BEFORE THE PUBLIC UTILITES COMMISION OF OHIO

In the Matter of the Commission's Review of the Ohio Power Company's Distribution Investment Rider Work Plan for 2019	)))))	**Case No. 18-1786-EL-RDR**

Notice of Ohio Power Company's Commission-Requested Distribution Investment Rider Work Plan

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On February 25, 2015, the Public Utilities Commission of Ohio ("Commission") approved an Electric Security Plan of Ohio Power Company ("AEP Ohio" or "Company"), including approval of the Distribution Investment Rider ("DIR") in Commission Case Nos. 13-2385-EL-SSO et al. ("ESP III Order"). The DIR spending caps were adjusted by the Commission on May 28, 2016 and November 3, 2016. As part of the approval of the DIR, the Commission instructed that it is no longer necessary for the Company to work with the Commission Staff ("Staff") while reliability standards are being met, and to file the resulting plan for Commission review in a separate docket.

In Case No. 13-294-EL-UNC, the Commission clarified the filing requirements for the DIR plan, outlining expectations for the filings going forward. In *ESP III*, the Commission denied AEP Ohio's requested expansion, but approved the DIR at spending caps adjusted and approved by the Commission. In November 2016, AEP Ohio filed its amended ESP III extension ("*ESP IV*") application in Case Nos. 16-1852-EL-SSO et al. to extend the current ESP through May 2024. The Company's *ESP IV* proposed to continue the DIR based on the terms and conditions approved in the *ESP III* Order, with additional annual DIR caps to be established for the extended terms of *ESP IV*. In *ESP IV* AEP Ohio filed a Stipulation requesting to extend the DIR. On April 25, 2018, the Commission issued an order approving the *ESP IV* Stipulation, including approval of the extended terms of DIR with additional annual DIR caps ("*ESP IV* Order"). The Company followed the previous year's strategy to look at programs in the *ESP IV* Plan which would have the most impact to both proactive system infrastructure replacement as well as reliability improvement to customers. In order to develop the Plan, the Company looked at causes of outages on the system, opportunities for proactive replacement, engineering and labor resource availability, and overall impact of each program. The Plan, as developed, takes into consideration various factors encountered during 2014 through 2018, such as labor resources, and adjusts the Plan accordingly. This comprehensive development of the Plan provides the best practice to reach the Commission's goal to help ensure that this and future DIR plans will positively impact the reliability performance to customers across the Company's service territory. Overall, the Plan is developed to provide a more proactive replacement plan as well as components which will maintain or improve reliability to customers. In section A of the 2019 DIR Plan, all of the programs listed either proactively replace infrastructure or impact reliability to customers.

AEP Ohio will continue to work with Staff annually to review the accounting accuracy, prudency and compliance with the Plan as developed. In order to ensure double recovery does not occur in the DIR, there are two safeguards currently in place. First, the Company tracks assets recovered through other riders by separately identifiable work-orders or work types which allow those charges to be appropriately removed from the DIR filing. This process has been reviewed and verified during past audits of the DIR program. Most recently, the DIR audit reports in Case Nos. 17-38-EL-RDR and 18-230-EL-RDR have concluded that no double recovery has occurred. Second, an independent audit is conducted of the DIR program expenditures. This audit is completed by an external, independent auditor chosen by the Commission to ensure compliance with the financial side of the program expenditures. The auditor sends the findings to the Commission and ensures that the Company follows all guidelines when reporting items charged to the DIR.

