BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the matter of the Annual Report of the Electric Service and Safety Standards, Pursuant to Rule 4901:1-10-26(B) of the Ohio Administrative Code	))))	Case No: 21 -1000 -EL-ESS

ANNUAL REPORT OF AES Ohio submitted for the year 2020 .

I certify that the following report accurately and completely reflects the annual report requirements pursuant to Rule 4901:1-10-26 of the Ohio Administrative Code.

Kathryn N Storm
Signature

Kathryn N Storm
Printed Name

VP, US Smart Grid and Ohio T&D Operations
Title

March 26, 2021
Date

AES Ohio

Rule 26 Report for 2020

1. 4901:1-10-26(B)(1), (B)(1)(b), (B)(1)(c) Future investment plan for facilities and equipment, covering period of no less than three years

Identification of project, program, or plan	Transmission or Distribution	Project description and goals	Portion of service territory affected	Characteristics of territory affected	Estimated cost	Initiation Date	Planned Completion Date
CRP-017	Distribution	Cable Replacement Program - replace or inject deteriorating bare neutral primary cable	Various	Various	$3,000,000	1/1/2024	12/31/2024
ORP-017	Distribution	Overhead Reliability Program - complete repairs, upgrades or other reliability improvements to least-reliable circuits	Various	Various	$750,000	1/1/2024	12/31/2024
PRC-013	Distribution	Planned replacement of cutouts	Various	Various	$1,000,000	1/1/2024	12/31/2024
PRP-017	Distribution	Distribution Pole Inspection and Replacement Program - inspect distribution poles and repair/replace poles as necessary	Various	Various	$9,800,000	1/1/2024	12/31/2024
RAP-017	Distribution	Reliability Action Plan - complete repairs, upgrades or other reliability improvements to least-reliable branch-lines	Various	Various	$500,000	1/1/2024	12/31/2024
TPI-017	Transmission	Transmission Pole Inspection - inspect transmission poles and repair or replace as necessary	Various	Various	$870,000	1/1/2024	12/31/2024

Report date: 3/18/2021

AES Ohio

Rule 26 Report for 2020

1. 4901:1-10-26(B)(1), (B)(1)(b), (B)(1)(c) Future investment plan for facilities and equipment, covering period of no less than three years

Identification of project, program, or plan	Transmission or Distribution	Project description and goals	Portion of service territory affected	Characteristics of territory affected	Estimated cost	Initiation Date	Planned Completion Date
TRU-016	Transmission	Transmission Relay Upgrade - replacing/upgrading transmission relays	Various	Various	$1,400,000	1/1/2024	12/31/2024

Notes: AES Ohio budgets annually for this ongoing program

Report date: 3/18/2021

AES Ohio
Rule 26 Report for 2020

1a. 4901:1-10-26(B)(1), (B)(1)(a) Relevant characteristics of the service territory

Transmission or Distribution	Overhead Miles	Underground Miles	Notable Characteristics
Transmission	1,716	8	System reliability performance is a good indicator of the physical condition of the system and industry standard measures show that system performance is consistently reliable.
Distribution	10,426	3,805	A review of AES Ohio's historical reliability performance clearly shows the distribution system to be in excellent condition.

Notes: AES Ohio's transmission has the capacity to meet projected loading, System Operating monitors the condition of the transmission system on a daily basis. Any findings that may impact safety or reliability are immediately addressed.

The performance of the electric system over a period of several years is reflective of its physical condition. Consistently safe and reliable service can only be achieved through a well-maintained distribution system. System level reliability performance is tracked on a monthly basis and reported annually as required by O.A.C. 4901:1 -10-10.

AES Ohio
Rule 26 Report for 2020

1b. 4901:1-10-26(B)(1) Future investment plan for facilities and equipment

Transmission or Distribution	2020 Planned Costs	2020 Actual Costs	2021 Planned Costs	2022 Projected Costs	2023 Projected Costs	2024 Projected Costs
Transmission	$1,250,000	$3,556,000	$20,140,000	$15,815,000	$4,420,000	$4,420,000
Distribution	$10,210,000	$15,544,000	$17,580,000	$18,250,000	$17,908,000	$18,050,000

Notes: Transmission reliability projects less than 3 years are not included.

Distribution reliability projects less than 3 years are not included.

Report date: 3/18/2021

AES Ohio
Rule 26 Report for 2020

2. 4901:1-10-26(B)(1)(d), (B)(1)(f) Complaints from other entities

Entity making complaint	Date complaint received	Nature of complaint	Action taken to address complaint	Resolved (yes/no)	Date complaint resolved	If not resolved, why?

Notes: No Complaints

AES Ohio
Rule 26 Report for 2020

3a. 4901:1-10-26(B)(1)(e), (B)(1)(f) Electric Reliability Organization standards violations

Standard number	Standard name	Date of violation	Risk factor	Severity factor	Penalty dollars	Violation description	Resolved (yes/no)	Date resolved	If not resolved, why?

