of plan assets of \$36,801,767 and the APBO of \$100,941,397.

Fiscal year-end financial reporting information and disclosures are prepared before detailed participant data and full valuation results are available. Therefore, the postretirement benefit asset (liability) at December 31, 2017, was derived from a roll forward of the January 1, 2017 valuation results, adjusted for the year-end discount rate and asset values, as well as significant changes in plan provisions and participant population. The current fiscal year-end financial reporting information will be developed based on the results of the January 1, 2018 valuation, projected to the end of the year and similarly adjusted for the year-end discount rate and asset values, as well as significant changes in plan provisions and participant population.

### Change in postretirement welfare cost

The postretirement welfare cost increased from \$2,928,032 in fiscal 2017 to \$3,544,717 in fiscal 2018, as set forth below:

All monetary amounts shown in US Dollars			
(\$ in millions)	Postretirement welfare cost		
Prior year	2.9		
Change due to:			
<ul> <li>Expected based on prior valuation and contributions during prior year</li> </ul>	(0.2)		
<ul> <li>Unexpected noninvestment experience</li> </ul>	0.1		
<ul> <li>Unexpected investment experience</li> </ul>	(0.5)		
<ul> <li>Assumption changes</li> </ul>	1.2		
<ul> <li>Changes in substantive plan</li> </ul>	0.0		
Current year	3.5		

Significant reasons for these changes include the following:

- The discount rate decreased by 40 basis points compared to the prior year which increased the postretirement welfare cost.
- There was an increase in the active population as a result of recalling several union employees which increased the postretirement welfare cost.

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- Claims experience was higher than expected which resulted in higher per capita claims cost assumptions and an increase in the postretirement welfare cost.
- The expected return on asset assumption was increased from 6.75% to 7.25%, which decreased the postretirement welfare cost.

## **Basis for valuation**

Appendix A summarizes the assumptions and methods used in the valuation. Appendix B summarizes our understanding of the principal provisions of the plan being valued.

#### **Changes in Assumptions**

The following assumptions were revised for the 2018 valuation: mortality, discount rate, per capita claims costs, excise tax and expected return on assets.

#### **Changes in Methods**

None.

#### **Changes in Benefits Valued**

None.

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# Section 2: Accounting exhibits

#### 2.1 **Balance sheet asset/(liability)**

	asurement Date	January 1, 2018	January 1, 2017
			, <u> </u>
Α	Development of Balance Sheet Asset/(Liability) <sup>1</sup>		
	<ol> <li>Accumulated postretirement benefit obligation (APBO)</li> </ol>	100,941,397	85,221,031
	2 Fair value of assets (FVA)	36,801,767	31,414,235
	3 Net balance sheet asset/(liability)	(64,139,630)	(53,806,796)
в	Current and Noncurrent Allocation		
	1 Noncurrent assets	0	0
	2 Current liabilities	(2,951,249)	(3,009,846)
	3 Noncurrent liabilities	(61,188,381)	(50,796,950)
	4 Net balance sheet asset/(liability)	(64,139,630)	(53,806,796)
с	Accumulated Other Comprehensive (Income)/Loss		
с	•	0	0
с	(Income)/Loss	0 0	0 0
с	(Income)/Loss 1 Net transition obligation/(asset)	-	0
с	<ul><li>(Income)/Loss</li><li>1 Net transition obligation/(asset)</li><li>2 Net prior service cost/(credit)</li></ul>	0	0 18,264,322
C	<ul> <li>(Income)/Loss</li> <li>1 Net transition obligation/(asset)</li> <li>2 Net prior service cost/(credit)</li> <li>3 Net loss/(gain)</li> <li>4 Accumulated other comprehensive</li> </ul>	0 29,560,286	0 18,264,322
-	<ul> <li>(Income)/Loss</li> <li>1 Net transition obligation/(asset)</li> <li>2 Net prior service cost/(credit)</li> <li>3 Net loss/(gain)</li> <li>4 Accumulated other comprehensive (income)/loss<sup>2</sup></li> </ul>	0 29,560,286	0 18,264,322
-	(Income)/Loss          1       Net transition obligation/(asset)         2       Net prior service cost/(credit)         3       Net loss/(gain)         4       Accumulated other comprehensive (income)/loss <sup>2</sup> Assumptions and Dates <sup>3</sup>	0 29,560,286 29,560,286	0 18,264,322 18,264,322 4.10%
-	(Income)/Loss 1 Net transition obligation/(asset) 2 Net prior service cost/(credit) 3 Net loss/(gain) 4 Accumulated other comprehensive (income)/loss <sup>2</sup> Assumptions and Dates <sup>3</sup> 1 Discount rate	0 29,560,286 29,560,286 3.70%	0 18,264,322 18,264,322 4.10% 6.75%
-	<ul> <li>(Income)/Loss <ol> <li>Net transition obligation/(asset)</li> <li>Net prior service cost/(credit)</li> <li>Net loss/(gain)</li> </ol> </li> <li>4 Accumulated other comprehensive (income)/loss<sup>2</sup></li> </ul> Assumptions and Dates <sup>3</sup> <ol> <li>Discount rate</li> <li>Current health care cost trend rate</li> </ol>	0 29,560,286 29,560,286 3.70% 6.50%	0 18,264,322 18,264,322

Whether the amounts in this table that differ from those disclosed at year-end must be disclosed in subsequent interim financial statements should be determined. 1

Amount shown is pre-tax and should be adjusted by plan sponsor for tax effects. Rates are expressed on an annual basis where applicable. 2