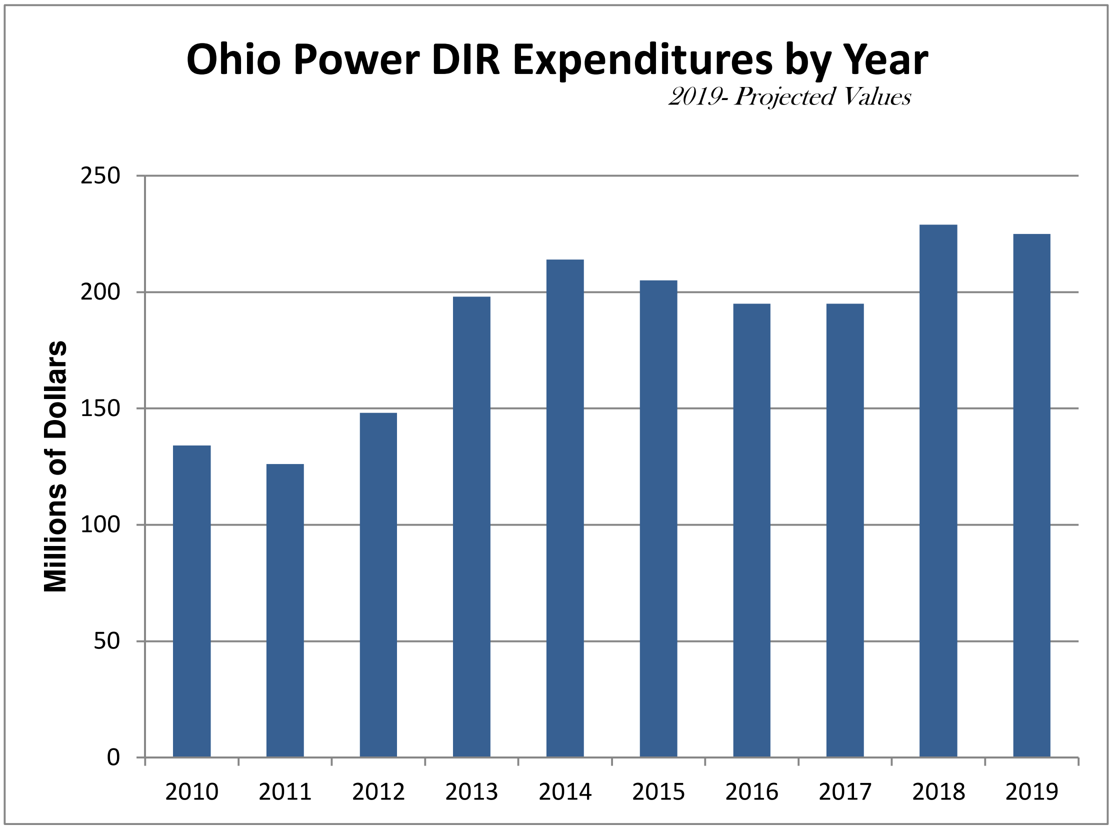
The Company will continue to provide Staff with quarterly updates consistent with Finding 25 of the Commission's order in Case No. 13-2394-EL-UNC. The Company will send quarterly updates to Staff showing progress of each of the programs, and, when requested by Staff, the Company agrees to meet in person to discuss any questions regarding the programs. The Company will also continue to provide Staff locations to audit DIR work being performed in the field per Finding 25 in Case No. 13-2394-EL-UNC, unless otherwise ordered by the Commission.

Per the Stipulation in Case Nos. 14-255-EL-RDR, 15-666-EL-RDR, and 16-21-EL-RDR, the Company agreed that "separate and apart from the Company's normal interactions with Staff, the Company agrees to meet annually with the Signatory Parties and non-opposing parties to explain the extent in which the DIR Work Plan is being adapted to address causes within the Company's control that each represent at least ten percent of the outages in the Annual Reliability Report and/or to explain the rationale for why this is not practical or reasonable". This meeting was held on December 17, 2018.

The attached 2019 DIR Work Plan includes estimates of the work to be proactively performed and the expected spending in each category. As expected, anytime there is a proactive program covering an entire year of spending on items as varied as are covered here, there are likely to be some differences between expectations and performance. However, where possible, the Company has provided a good faith estimate of the expected areas to be impacted, proactively maintained, or replaced to provide a guidepost for future interactions with Staff. These estimates may change over the course of the year, and the quarterly updates provided to Staff may reflect such changes as well as explanations for the changes.

Overall, the Company's average capital expenditure has significantly increased in the past years due to the DIR program (Chart 1). This spending will still be audited as outlined by the Commission in the *ESP III* Order and *ESP IV* Order. Chart 1 shows the capital expenditure by the million prior to the DIR Program implementation (years 2010 – 2012) and after implementation (years 2013 – 2019). As shown in Chart 1, the expenditure levels are greater in the DIR plan years per the approval of the DIR. The values in the charges exclude costs associated with the gridSMART® and the Enhanced Service Reliability Riders.

