BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of)	
Ohio Power Company for Authority to)	
Establish a Standard Service Offer)	Case No. 16-1852-EL-SSO
Pursuant to Section 4928.143, Revised Code,)	
in the Form of an Electric Security Plan)	
In the Matter of the Application of)	
Ohio Power Company for Approval of)	Case No. 16-1853-EL-AAM
Certain Accounting Authority)	

OHIO POWER COMPANY'S APPLICATION TO AMEND ITS ELECTRIC SECURITY PLAN

WORKPAPERS For Selwyn J. Dias

AEP Ohio Capital Spending

<u>Year</u>	Capital Spend (\$ million)	Gross Distribution Plant (\$ million)	Plant Replaced
2012	\$210.1	\$3,718	5.65%
2013	\$242.2	\$3,873	6.25%
2014	\$304.0	\$4,084	7.44%
2015	\$298.5	\$4,284	6.97%
2016	\$301.5	\$4,482	6.73%
2017	\$301.5	\$4,682	6.44%
2018	\$301.5	\$4,882	6.18%
2019	\$301.5	\$5,081	5.93%
2020	\$301.5	\$5,281	5.71%
2021	\$301.5	\$5,480	5.50%
2022	\$301.5	\$5,680	5.31%
2023	\$301.5	\$5,880	5.13%
2024	\$301.5	\$6,079	4.96%

Total

78.20%

* 2012 and 2024 are annualized values

Annual AEP Ohio Capital Spend 2016 - 2024

(\$ million)

		%
Asset Improvement	\$119.4	39.6%
Customer Service	\$32.2	10.7%
Forestry	\$4.8	1.6%
Electric Service Support	\$49.6	16.4%
Planning Capacity	\$30.8	10.2%
Reliability	\$54.0	17.9%
System Restoration	\$10.7	3.6%
Total	\$301.5	100.0%

	(\$ Millions)									
Category	2018	2019	2020	2021	2022	2023	2024			
Asset Improvement	\$119.4	\$119.4	\$119.4	\$119.4	\$119.4	\$119.4	\$119.4			
Customer Service	\$32.2	\$32.2	\$32.2	\$32.2	\$32.2	\$32.2	\$32.2			
Forestry	\$4.8	\$4.8	\$4.8	\$4.8	\$4.8	\$4.8	\$4.8			
Electric Service Suppor	\$49.6	\$49.6	\$49.6	\$49.6	\$49.6	\$49.6	\$49.6			
Planning Capacity	\$30.8	\$30.8	\$30.8	\$30.8	\$30.8	\$30.8	\$30.8			
Reliability	\$54.0	\$54.0	\$54.0	\$54.0	\$54.0	\$54.0	\$54.0			
System Restoration	\$10.7	\$10.7	\$10.7	\$10.7	\$10.7	\$10.7	\$10.7			
Total Capital	\$301.5	\$301.5	\$301.5	\$301.5	\$301.5	\$301.5	\$301.5			
Direct Cost	\$225.0	\$225.0	\$225.0	\$225.0	\$225.0	\$225.0	\$225.0			

Projected Capital Investment in Direct Dollars

	2016	2017	2018	2019	2020	2021	2022	2023	2024
	\$(M)	\$(M)	\$(M)	\$(M)	\$(M)	\$(M)	\$(M)	\$(M)	\$(M)
Asset Improvement	\$78.6		\$89.1						
Customer Service	\$23.0		\$24.0						
Forestry	\$4.6		\$3.6						
General	\$0.0		\$0.0						
Electric Service Support	\$32.6		\$37.0						
Planning Capacity	\$17.3		\$23.0						
Reliability	\$36.1		\$40.3						
System Restoration	\$8.0		\$8.0						
Total	\$200.2		\$225.0						

2016 Projected Investment Based on \$200 M Direct

1	 Based on the 2016 DIR Work Plan as filed with Staff December 2015. 									
2	2. Capital labor was split between Asset Improvement and Reliability based on planned spend levels.									
				Cap Labor	Total					
	Asset Improvement	62.6	68%	16.0	78.6					
	Reliability	28.8	32%	7.3	36.1					
	Total	91.4								
	Capital Labor	23.3								

2018 - 2024 Projected Investment Based on \$225 M Direct

1.	 Based on the 2016 DIR Work Plan as filed with Staff December 2015. 									
2.	2. Capital labor was split between Asset Improvement and Reliability based on planned spend levels.									
	Cap Labor									
	Asset Improvement	72.6	69%	16.5	89.1					
	Reliability	32.8	31%	7.5	40.3					
	Total	105.4								
	Capital Labor	24								

AEP Ohio

2015-2024 Total Forecasts

(as of 3/15/2016)

O&M: \$20.6 Million Base + Proposed Incremental Capital: \$3.6 Million Base + Proposed Incremental Approximately 2.5% annual increase starting in 2019