<sup>3</sup> 

2.2 Summary and comparison of postretirement benefit cost and cash flo
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Fis	scal )	Year Ending	December 31, 2018	December 31, 2017
А	То	tal Postretirement Benefit Cost		
	1	Employer service cost	1,153,642	853,575
	2	Interest cost	3,702,013	3,447,442
	3	Expected return on assets	(2,668,787)	(2,110,641)
	4	Subtotal	2,186,868	2,190,376
	5	Transition obligation/(asset) amortization	0	0
	6	Net prior service cost/(credit) amortization	0	0
	7	Net loss/(gain) amortization	1,357,849	737,656
	8	Amortization subtotal	1,357,849	737,656
	9	Net periodic postretirement benefit cost/(income)	3,544,717	2,928,032
в	As	sumptions <sup>1</sup>		
	1	Discount rate	3.70%	4.10%
	2	Current health care cost trend rate	6.50%	6.75%
	3	Ultimate health care cost trend rate	5.00%	5.00%
	4	Year ultimate trend rate is expected	2024	2024
С	Ce	nsus Date	January 1, 2018	January 1, 2017
D	As	sets at Beginning of Year		
	1	Fair market value	36,801,767	31,414,235
Е	Ca	sh Flow	Expected	Actual
	1	Employer contributions <sup>2</sup>	4,137,148	4,138,522
	2	Plan participants' contributions	0	0
	3	Benefits paid by the Employer <sup>3</sup>	3,158,218	3,333,845
	4	Benefits paid from plan assets <sup>3</sup>	1,201,198	804,677
	5	Expected Medicare subsidy	(240,754)	(247,361)

2 Reflects benefit payments and expenses (non-Cook Coal), as well as contributions to plan trust (Cook Coal), net of RDS. Amounts shown are prior to offset for Medicare subsidy.

These assumptions were used to calculate the Net Postretirement Benefit Cost/ (Income) as of the beginning of the year. Rates are expressed on an annual basis where applicable. For assumptions used for interim measurement periods, if any, refer to Appendix A. 1

<sup>3</sup> 

# 2.3 Detailed results for postretirement welfare cost and funded position

	All monetary amounts shown in US Dollars								
De	taile	dresults		January 1, 2018	January 1, 2017				
Α	Se	vice Cost							
	1	Medical		1,153,642	853,575				
в	Ac	cumulated	Postretirement Benefit Obligation [APBO]						
	1	Medical:							
		a Partic	pants currently receiving benefits	71,536,357	65,110,491				
		b Fully	eligible active participants	10,811,551	8,542,750				
		c Other	participants	18,593,489	11,567,790				
		d Total		100,941,397	85,221,031				
С	As	sets							
	1	Fair value	[FV]	36,801,767	31,414,235				
D	Fu	nded Posit	ion						
	1	Overfunde	ed (underfunded) APBO	(64,139,630)	(53,806,796)				
Е	An	ounts in A	Accumulated Other Comprehensive Income						
	1	Transition	obligation/(asset)	0	0				
	2	Net prior s	service cost/(credit)	0	0				
	3	Net loss/(	gain)	29,560,286	18,264,322				
	4	Total		29,560,286	18,264,322				
F	Eff	ect of Cha	nge in Health Care Cost Trend Rate						
	1	One-perce	entage-point increase:						
		a Sum	of service cost and interest cost	1,178,948	895,471				
		b APBC	)	18,605,676	13,666,327				
	2	One-perce	entage-point decrease:						
		a Sum	of service cost and interest cost	(871,407)	(681,844)				
		b APBC	)	(14,427,708)	(10,874,796)				

	All monetary a mounts shown in US Dollars						
			January 1, 2018	January 1, 2017			
Α	Ме	edical					
	1	Gross disbursements	4,359,416	4,285,707			
	2	Participant contributions	0	0			
	3	Net disbursements	4,359,416	4,285,707			
в	RD	)S					
	1	Gross disbursements	(240,754)	(264,019)			
	2	Participant contributions	0	0			
	3	Net disbursements	(240,754)	(264,019)			
С	То	tal					
	1	Gross disbursements	4,118,662	4,021,688			
	2	Participant contributions	0	0			
	3	Net disbursements	4,118,662	4,021,688			

# 2.4 Expected benefit disbursements, administrative expenses and participant contributions

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# Section 3: Data exhibits

## 3.1 Plan participant data

	All monetary a mounts shown in US Dollars							
Ce	nsu	s Da	te		January 1, 2018	January 1, 2017		
Α	Pa	rtici	pating Employees					
	1	Νι	mber					
		а	Fully eligible		14	14		
		b	Other		26	21		
		с	Total participating employees		40	35		
	2	Av	erage age		47.3	48.7		
	3	Av	erage credited service		19.7	21.1		
	4	Av	erage future working life					
		а	to expected retirement age		14.3	13.2		
		b	to full eligibility age		7.1	5.7		
в	Re	etiree	es and Surviving Spouses					
	1	Re	tirees and surviving spouses					
		а	Number under 65		39	43		
		b	Number 65 and older		181	208		
		с	Total		220	251		
		d	Number with married/family health care covera	ge	96	105		
		е	Number with single health care coverage		124	146		
		f	Average age		75.8	76.3		
		g	Age Distribution at January 1, 2018					
			Age Nu	umber				
			Under 55	1				
			55-59	5				
			60-64	33				
			65-69 70-74	29 42				
			10-14	42				

22 33

55

75-79

80-84 85 and over

105

68.5

96

68.2

#### C Dependents

- 1 Number
- 2 Average age
- 3 Age Distribution at January 1, 2018

Age	Number
Under 55	3
55-59	14
60-64	22
65-69	24
70-74	12
75-79	10
80-84	7
85 and over	4

Participant data was supplied by the AEP as of the census date.