Chart 1



While the overall DIR plan will have a positive effect on reliability improvement experienced by customers, inherently, there are some components that may not be measured in a quantitative reduction in the amount of outages. Where investments are made in specific asset categories to proactively address known performance needs, the Company will track reliability improvements in that asset subset. Because the work plan components involve a proactive approach focused on the best methods to impact long-term reliability improvements, the goal is to prevent the outages that may occur in the future from happening. This is a proactive approach to ensure that things working now will continue to work and no further degradation of the system will result in further outages.

Reflected in the 2019 DIR Plan, the Company has provided a column to show the number of Worst Performing Circuits being addressed by the DIR Program. It is important to address worst performing circuits, and the DIR Program is a tool which allows for these circuits to be addressed by the various programs and thereby improve reliability or proactively reduce future outages. A single circuit may be reflected under several programs. It is also important to note that not all worst performing circuit issues can be addressed by DIR programs because some of those circuits may require non-capital maintenance activities, and O&M spending is not reflected in the DIR Plan.

The Company was able to show positive reliability results based on programs with a reliability impact as shown on the plan for 2017. Reliability improvement values were shared with Staff. The results showed a positive improvement for all reliability programs as well as an estimate for avoided outages. These results reinforce the benefit of the DIR Program.

As ordered in Case No. 13-2394-EL-UNC, the Company has provided Staff the reliability improvements each year. AEP Ohio provided Staff with the 2017 reliability impacts on April 18, 2018as well as quantification of avoided outages. In compliance with the DIR Stipulation ("DIR Stipulation") in Case Nos. 14-255-EL-RDR, 15-666-EL-RDR, and 16-21-EL-RDR, the Company agreed to provide annual updates to the Signatory Parties and non-opposing parties demonstrating the quantifiable impact that those DIR programs have had on customer reliability performance. Although the ESP III Order, ESP IV Order, and the DIR Stipulation did not specify a date by which the Company needs to provide the same information, the Company recommends providing the data for the 2018 DIR Plan to staff and the Signatory Parties and non-opposing parties in the DIR Stipulation in writing by April 19, 2019. The reporting of data in

April allows the Company time to adequately review and submit the information and would not overlap with the Company's annual rule reporting efforts for Rule 26, 27, 10 and 9.

Going forward, the Company and Staff will continue to work cooperatively evaluating the progress of the programs outlined in the DIR work plan. Various elements may affect the execution of the plan during 2019, such as storms, resource availability, and mutual assistance to other utilities. These factors will be shared with Staff during the year. The Company provides this filing and attachments detailing the components to satisfy the requirements related to the DIR review from the May 21, 2014 Finding and Order in Case No. 13-2394-EL-UNC, the February 25, 2015 Finding and Order in Case No. 13-2385-EL-SSO, and the April 25, 2018 Finding and Order in Case No. 16-1852-EL-SSO.

Respectfully submitted,

//s/ Steven T. Nourse

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CERTIFICATE OF SERVICE

I hereby certify that a copy of the document above was provided to the Commission Staff and a courtesy copy to the office of the Ohio Consumers' Counselor, by email on this 11th day of January, 2019.