Notes: No violations

AES Ohio
Rule 26 Report for 2020

3b. 4901:1-10-26(B)(1)(e), (B)(1)(f) Regional Transmission Organization (RTO) violations

Name of RTO violation	Violation description	Resolved (yes/no)	Date resolved	If not resolved, why?

Notes: No Violations

AES Ohio
Rule 26 Report for 2020

3c. 4901:1-10-26(B)(1)(e) Transmission Load Relief (TLR) events

Event Start	Event End	Highest TLR during event	Firm load interrupted during event	Amount of load (MW) interrupted	Description of event

Notes: No TLR

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Rule 26 Report for 2020

3d. 4901:1-10-26(B)(1)(e) Top ten congestion facilities by hours of congestion

Rank	Description of facility causing congestion

Notes: No facilities experienced congestion

AES Ohio
Rule 26 Report for 2020

3e. 4901:1-10-26(B)(1)(e) Annual System Improvement Plan and Regional Transmission Operator Expansion Plan

Relationship between annual system improvement plan and RTO transmission expansion plan

AES Ohio's annual system improvement plan is incorporated into the RTO transmission expansion plan through supplemental and baseline project submittals to PJM. Both the supplemental and baseline projects are reviewed by PJM and are built into the PJM models. These models subsequently include the overall RTO transmission expansion plan that is referred to in PJM as the Regional Transmission Expansion Plan or RTEP.

Notes:

AES Ohio
Rule 26 Report for 2020

4. 4901:1-10-26(B)(2) Report of implementation plans from previous reporting periods

Identification of project, program, or plan	Transmission or Distribution	Planned Completion Date	Actual Completion Date	Identification of deviation from previous plan	Reason for deviation from previous plan
CAP-013	Distribution	12/31/2020	12/31/2020		
CAP-014	Distribution	12/31/2021			
CRP-013	Distribution	12/31/2020	12/31/2020		
CRP-014	Distribution	12/31/2021		shifted dollars	decreased scope
CRP-015	Distribution	12/31/2022			
CRP-016	Distribution	12/31/2023			
ORP-013	Distribution	12/31/2020	12/31/2020		
ORP-014	Distribution	12/31/2021		shifted dollars	decreased scope
ORP-015	Distribution	12/31/2022			
ORP-016	Distribution	12/31/2023			
PRC-009	Distribution	12/31/2020	12/31/2020		
PRC-010	Distribution	12/31/2021		shifted dollars	increased scope
PRC-011	Distribution	12/31/2022			
PRC-012	Distribution	12/31/2023			
PRP-013	Distribution	12/31/2020	12/31/2020		
PRP-014	Distribution	12/31/2021		shifted dollars	increased scope
PRP-015	Distribution	12/31/2022			
PRP-016	Distribution	12/31/2023			
RAP-013	Distribution	12/31/2020	12/30/2020		

Report date: 3/25/2021

AES Ohio
Rule 26 Report for 2020

4. 4901:1-10-26(B)(2) Report of implementation plans from previous reporting periods

Identification of project, program, or plan	Transmission or Distribution	Planned Completion Date	Actual Completion Date	Identification of deviation from previous plan	Reason for deviation from previous plan
RAP-014	Distribution	12/31/2021			
RAP-015	Distribution	12/31/2022			
RAP-016	Distribution	12/21/2023			
RTU-013	Distribution	12/31/2020	12/31/2020		
RTU-014	Distribution	12/31/2021		shifted dollars	decreased scope
TPI-013	Transmission	12/31/2020	12/31/2020		
TPI-014	Transmission	12/31/2021		shifted dollars	increased scope
TPI-015	Transmission	12/31/2022			
TPI-016	Transmission	12/31/2023			
TRU-012	Transmission	12/31/2020	12/31/2020		
TRU-013	Transmission	12/31/2021		shifted dollars	increased scope
TRU-014	Transmission	12/31/2022			
TRU-015	Transmission	12/31/2023			
RTP-01	Transmission	12/31/2021			
RTP-02	Transmission	12/31/2021			
RTP-03	Transmission	12/31/2022			

Notes: Capacitors have been rolled up into a separate budget

Report date: 3/25/2021

AES Ohio
Rule 26 Report for 2020

5. 4901:1-10-26(B)(3), (B)(3)(a) Characterization of condition of company's system

Transmission or Distribution	Qualitative characterization of condition of system	Explanation of criteria used in making assessment for each characterization
Distribution	A review of AES Ohio's historical reliability performance shows the distribution system has met the standards prescribed by the Public Utilities Commission of Ohio.	The performance of the electric system over a period of several years is reflective of its physical condition. Consistently safe and reliable service can only be achieved through a well-maintained distribution system. System level reliability performance is tracked on a monthly basis and reported annually as required by O.A.C. 4901:1-10-10.
Transmission	System reliability performance is a good indicator of the physical condition of the system and industry standard measures show that system performance is consistently reliable.	AES Ohio's transmission has the capacity to meet projected loading, System Operating monitors the condition of the transmission system on a daily basis. Any findings that may impact safety or reliability are immediately addressed.