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		Attained Years of Credited Service and Number								
Attained Age		0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34	Tota
Under 25										
25-29										
30-34			1	3						4
35-39			2	4	2					8
40-44			1	3	3					7
45-49				2	1	1				4
50-54				1	3	1	1			6
55-59					2		1		3	6
60-64					1				4	5
65-69										
70 & over										
Total		0	4	13	12	2	2	0	7	40 1
-	Age:	47.3	Num	ber of Participants:		eligible 14	Mal		)	
census data as	Service of Januar	19.7 v 1. 2018			Othe	r 26	Fen	nales 0		

# 3.2 Age and service distribution of participating employees

<sup>1</sup> Ages and service totals for purposes of determining category are based on exact (not rounded) values.

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# Appendix A: Statement of actuarial assumptions and methods

Economic Assumption	S		
Discount rate		3.70 %	
Medical cost trend rate	2018 2019	6.50 6.25	
	2020 2021	6.00 5.75	
	2022	5.50	
	2023 2024+		
	2024+	5.00	
Demographic Assumption	ons		
Mortality	Base mortality rates are de improvements factored to 2		
		le MP-2017. The	d on a generational basis using adjustment reflects 75% of the
Disability	Rates vary by age as indic	ated by the follow	ing sample values:
<b>,</b>	Age		Rate
	20		0.120%
	30		0.120

40

50

60

0.147

0.357

1.380

Rates vary by age as indicated by the following sample values							
	Age	Rate					
	20	10.7%					
	30	5.9					
	40	2.1					
	≥45	0					
			-				
Rates vary b	y age as indicated by t	he following values:					
Age	Rate	Age	Rate				
55	6.0%	61	10.0%				
56	6.5	62	12.0				
57	7.0	63	15.0				
58	7.5	64	20.0				
59	8.0	65	50.0				
60	9.0	66 - 69	30.0				
		70	100.0				
95%							
Wives three	years younger than hu	sbands.					
Employees	Dependent						
100%	100%						
	Rates vary b Age 55 56 57 58 59 60 95% Wives three <i>Employees</i>	Age203040 $\geq 45$ Rates vary by age as indicated by toAgeRate55 $6.0\%$ 56 $6.5$ 57 $7.0$ 58 $7.5$ 59 $8.0$ $60$ $9.0$ 95%Wives three years younger than huEmployees Dependent	AgeRate2010.7%305.9402.1 $\geq 45$ 0Rates vary by age as indicated by the following values:AgeRateAge556.0%61566.562577.063587.564598.065609.066 - 697095%Wives three years younger than husbands.EmployeesDependent				

## 2018 Per Capita Claims Costs

Basis for Per Capita Claim Cost Assumptions

		Age	Post-1993 retirees	Pre-1994 retirees	Medicare Part D RDS Subsidy
►	Overall average	< 65	19,097	19,662	N/A
		>=65	11,776	11,776	(1,023)
►	By age group	< 35	8,154	8,395	N/A
		35-49	8,810	9,071	N/A
		40-44	9,832	10,122	N/A
		45-49	11,465	11,804	N/A
		50-54	14,092	14,508	N/A
		55-59	16,984	17,485	N/A
		60-64	20,825	21,440	N/A
		65-69	10,416	10,416	(975)
		70-74	11,560	11,560	(1,059)
		75-79	12,409	12,409	(1,094)
		80-84	12,682	12,682	(1,083)
		85-89	12,403	12,403	(1,011)
		90-94	11,263	11,263	(873)
		>= 95	9,842	9,842	(701)

Administrative expenses

\$434 per primary participant in 2018, increasing 3.5% per year.

Excise tax payments as a	Year	% Load
percentage of per capita claims costs for sample years	2018-19	N/A
	2020	7.0%
	2025	10.7%
	2030	13.4%
	2035	15.9%
	2040	18.1%
	2050	21.9%

Methods – Postretirement Welfare	e Cost and Funded Position
Service cost and APBO	Projected unit credit actuarial cost method, allocated in equal amounts, from the valuation date on or after date of hire to full eligibility date.
Net loss (gain)	Net loss (gain) in excess of 10% of the APBO is amortized on a straight-line basis over the expected average expected remaining service of active participants expected to benefit under the plan.
Benefits Not Valued	All benefits described in the Plan Provisions section of this report were valued. Towers Watson has reviewed the plan provisions with AEP and based on that review is not aware of any significant benefits required to be valued that were not included.
Timing of benefit payments	Benefit payments are assumed to be made uniformly throughout the year and on average at mid-year.
Change in Assumptions and	The discount rate was decreased from 4.10% to 3.70%.
Methods Since Prior Valuation	Anticipated per capita claims costs and the excise tax loads were updated to reflect more recent experience.
	Mortality assumption updated to base table RP-2014 with improvements from 2006 with blue collar adjustment projected forward using MP-2017 with of 75% of long-term improvement rates
	The expected return on assets was increased from 6.75% to 7.25%.

#### **Data Sources**

American Electric Power furnished the participant and claims cost data, as well as the accrued postretirement benefits cost as of December 31, 2017. Data were reviewed for reasonableness and consistency, but no audit was performed. We are aware of no errors or omissions in the data that would have a significant effect on the results of our calculation.