//s/ Steven T. Nourse
Steven T. Nourse

2019

DIR Component	Program Description	Measures for Reliability Improvements	2018 Filing Rule 11 Work	Expected Reliability Improvements	Equipment Affected	Measurement Units	Projected 2019	Comments / Explanations
	Section A							
Distribution Circuit Asset Improvement Includes Small Wire Replacement	This program is designed to address various operational, reliability and asset renewal issues as identified by Distribution Line Operations, Distribution Engineering and customer concerns. This program includes circuit improvement projects such as line relocation, reconductoring, OH to UG, multiphasing, fuse size changes, over current protection upgrades and coordination, circuit reconfiguration, and load balancing. The Small wire replacement portion of this will proactively address equipment failure issues by replacing targeted spans of small and deteriorating overhead conductor. In some cases portions of circuits may be relocated and/or rebuilt due to accessibility concerns and/or physical conditions.	Reliability improvements vary based on the type of work performed and can be measured on a circuit or line segment basis. The small wire replacement work should reduce outages due to Equipment/Hardware and conductor failure by fifty percent on those line segments addressed beginning in the year following installation. Projects such as line relocation and reconductoring segments should reduce outages due to Equipment/Hardware and conductor failure by fifty percent on those line segments addressed beginning in the year following installation. Load balancing when completed on a circuit will reduce overload outages by fifty percent beginning the following year after installation. Projects which take overhead lines to underground lines will reduce weather related outages, animal outages, and tree related outages on those segments by fifty percent in the year following when work was completed. Upgrading of overcurrent protection devices (changing from hydraulic to electronic protection devices, changing from three phase to single phase isolation and fuse size and coordination changes) can reduce customer outages by impacting fewer customers affected by an outage. Some projects under this program are solely asset renewal projects with only minor reliability impact related to the prevention of future outages, but are intended for proactive equipment replacement.	12	May reduce customer interruptions and outages; varies by work request.		Completed Hours	$23,000,000	
Cutout & Arrester Program	This program is to proactively address equipment failure issues by replacing targeted porcelain cutouts and associated equipment. Approximately 2,150 cutouts and their associated arresters are targeted for replacement under this program in 2019.	Proactive asset renewal that will reduce the probability of future outages related to cutout and arrester failures.	1	Proactive efforts to maintain system reliability	Cutouts and arresters	Units Installed	$450,000	
Animal Mitigation - Station	This program is designed to install electric fences in targeted stations to help mitigate against animal related outages. Approximately 1 electric fence may be targeted in 2019 for work under this station animal mitigation program.	This should reduce non-avian related animal caused outages inside distribution stations by approximately fifty percent for those stations where mitigation was installed beginning in the year following installation.	2	Reduced outages	Station transformers, breakers, regulators, insulators, etc.	Fences Installed	$100,000	
Lightning Mitigation	This program is designed to help reduce the number of lightning caused outages on identified circuits. AEP Ohio will review circuits by lightning caused outages and install lightning mitigation where needed. These circuits will be reviewed on an annual basis and may include that year's Rule 11 circuits. Circuits may be added or removed at the Company's discretion. This program will involve 1 circuit in 2019.	This should reduce the aggregate number of lightning caused outages by approximately fifty percent on the circuits addressed beginning in the year following installation.	1	Reduced outages	Arrestors	Circuits	$15,000	
Underground Cable Rehab	This program is to proactively address aging infrastructure based on various factors such as age, previous operational history, cable construction, etc. This would include URD cable, feeder exit cable, network cable, and station cable, such as transformer cables and bus ties. This program will include approximately 550,000 conductor feet of underground cable work in 2019.	This should reduce URD cable failures by approximately fifty percent on those segments addressed beginning in the year following installation. Feeder exit, network and station cable replacements are asset renewal programs and as such, there will be some positive impact to reliability, related to the prevention of future outages.	1	Reduced outages	Underground Cable, Conduits, Duct Banks, Live Front and other Transformers, Switches, Pedestals, etc.	Span Feet	$15,000,000	
OVHD Circuit Inspection Repair Program	This program is designed to visually inspect overhead line facilities and to make the appropriate repairs or replacements (asset renewal) when issues are found. Circuits are inspected at least once every five years. Approximately 305 circuits are targeted for inspection in 2019.	This should reduce equipment caused outages by thirty percent on those circuits addressed beginning in the year following installation.	18	Reduced outages	Conductor, poles, crossarms, insulators, cutouts, arrestors, etc.	Completed Work Packets	$2,500,000	
Station Breaker Replacement	This program is designed to replace existing distribution station breakers with associated relays, controls, and SCADA when appropriate. AEP Ohio will target equipment which is approaching end of life and becoming difficult to maintain. The existing breakers have limited flexibility to adapt to modern over current protective schemes. Approximately 5 station breakers are targeted in 2019 for work under this station breaker program.	Proactive asset renewal program. There is positive impact to reliability, related to the prevention of future station breaker outages.	1	Proactive efforts to maintain system reliability	SCADA, Station Breakers	Units Installed, Installations	$0	The expenditures associated with the units installed on this component were accounted for in the station rebuild/rehabilitation component. The cost for the breakers could not be discretely identifed in the overall station rehabilitation project.