Total Forestry

	(Actual)									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Mileage	7902.4	8165.1	7857	7829.1	7765	8036.4	8018.8	7829.1	7765	8036.4
0&M	\$45,674,782	\$45,629,007	\$45,630,950	\$47,037,794	\$48,213,739	\$49,419,082	\$50,654,560	\$51,920,924	\$53,218,947	<mark>\$54,549,420</mark>
Capital	\$4,684,299	\$4,681,325	\$4,686,794	\$4,792,451	\$4,912,262	\$5,035,069	\$5,160,946	\$5,289,969	\$5,422,218	\$5,557,774

Approved ESSR Amount in ESP III (13-2385-EL-SSO)

2015		2016	2017	2018	
0&M	\$25,000,000	\$25,000,000	\$25,000,000	\$26,300,000	
Capital	\$1,000,000	\$1,000,000	\$1,000,000	\$1,100,000	

Total Forestry During Extension Period

	2018	2019	2020	2021	2022	2023	2024
0&M	\$47,037,794	\$48,213,739	\$49,419,082	\$50,654,560	\$51,920,924	\$53,218,947	\$54,549,420
Capital	\$4,792,451	\$4,912,262	\$5,035,069	\$5,160,946	\$5,289,969	\$5,422,218	\$5,557,774

ESSR Incremental Amount During Extension Period

	2018	2019	2020	2021	2022	2023	2024
0&M	\$26,467,382	\$27,643,327	\$28,848,670	\$30,084,148	\$31,350,512	\$32,648,535	\$33,979,008
Capital	\$1,162,863	\$1,282,674	\$1,405,481	\$1,531,358	\$1,660,381	\$1,792,630	\$1,928,186
	2018	2019	2020	2021	2022	2023	2024
0&M	\$26.5	\$27.6	\$28.8	\$30.1	\$31.4	\$32.6	\$34.0
Capital	\$1.2	\$1.3	\$1.4	\$1.5	\$1.7	\$1.8	\$1.9

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Mileage	7902.4	8165.1	7857	7829.1	7765	8036.4	8018.8	7829.1	7765	8036.4	8018.8
_		3.3%	-3.8%	-0.4%	-0.8%	3.5%	-0.2%	-2.4%	-0.8%	3.5%	-0.2%

Average = 0.2%



Assume 3% increase due to labor, materials, etc. Actual mileage from year to year is a flat on average.

AEP Ohio

Annual performance compared to standard

(Includes areas previously called Columbus Southern Power and Ohio Power)

Excludes major events and transmission outages

Average interruptions per customer served

SAIFI	2013	2014	2015
Performance	1.03	1.13	1.13
Standard	1.20	1.20	1.20

Average minutes per customer interruption

CAIDI	2013	2014	2015
Performance	140.97	146.61	139.03
Standard	150.00	150.00	150.00

Rule 4901:1-10-10 (Rule 10) of the Ohio Administrative Code requires Ohio's investor-owned electric utilities to file an annual report of their distribution reliability performance. Specifically, Rule 10 requires the electric utilities to report their performance using the following two reliability measures (called "indices").

The System Average Interruption Frequency Index (SAIFI) represents the average number of interruptions per customer. This index measures how often an "average" customer's power is interrupted in a year and includes both those customers experiencing several interruptions per year as well as those whose power is not interrupted at all. SAIFI is calculated using the following formula:

SAIFI = Total number of customer interruptions \div total number of customers served

The Customer Average Interruption Duration Index (CAIDI) represents the average interruption duration. In other words, CAIDI is the average time it takes for the electric utility to restore service following a power interruption. This index measures the electric utility's average restoration time, and therefore only includes those customers who experience power outages during the year. CAIDI is calculated using the following formula:

CAIDI = Sum of customer interruption durations ÷ total number of customer interruptions

Interruptions – As used in the calculation of SAIFI and CAIDI, an interruption is defined as a complete loss of a customer's electric power for more than five minutes.

Major Event and Transmission Exclusions – Rule 10 requires utilities to exclude "major events" and transmission outages from their reliability data before calculating their CAIDI and SAIFI performance. Major events are unusually severe weather or other events that stress the company's distribution system and cause untypical outages. Days that qualify as major events are excluded from reliability performance calculations for the year. Major events are calculated using the IEEE Standard 1366-2003 (except that transmission outages are excluded). Outages caused by the company's transmission lines, which are not part of the distribution system, are similarly excluded to concentrate on measuring only the performance of the distribution system.

Performance Standards and Rule Violations – Rule 10 requires each electric utility to file performance standards for approval by the Public Utilities Commission of Ohio. The approved standards are minimum performance levels, and missing a standard for two consecutive years constitutes a rule violation. Performance standards can be revised if the utility files an application that is approved by the Commission following a legal process that is open to interested persons. Performance standards can also be revised by Commission order.

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

11/23/2016 2:15:50 PM

in

Case No(s). 16-1852-EL-SSO, 16-1853-EL-AAM

Summary: Text - Workpapers of Selwyn Dias of Ohio Power Company electronically filed by Mr. Steven T Nourse on behalf of Ohio Power Company