#### Assumptions Rationale - Significant Economic Assumptions

Per capita claims costs	AEP supplied data on retiree medical and prescription drug claim payments for the period from August 2013 through July 2017 (Medical) and October 2013 through September 2017 (Rx), respectively.
	Separate medical and prescription drug claim rates were calculated by dividing annual paid claims (from August through July prorated for each 12-month period for medical; from October through September for each 12-month period for prescription drugs) by covered lives over these four periods. These rates were then age-graded over standard Willis Towers Watson morbidity curves to generate quinquennial age-banded medical and prescription drug claims rates. These claim rates were trended to 2018 and a weighted average was taken to calculate the average pre-65 and post-65 claim rates for medical and

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	prescription drugs. Weighing factors of 30% were used for the two most recent years, while factors of 20% were used for the other two years.
Excise tax payments	To determine impact of the excise tax on the UMWA postretirement plan, we projected future gross plan costs using the valuation trend assumption and compared these on a year- by-year basis to the excise tax thresholds beginning in 2018 and projected to future years using CPI (CPI + 1% for 2019). The cost of the UMWA plan, which was blended pre-65/post-65 based on headcount, is projected to exceed these thresholds beginning in 2018. The tax, though, was not assumed to apply until 2020.
	The amount of the excise tax valued was 40% times the portion of projected plan cost exceeding the thresholds.
Medicare Part D subsidy value	We calibrated our modeling tool to reflect the 2018 cost of the current prescription drug plans for AEP's UMWA post-65 retirees. The tool employs a continuance table of annual retiree drug utilization levels, developed from analyzing the experience of many large employers reflecting utilization of 2.4 million Medicare-eligible members during 2014.
	After the plan-specific benefit provisions have been calibrated to current costs, the Modeler trends costs forward to 2018. Actuarial equivalence was determined using the following two-prong approach outlined in the regulations for Medicare Part D:
	Gross Value Test – The Modeler calculates the value of standard Medicare Part D coverage (ignoring benefit enhancements from ACA) and compares it to AEP's plan costs. AEP's plan passed this test by being richer than the projected value of standard Medicare Part D coverage for these groups.
	<i>Net Value Test</i> –The net value prong of the test compared the value of Standard Part D (ignoring benefit enhancements from ACA) coverage in 2018 less the greater of \$695.16 (the national average Part D premium) and 25.5% of the gross value of Part D coverage to the projected 2018 value of AEP coverage.
	For plans deemed to be actuarially equivalent, the tool calculates the average expected value of the employer subsidy in 2018, using the continuance table calibrated to the prescription drug portion of AEP's plan cost. This produced an average 2018 per person annual employer subsidy of \$1,023. This rate was converted to rates varying by quinquennial age bands using Willis Towers Watson's standard morbidity factors.
Claims cost trend rates	Assumed increases were chosen by the plan sponsor and, as required by U.S. GAAP, they represent an estimate of future experience, informed by an analysis of recent plan experience, leading to select and ultimate assumed trend rates and reflecting the expected near-term effect of recently enacted program expenses in acting poor term trend rates other participant

changes. In setting near term trend rates, other pertinent

	statistics were considered, including surveys on general medical cost increases. In setting the ultimate trend rate, considerations included assumed GDP growth consistent with the assumed future economic conditions inherent in other economic assumptions chosen by the client at the measurement date.
	After examining historical variability in trend rates, we believe that the selected assumptions do not significantly conflict with what would be reasonable based on a combination of market conditions at the measurement date and future expectations consistent with other economic assumptions used, other than the discount rate.
Medicare Part D subsidy trend rates	The rates of increase in per capita Medicare Part D subsidy payments are assumed to equal the plan's assumed trend rates for prescription drug claims.

Assumptions Rationale - Signific	cant Demographic Assumptions
Healthy Mortality	Assumptions were selected by the plan sponsor and, as required by U.S. GAAP, represent a best estimate of future experience.
Disabled Mortality	Assumptions were selected by the plan sponsor and, as required by U.S. GAAP, represent a best estimate of future experience.
Termination	Termination rates are based on plan sponsor expectations for the future with periodic monitoring of observed gains and losses caused by termination patterns different than assumed.
Disability	Disability rates are based on plan sponsor expectations for the future with periodic monitoring of observed gains and losses caused by disability patterns different than assumed.
Retirement	Retirement rates are based on plan sponsor expectations for the future with periodic monitoring of observed gains and losses caused by retirement patterns different than assumed.
Participation	
Participants	The assumed coverage rates for participants and spouses reflect historical experience as well as anticipated future experience based on a 100% employer paid benefit.
Covered dependents	The assumed dependent coverage prevalence of future retirees is based on the dependent coverage observed among recent retirees and general population statistics on the marital status of individuals of retirement age.
Covered Spouse age	The assumed age difference for spouses of future retirees is based on the age difference observed among recent retirees and general population statistics of the age difference for married individuals of retirement age.

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UMWA Postretirement Health Care Plan

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# Appendix B: Summary of substantive plan provisions

Medical Benefits	
Eligibility	Participants are eligible upon retirement after age 55 with ten years of service or attaining age 55 with ten years of service after becoming permanently disabled or age 55 if retired with 20 years of service prior to age 50. Miners with less than ten years at retirement who are permanently and totally disabled as a result of a mine accident will retain a health services card for life.
Dependent eligibility	Eligible dependents are spouse and unmarried children who have not attained age 27.
Survivor eligibility	After the death of retiree or active employee eligible to retire, surviving spouses are eligible until death or remarriage subject to a \$2,000 per month earnings limit.
Retiree contributions	None.
Benefits provisions	The UMWA medical plan covers substantially all medical services. Effective for retirements on or after January 1, 1994, a \$750 annual per family deductible is in place for non-Medicare-eligible retirees. Copayments are required only for outpatient physician visits (\$12 in- network and \$20 out-of-network, maximum of \$240 per family per 12 months) and for prescription drugs (\$5 retail in PPL, \$10 out of PPL, no copay mail order). A schedule of allowances for vision care is also provided. Benefits after age 65 are coordinated with Medicare. Expenses associated with the treatment of Black Lung Disease are not covered by this plan.