Distribution Asset Improvement Associated with Transmission Work	AEP Transco plans to rebuild a number of transmission lines of which a portion contain Distribution underbuild. Transfer of Distribution facilities or the replacement of conductors with "like kind" are included with the Transmission project. This component will provide Distribution the opportunity to make Distribution system enhancements, such as building a new tie line or increasing conductor size to create a tie line for reliability purposes. AEP Transco/Transmission will also be rebuilding existing or building new station facilities. The replacement of Distribution station breakers and transformers, Distribution SCADA installations, and relocation or replacement of Distribution feeder exits in conjunction with these projects will also be included in this component as either reliability enhancements and/or asset renewal. (This does not include breaker or underground cable replacement or SCADA installations).	Proactive asset renewal that will reduce the probability of future outages. In some cases, new tie lines may be established to enhance reliability to shorten outage durations following an event. A portion of the circuit that is rebuilt will replace existing equipment identified to be near the end of its life that could reduce future Equipment Failure outages.	1	Proactive efforts to maintain system reliability	Conductor, poles, crossarms, insulators, cutouts, arrestors, riser assemblies, Station Breakers, Regulators, Transformers, Underground Cable, etc.	Completed Hours	$5,500,000	
Pole Replacement	This is an asset renewal program. The primary objective of this program is to maintain the mechanical integrity of our wood pole infrastructure necessary for the safety of employees and the public under the conditions specified in the NESC. Approximately 3,500 poles are targeted in 2019.	Proactive asset renewal program. There is positive impact to reliability, related to the prevention of future outages due to pole failures.		Proactive efforts to maintain system reliability	Poles	Poles Replaced	$8,000,000	
Line Reclosers Maintenance	This is an asset renewal program. Approximately 650 reclosers are targeted in 2019.	Proactive asset renewal program. There is positive impact to reliability, related to the prevention of future outages due to recloser failures. There is also an opportunity to enhance the over current protection scheme on the circuit.		Reduced outage duration	Reclosers	Units Installed	$4,000,000	
Sectionalizing	This program is designed to enhance the over current protection scheme, operation of Distribution system and reduce the number of customers affected by an outage. It includes the installation/upgrade of sectionalizing devices on circuits, shortening of protection zones and providing additional isolation points. Approximately 22 circuits will be targeted in 2019 for work under this sectionalizing program.	Installation of sectionalizing can reduce SAIFI by impacting fewer customers affected by an outage. There is limited opportunity to continue with a large scale effort.	4	Reduce Customers Interrupted	Reclosers, Sectionalizers, Cutouts	Circuits	$700,000	
URD Remediation Program	This program is designed to provide a visual public safety inspection of pad mount transformers, switchgear, primary enclosures and secondary pedestals. Each piece of equipment is inspected once every 5 years. Approximately 44,000 units are targeted for inspection in 2019. Repair work is a subset of previously inspected units.	The majority of this work is proactive asset renewal that will reduce the probability of future outages related to pad mounted URD equipment. This is an inspection program used to identify unsafe conditions.		Maintain system safety and reliability.	Pad mount transformers, switch cabinets, pedestals	Completed Work Packets	$300,000	
Network Rehab	This program is designed to replace and/or upgrade network cable, vaults, transformers, protectors and install fault indicators.	Proactive asset renewal program. There is positive impact to reliability, related to the prevention of future network outages.		Proactive efforts to maintain system reliability	Network transformers, protectors, vaults, manholes, cable, switches, etc.	Completed Hours	$15,000,000	
Station Regulator Replacements	This program is designed to replace existing distribution station regulators and associated controls. AEP Ohio will target equipment which is approaching end of life and becoming difficult to maintain. No station regulators are targeted in 2019.	Proactive asset renewal program. There is positive impact to reliability, related to the prevention of future station regulator outages.		Proactive efforts to maintain system reliability	Station Regulators	Units Installed	$0	
Targeted Danger trees	Danger trees are a growing cause of outages. This program will identify trees that pose a hazard to our distribution lines or equipment from outside the right-of way and then work with property owners to allow us the remove them. Trees that are dead, dying, or leaning toward our lines are the general target of this program. Approximately 60,000 trees will be removed in 2019.	This is a proactive preventative program. There is some reliability impact related to the prevention of future outages.	18	Proactive efforts to maintain system reliability	NA	Trees Removed	$20,000,000	
Pole Reinforcement	This is an asset life extension program. The primary objective of this program is to maintain the mechanical integrity of our wood pole infrastructure necessary for the safety of employees and the public under the conditions specified in the NESC. No poles are currently targeted in 2019.	Proactive asset renewal program. There is positive impact to reliability, related to the prevention of future outages due to pole failures.		Proactive efforts to maintain system reliability	Poles	Pole Locations	$0	Expenditures in this component reflect poles reinforced in late 2017 that were invoiced and paid during the first quarter of this year.
Underground Duct and Manhole Facilities Rehab	This program is designed to inspect and replace non-network underground duct, manhole and associated cable facilities. This program will identify unsafe conditions and correct deficiencies necessary for the safety of employees and the public under the conditions specified in the NESC.	Proactive asset renewal program. There is positive impact to reliability, related to the prevention of future underground duct and manhole related outages.		Proactive efforts to maintain system reliability	Underground vaults, manholes, cable, switches, etc.	Completed Hours	$10,000,000	
Station Rebuild / Rehab	This program is designed to replace existing distribution station equipment including transformers, breakers, structures underground facilities, etc. AEP Ohio will target equipment which is approaching end of life and becoming difficult to maintain.	Proactive asset renewal program. There is positive impact to reliability, related to the prevention of future station equipment caused outages.	3	Proactive efforts to maintain system reliability	Station transformers, breakers, regulators, insulators, structures, underground facilities, etc.	Stations	$10,000,000	
					Section A subtotal		**$114,565,000**	