### Future Plan Changes

No future plan changes were recognized in determining postretirement welfare cost.

#### Changes in Benefits Valued Since Prior Year

There have been no changes in benefits valued since the prior year.

UMWA Postretirement Health Care Plan

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# Appendix C: Results by business unit

Summary of key assumptions for Appendix C of 2018 UMWA Postretirement Health Care Plan valuation report:

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Discount Rate	3.70%	3.78%	3.83%	3.86%	3.89%	3.91%	3.93%	3.95%	3.97%	4.00%	4.00%
Expected Return on Assets	7.25%	7.25%	7.25%	7.25%	7.25%	7.25%	7.25%	7.25%	7.25%	7.25%	7.25%
Actual Return on Assets	6.75%	6.75%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%
Initial Medical Trend	6.50%	6.25%	6.00%	5.75%	5.50%	5.25%	5.00%	5.00%	5.00%	5.00%	5.00%
Actual Return on Assets	6.75%	6.75%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%

Mortality table I Mortality projection scale I Valuation and data

Per capita claims cost

RP-2014, blue collar, factored to 2006

MP-2017 adjusted to reflect 75% of the long-term improvement rates

January 1, 2018

2018 cost models based on actual claims experience paid through July 31, 2017 (Medical) and September 30, 2017 (Rx)

#### AMERICAN ELECTRIC POWER UMWA POSTRETIREMENT WELFARE PLAN SUMMARY OF PLAN PARTICIPANTS FOR THE 2018 VALUATION

		Active Participants	Retirees*	Dependent Spouses	Surviving Spouses	Total
225 270 290	Cedar Coal Co. Cook Coal Terminal Conesville Coal Preparation Company	0 40 <u>0</u>	64 40 <u>29</u>	43 31 <u>22</u>	84 2 <u>1</u>	191 113 <u>52</u>
	Total	40	133	96	87	356

\*includes disabled employees

#### AMERICAN ELECTRIC POWER UMWA POSTRETIREMENT WELFARE PLAN 2018 NET PERIODIC POSTRETIREMENT BENEFIT COST

		"Other" Cost							_	
	Accumulated	Expected Net				Expected				Net Periodic
	Postretirement	Benefit	Fair Value	Service	Interest	Return on	Amortiza	tions	Total	Postretirement
Location	Benefit Obligation	Payments	of Assets	Cost	Cost	Assets	PSC	(G)/L	"Other" Cost	Benefit Cost
225 Cedar Coal Co.	34,413,647	2,263,741	0	0	1,231,806	0	0	462,927	1,694,733	1,694,733
Appalachian Power Co SEC	\$34,413,647	\$2,263,741	\$0	\$0	\$1,231,806	\$0	\$0	\$462,927	\$1,694,733	\$1,694,733
270 Cook Coal Terminal	53,115,211	1,167,413	36,801,767	1,153,642	1,986,546	(2,668,787)	0	714,498	32,257	1,185,899
AEP Generating Company	\$53,115,211	\$1,167,413	\$36,801,767	\$1,153,642	\$1,986,546	(\$2,668,787)	\$0	\$714,498	\$32,257	\$1,185,899
290 Conesville Coal Preparation Company	13,412,539	687,508	0	0	483,661	0	0	180,424	664,085	664,085
AEP Generation Resources - SEC	\$13,412,539	\$687,508	\$0	\$0	\$483,661	\$0	\$0	\$180,424	\$664,085	\$664,085
Total	\$100,941,397	\$4,118,662	\$36,801,767	\$1,153,642	\$3,702,013	(\$2,668,787)	\$0	\$1,357,849	\$2,391,075	\$3,544,717

#### AMERICAN ELECTRIC POWER UMWA POSTRETIREMENT WELFARE PLAN 10-YEAR PRW COST FORECAST (\$000s)

(\$000s)	ASC 715-60 Cost				Proje	ected Net Perio	dic Postretirem	ent Benefit Cos	at		
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Location											
225 Cedar Coal Co.	1,695	1,595	1,505	1,418	1,336	1,261	1,189	1,119	1,053	987	929
Appalachian Power Co SEC	1,695	1,595	1,505	1,418	1,336	1,261	1,189	1,119	1,053	987	929
270 Cook Coal Terminal	1,186	1,057	958	871	788	717	649	586	527	461	430
AEP Generating Company	1,186	1,057	958	871	788	717	649	586	527	461	430
290 Conesville Coal Preparation Company	664	635	611	588	565	544	523	503	483	463	444
AEP Generation Resources - SEC	664	635	611	588	565	544	523	503	483	463	444
Total	\$3,545	\$3,287	\$3,074	\$2,877	\$2,689	\$2,522	\$2,361	\$2,208	\$2,063	\$1,911	\$1,803

#### AMERICAN ELECTRIC POWER UMWA POSTRETIREMENT WELFARE PLAN ESTIMATED 2019 NET PERIODIC POSTRETIREMENT BENEFIT COST

	"Other" C									
	Accumulated	Expected Net				Expected				Net Periodic
	Postretirement	Benefit	Fair Value	Service	Interest	Return on	Amortiza	tions	Total	Postretirement
Location	Benefit Obligation	Payments	of Assets	Cost	Cost	Assets	PSC	(G)/L	"Other" Cost	Benefit Cost
225 Cedar Coal Co.	32,957,338	2,217,243	0	0	1,204,270	0	0	390,581	1,594,851	1,594,851
Appalachian Power Co SEC	\$32,957,338	\$2,217,243	\$0	\$0	\$1,204,270	\$0	\$0	\$390,581	\$1,594,851	\$1,594,851
270 Cook Coal Terminal	54,387,667	1,228,496	39,304,986	1,178,980	2,077,416	(2,843,519)	0	644,553	(121,550)	1,057,430
AEP Generating Company	\$54,387,667	\$1,228,496	\$39,304,986	\$1,178,980	\$2,077,416	(\$2,843,519)	\$0	\$644,553	(\$121,550)	\$1,057,430
290 Conesville Coal Preparation Company	13,040,773	650,676	0	0	480,758	0	0	154,548	635,306	635,306
AEP Generation Resources - SEC	\$13,040,773	\$650,676	\$0	\$0	\$480,758	\$0	\$0	\$154,548	\$635,306	\$635,306
Total	\$100,385,778	\$4,096,415	\$39,304,986	\$1,178,980	\$3,762,444	(\$2,843,519)	\$0	\$1,189,682	\$2,108,607	\$3,287,587

#### AMERICAN ELECTRIC POWER UMWA POSTRETIREMENT WELFARE PLAN ESTIMATED 2020 NET PERIODIC POSTRETIREMENT BENEFIT COST

				_		_				
	Accumulated	Expected Net				Expected				Net Periodic
	Postretirement	Benefit	Fair Value	Service	Interest	Return on	Amortiza	tions	Total	Postretirement
Location	Benefit Obligation	Payments	of Assets	Cost	Cost	Assets	PSC	(G)/L	"Other" Cost	Benefit Cost
225 Cedar Coal Co.	31,689,943	2,358,689	0	0	1,168,980	0	0	335,713	1,504,693	1,504,693
Appalachian Power Co SEC	\$31,689,943	\$2,358,689	\$0	\$0	\$1,168,980	\$0	\$0	\$335,713	\$1,504,693	\$1,504,693
270 Cook Coal Terminal	55,966,244	1,287,177	41,781,327	1,217,165	2,165,707	(3,017,434)	0	592,889	(258,838)	958,327
AEP Generating Company	\$55,966,244	\$1,287,177	\$41,781,327	\$1,217,165	\$2,165,707	(\$3,017,434)	\$0	\$592,889	(\$258,838)	\$958,327
290 Conesville Coal Preparation Company	12,768,345	702,593	0	0	475,699	0	0	135,264	610,963	610,963
AEP Generation Resources - SEC	\$12,768,345	\$702,593	\$0	\$0	\$475,699	\$0	\$0	\$135,264	\$610,963	\$610,963
Total	\$100,424,532	\$4,348,459	\$41,781,327	\$1,217,165	\$3,810,386	(\$3,017,434)	\$0	\$1,063,866	\$1,856,818	\$3,073,983

#### AMERICAN ELECTRIC POWER UMWA POSTRETIREMENT WELFARE PLAN ESTIMATED 2021 NET PERIODIC POSTRETIREMENT BENEFIT COST

				_		"Other" Cost				
	Accumulated	Expected Net				Expected				Net Periodic
	Postretirement	Benefit	Fair Value	Service	Interest	Return on	Amortizat	tions	Total	Postretirement
Location	Benefit Obligation	Payments	of Assets	Cost	Cost	Assets	PSC	(G)/L	"Other" Cost	Benefit Cost
225 Cedar Coal Co.	30,354,249	2,291,374	0	0	1,127,869	0	0	290,148	1,418,017	1,418,017
Appalachian Power Co SEC	\$30,354,249	\$2,291,374	\$0	\$0	\$1,127,869	\$0	\$0	\$290,148	\$1,418,017	\$1,418,017
270 Cook Coal Terminal	57,784,035	1,342,949	44,365,855	1,265,118	2,253,624	(3,199,728)	0	552,343	(393,761)	871,357
AEP Generating Company	\$57,784,035	\$1,342,949	\$44,365,855	\$1,265,118	\$2,253,624	(\$3,199,728)	\$0	\$552,343	(\$393,761)	\$871,357
290 Conesville Coal Preparation Company	12,481,423	692,340	0	0	468,547	0	0	119,307	587,854	587,854
AEP Generation Resources - SEC	\$12,481,423	\$692,340	\$0	\$0	\$468,547	\$0	\$0	\$119,307	\$587,854	\$587,854
Total	\$100,619,707	\$4,326,663	\$44,365,855	\$1,265,118	\$3,850,040	(\$3,199,728)	\$0	\$961,798	\$1,612,110	\$2,877,228

#### AMERICAN ELECTRIC POWER UMWA POSTRETIREMENT WELFARE PLAN ESTIMATED 2022 NET PERIODIC POSTRETIREMENT BENEFIT COST

				_	"Other" Cost					—
	Accumulated	Expected Net				Expected				Net Periodic
	Postretirement	Benefit	Fair Value	Service	Interest	Return on	Amortiza	tions	Total	Postretirement
Location	Benefit Obligation	Payments	of Assets	Cost	Cost	Assets	PSC	(G)/L	"Other" Cost	Benefit Cost
225 Cedar Coal Co.	29,051,027	2,233,977	0	0	1,087,049	0	0	249,406	1,336,455	1,336,455
Appalachian Power Co SEC	\$29,051,027	\$2,233,977	\$0	\$0	\$1,087,049	\$0	\$0	\$249,406	\$1,336,455	\$1,336,455
270 Cook Coal Terminal	59,672,839	1,380,039	46,983,646	1,314,960	2,345,839	(3,385,224)	0	512,299	(527,086)	787,874
AEP Generating Company	\$59,672,839	\$1,380,039	\$46,983,646	\$1,314,960	\$2,345,839	(\$3,385,224)	\$0	\$512,299	(\$527,086)	\$787,874
290 Conesville Coal Preparation Company	12,198,961	722,727	0	0	460,617	0	0	104,729	565,346	565,346
AEP Generation Resources - SEC	\$12,198,961	\$722,727	\$0	\$0	\$460,617	\$0	\$0	\$104,729	\$565,346	\$565,346
Total	\$100,922,827	\$4,336,743	\$46,983,646	\$1,314,960	\$3,893,505	(\$3,385,224)	\$0	\$866,434	\$1,374,715	\$2,689,675