This is a budget view with Projected Capital Amounts. Dollars shown are not loaded and will not correspond to FERC Form 1 values.

2019

DIR Component	Program Description	Measures for Reliability Improvements	2018 Filing Rule 11 Work	Expected Reliability Improvements	Equipment Affected	Measurement Units	Projected 2019	Comments / Explanations
	Section B							
Network Capacity	Network transformers, protectors, vaults, manholes, cable, switches, etc.	There is no reliability impact.		NA	Network transformers, protectors, vaults, manholes, cable, switches, etc.	n/a	$0	
Capacity Additions	This program is designed to install new Distribution station and line capacity to serve additional load.	There is no reliability impact.		NA		n/a	$16,000,000	
Integrated Volt Var Systems	This program provides improved efficiency through voltage optimization. The program's primary focus is to reduce electrical demand and/or accomplish energy conservation.	There is no reliability impact.		NA		n/a		
Customer Service Work	This component is for work necessary for providing customers electric service in AEP Ohio. It includes capital dollars for providing service to new customers, as well as upgrades to existing commercial, industrial and residential customers.	There is no reliability impact.		NA	NA	n/a	$24,000,000	
Third Party Work Request	This component involves work requested by a third party. This includes work for customer requested relocates, damage claims made by outside parties, and make ready work which includes replacing AEP Ohio owned poles for others who are attached or propose to attach to AEP Ohio owned poles.	There is no reliability impact.		NA	NA	n/a	$15,000,000	
Public Project Relocation	This component involves work requested by a governmental entity such as a township, city, or the state. Public projects generally consist of work associated with road improvement projects which benefit the public. This involves the capital work AEP Ohio does to accommodate these governmental improvement projects within the service territory.	There is no reliability impact.		NA	NA	n/a	$12,000,000	
Service Restoration	This component includes day to day work for service restorations which are excluded from the major event category of outages. This would include capital dollars for such things as equipment replacement from an outage and capital dollars associated with minor storm events.	There is no reliability impact.		NA	NA	n/a	$8,000,000	
Forestry	This program includes all capital in right-of-way vegetation management work performed in AEP Ohio. Incremental capital dollars associated with the ESRR filing will be removed from the DIR filing used to establish the rate.	The reliability impact regarding this program is reflected as an adjustment in the current standards and proposed reliability standards.		NA	NA	n/a	$2,000,000	
Transformer Blanket	This component is for the purchase of Distribution line transformers necessary for providing customers electric service in AEP Ohio. It includes overhead line transformers and pad mounted transformers.	There is no reliability impact.		NA		n/a	$20,000,000	
Engineering & Field Line	This component includes Engineering labor, Fleet and Material & supplies.	There is no reliability impact.		NA		n/a	$26,050,000	
Customer Meter Blanket		There is no reliability impact.		NA		n/a	$3,300,000	
Reveue / Reimbursments	This component includes AEP Ohio items which are involved in day to day work components of service to customers. The would include revenue credits and contribution in aid to construction credits.	There is no reliability impact.		NA			($18,000,000)	
Other	NA	There is no reliability impact.		NA	NA	n/a	$2,085,000	
					Section B Subtotal:		**$110,435,000**	
					Grand Total:		**$225,000,000**	

This is a budget view with Projected Capital Amounts. Dollars shown are not loaded and will not correspond to FERC Form 1 values.