#### AMERICAN ELECTRIC POWER UMWA POSTRETIREMENT WELFARE PLAN ESTIMATED 2023 NET PERIODIC POSTRETIREMENT BENEFIT COST

				_	"Other" Cost					_	
	Accumulated	Expected Net				Expected				Net Periodic	
	Postretirement	Benefit	Fair Value	Service	Interest	Return on	Amortizat	tions	Total	Postretirement	
Location	Benefit Obligation	Payments	of Assets	Cost	Cost	Assets	PSC	(G)/L	"Other" Cost	Benefit Cost	
225 Cedar Coal Co.	27,814,989	2,195,493	0	0	1,045,056	0	0	215,913	1,260,969	1,260,969	
Appalachian Power Co SEC	\$27,814,989	\$2,195,493	\$0	\$0	\$1,045,056	\$0	\$0	\$215,913	\$1,260,969	\$1,260,969	
270 Cook Coal Terminal	61,755,753	1,452,291	49,659,961	1,371,397	2,440,152	(3,574,151)	0	479,376	(654,623)	716,774	
AEP Generating Company	\$61,755,753	\$1,452,291	\$49,659,961	\$1,371,397	\$2,440,152	(\$3,574,151)	\$0	\$479,376	(\$654,623)	\$716,774	
290 Conesville Coal Preparation Company	11,898,731	715,093	0	0	451,394	0	0	92,363	543,757	543,757	
AEP Generation Resources - SEC	\$11,898,731	\$715,093	\$0	\$0	\$451,394	\$0	\$0	\$92,363	\$543,757	\$543,757	
Total	\$101,469,473	\$4,362,877	\$49,659,961	\$1,371,397	\$3,936,602	(\$3,574,151)	\$0	\$787,652	\$1,150,103	\$2,521,500	

#### AMERICAN ELECTRIC POWER UMWA POSTRETIREMENT WELFARE PLAN ESTIMATED 2024 NET PERIODIC POSTRETIREMENT BENEFIT COST

				_		_				
	Accumulated	Expected Net				Expected				Net Periodic
	Postretirement	Benefit	Fair Value	Service	Interest	Return on	Amortiza	tions	Total	Postretirement
Location	Benefit Obligation	Payments	of Assets	Cost	Cost	Assets	PSC	(G)/L	"Other" Cost	Benefit Cost
225 Cedar Coal Co.	26,579,400	2,147,419	0	0	1,002,780	0	0	185,944	1,188,724	1,188,724
Appalachian Power Co SEC	\$26,579,400	\$2,147,419	\$0	\$0	\$1,002,780	\$0	\$0	\$185,944	\$1,188,724	\$1,188,724
270 Cook Coal Terminal	63,910,262	1,512,642	52,375,334	1,430,257	2,538,446	(3,766,465)	0	447,102	(780,917)	649,340
AEP Generating Company	\$63,910,262	\$1,512,642	\$52,375,334	\$1,430,257	\$2,538,446	(\$3,766,465)	\$0	\$447,102	(\$780,917)	\$649,340
290 Conesville Coal Preparation Company	11,597,876	707,636	0	0	442,025	0	0	81,136	523,161	523,161
AEP Generation Resources - SEC	\$11,597,876	\$707,636	\$0	\$0	\$442,025	\$0	\$0	\$81,136	\$523,161	\$523,161
Total	\$102,087,538	\$4,367,697	\$52,375,334	\$1,430,257	\$3,983,251	(\$3,766,465)	\$0	\$714,182	\$930,968	\$2,361,225

#### AMERICAN ELECTRIC POWER UMWA POSTRETIREMENT WELFARE PLAN ESTIMATED 2025 NET PERIODIC POSTRETIREMENT BENEFIT COST

				_	"Other" Cost					
	Accumulated	Expected Net				Expected				Net Periodic
	Postretirement	Benefit	Fair Value	Service	Interest	Return on	Amortizat	tions	Total	Postretirement
Location	Benefit Obligation	Payments	of Assets	Cost	Cost	Assets	PSC	(G)/L	"Other" Cost	Benefit Cost
225 Cedar Coal Co.	25,353,536	2,114,004	0	0	960,117	0	0	159,182	1,119,299	1,119,299
Appalachian Power Co SEC	\$25,353,536	\$2,114,004	\$0	\$0	\$960,117	\$0	\$0	\$159,182	\$1,119,299	\$1,119,299
270 Cook Coal Terminal	66,154,386	1,613,754	55,148,601	1,491,643	2,640,456	(3,961,662)	0	415,351	(905,855)	585,788
AEP Generating Company	\$66,154,386	\$1,613,754	\$55,148,601	\$1,491,643	\$2,640,456	(\$3,961,662)	\$0	\$415,351	(\$905,855)	\$585,788
290 Conesville Coal Preparation Company	11,296,076	726,515	0	0	431,985	0	0	70,922	502,907	502,907
AEP Generation Resources - SEC	\$11,296,076	\$726,515	\$0	\$0	\$431,985	\$0	\$0	\$70,922	\$502,907	\$502,907
Total	\$102,803,998	\$4,454,273	\$55,148,601	\$1,491,643	\$4,032,558	(\$3,961,662)	\$0	\$645,455	\$716,351	\$2,207,994

#### AMERICAN ELECTRIC POWER UMWA POSTRETIREMENT WELFARE PLAN ESTIMATED 2026 NET PERIODIC POSTRETIREMENT BENEFIT COST

				_	"Other" Cost					_	
	Accumulated	Expected Net				Expected				Net Periodic	
	Postretirement	Benefit	Fair Value	Service	Interest	Return on	Amortiza	tions	Total	Postretirement	
Location	Benefit Obligation	Payments	of Assets	Cost	Cost	Assets	PSC	(G)/L	"Other" Cost	Benefit Cost	
225 Cedar Coal Co.	24,122,369	2,058,579	0	0	917,193	0	0	135,513	1,052,706	1,052,706	
Appalachian Power Co SEC	\$24,122,369	\$2,058,579	\$0	\$0	\$917,193	\$0	\$0	\$135,513	\$1,052,706	\$1,052,706	
270 Cook Coal Terminal	68,453,427	1,697,359	57,945,667	1,555,664	2,745,997	(4, 159, 372)	0	384,554	(1,028,821)	526,843	
AEP Generating Company	\$68,453,427	\$1,697,359	\$57,945,667	\$1,555,664	\$2,745,997	(\$4,159,372)	\$0	\$384,554	(\$1,028,821)	\$526,843	
290 Conesville Coal Preparation Company	10,966,413	710,099	0	0	421,408	0	0	61,607	483,015	483,015	
AEP Generation Resources - SEC	\$10,966,413	\$710,099	\$0	\$0	\$421,408	\$0	\$0	\$61,607	\$483,015	\$483,015	
Total	\$103,542,209	\$4,466,037	\$57,945,667	\$1,555,664	\$4,084,598	(\$4,159,372)	\$0	\$581,674	\$506,900	\$2,062,564	

#### AMERICAN ELECTRIC POWER UMWA POSTRETIREMENT WELFARE PLAN ESTIMATED 2027 NET PERIODIC POSTRETIREMENT BENEFIT COST

	"Other" Cost										
	Accumulated	Expected Net				Expected				Net Periodic	
	Postretirement	Benefit	Fair Value	Service	Interest	Return on	Amortizat	tions	Total	Postretirement	
Location	Benefit Obligation	Payments	of Assets	Cost	Cost	Assets	PSC	(G)/L	"Other" Cost	Benefit Cost	
225 Cedar Coal Co.	22,870,988	2,015,185	0	0	874,931	0	0	112,242	987,173	987,173	
Appalachian Power Co SEC	\$22,870,988	\$2,015,185	\$0	\$0	\$874,931	\$0	\$0	\$112,242	\$987,173	\$987,173	
270 Cook Coal Terminal	70,717,621	1,753,307	60,791,073	1,616,953	2,858,661	(4,361,338)	0	347,056	(1,155,621)	461,332	
AEP Generating Company	\$70,717,621	\$1,753,307	\$60,791,073	\$1,616,953	\$2,858,661	(\$4,361,338)	\$0	\$347,056	(\$1,155,621)	\$461,332	
290 Conesville Coal Preparation Company	10,626,615	727,151	0	0	410,664	0	0	52,152	462,816	462,816	
AEP Generation Resources - SEC	\$10,626,615	\$727,151	\$0	\$0	\$410,664	\$0	\$0	\$52,152	\$462,816	\$462,816	
Total	\$104,215,224	\$4,495,643	\$60,791,073	\$1,616,953	\$4,144,256	(\$4,361,338)	\$0	\$511,450	\$294,368	\$1,911,321	

#### AMERICAN ELECTRIC POWER UMWA POSTRETIREMENT WELFARE PLAN ESTIMATED 2028 NET PERIODIC POSTRETIREMENT BENEFIT COST

				_		_				
	Accumulated	Expected Net				Expected				Net Periodic
	Postretirement	Benefit	Fair Value	Service	Interest	Return on	Amortiza	tions	Total	Postretirement
Location	Benefit Obligation	Payments	of Assets	Cost	Cost	Assets	PSC	(G)/L	"Other" Cost	Benefit Cost
225 Cedar Coal Co.	21,730,734	1,970,932	0	0	830,197	0	0	98,360	928,557	928,557
Appalachian Power Co SEC	\$21,730,734	\$1,970,932	\$0	\$0	\$830,197	\$0	\$0	\$98,360	\$928,557	\$928,557
270 Cook Coal Terminal	73,439,928	1,831,799	63,710,019	1,697,801	2,969,233	(4,569,064)	0	332,411	(1,267,420)	430,381
AEP Generating Company	\$73,439,928	\$1,831,799	\$63,710,019	\$1,697,801	\$2,969,233	(\$4,569,064)	\$0	\$332,411	(\$1,267,420)	\$430,381
290 Conesville Coal Preparation Company	10,310,128	741,020	0	0	397,730	0	0	46,667	444,397	444,397
AEP Generation Resources - SEC	\$10,310,128	\$741,020	\$0	\$0	\$397,730	\$0	\$0	\$46,667	\$444,397	\$444,397
Total	\$105,480,790	\$4,543,751	\$63,710,019	\$1,697,801	\$4,197,160	(\$4,569,064)	\$0	\$477,438	\$105,534	\$1,803,335