Notes:

AES Ohio
Rule 26 Report for 2020

6. 4901:1-10-26(B)(3), (B)(3)(b) Safety and reliability complaints

Transmission or Distribution	Availability of Service	Damage	Momentary Interruption	Out of Service	Quality of Service	Repair Service	Public Safety	Total Complaints
Distribution	1			13				14

Notes:

AES Ohio
Rule 26 Report for 2020

7a. 4901:1-10-26(B)(3)(c), (B)(3)(c)(i) Transmission capital expenditures

Total transmission capital expenditures in 2020	$59,113,000
Total Transmission investment as of year end	$451,132,036
Transmission capital expenditures as % of total transmission investment	13.10%

Notes:

7b. 4901:1-10-26(B)(3)(c), (B)(3)(c)(i) Transmission maintenance expenditures

Total transmission maintenance expenditures in 2020	$5,945,656
Total Transmission investment as of year end	$451,132,036
Transmission maintenance expenditures as % of total transmission investment	1.32%

Notes:

AES Ohio
Rule 26 Report for 2020

7c. 4901:1-10-26(B)(3), (B)(3)(c)(ii), (B)(3)(c)(iii) Transmission capital expenditures - Reliability specific

Transmission capital budget category	2020 Budget	2020 Actual	% Variance	Explanation of variance if over 10%	2021 Budget
Transmission - Substation Reliability		$8,966,000		Shift in budgeted dollars to other budgeted areas	$6,650,000
Transmission Blankets - Other	$1,000,000	$3,008,000	208.00%	Shift in budgeted dollars to other budgeted areas	$3,500,000
Transmission Reliability - Projects	$35,215,000	$28,122,000	-21.00%	RTEP Projects	$15,586,000

Notes:

Report date: 3/25/2021

AES Ohio
Rule 26 Report for 2020

7d. 4901:1-10-26(B)(3), (B)(3)(c)(ii), (B)(3)(c)(iii) Transmission maintenance expenditures - Reliability specific

Transmission maintenance budget category	2020 Budget	2020 Actual	% Variance	Explanation of variance if over 10%	2021 Budget
Transmission Reliability	$1,411,971	$1,680,394	19.00%	Shift in budgeted dollars to other budgeted areas	$2,800,306
Transmission Line Clearance	$2,080,000	$1,976,509	-5.00%	Shift in budgeted dollars to other budgeted areas	$3,369,491

Notes:

Report date: 3/25/2021

AES Ohio
Rule 26 Report for 2020

8a. 4901:1-10-26(B)(3)(d), (B)(3)(d)(i) Distribution capital expenditures

Total distribution capital expenditures in 2020	$94,778,000
Total distribution investment as of year end	$1,952,680,211
Distribution capital expenditures as % of total distribution investment	4.85%

Notes:

8b. 4901:1-10-26(B)(3)(d), (B)(3)(d)(i) Distribution maintenance expenditures

Total distribution maintenance expenditures in 2020	$43,808,276
Total distribution investment as of year end	$1,952,680,211
Distribution maintenance expenditures as % of total distribution investment	2.24%

Notes:

AES Ohio
Rule 26 Report for 2020

8c. 4901:1-10-26(B)(3), (B)(3)(d)(ii), (B)(3)(d)(iii) Distribution capital expenditures - Reliability specific

Distribution capital budget category	2020 Budget	2020 Actual	% Variance	Explanation of variance if over 10%	2021 Budget
Distribution - Specific Projects	$3,692,000	$3,168,000	-15.00%	Shift in budgeted dollars to other budgeted areas	$9,265,000
Distribution - Field Reliability	$7,210,000	$8,717,000	18.00%	Replaced additional poles	$10,550,000
Distribution - Substation Reliability	$4,050,000	$5,206,000	28.00%	Shift in budgeted dollars to other budgeted areas	$6,600,000
Distribution - Underground Reliability	$3,000,000	$5,510,000	60.00%	Replaced additional cable	$3,000,000
Distribution - Blanket Other	$7,300,000	$8,345,000	14.00%	Shift in budgeted dollars to other budgeted areas	$6,850,000
Distribution Planning - Reliability	$1,550,000	$1,282,000	-17.00%	Shift in budgeted dollars to other budgeted areas	
Distribution Blanket - Transformers	$13,750,000	$15,724,000	14.00%	Includes transformer costs from storms	$16,000,000

Notes:

Report date: 3/25/2021

AES Ohio
Rule 26 Report for 2020

8d. 4901:1-10-26(B)(3), (B)(3)(d)(ii), (B)(3)(d)(iii) Distribution maintenance expenditures - Reliability specific

Distribution maintenance budget category	2020 Budget	2020 Actual	% Variance	Explanation of variance if over 10%	2021 Budget
Distribution Reliability	$25,356,397	$26,921,601	6.00%		$25,990,747
Distribution Line Clearance	$20,539,711	$19,840,757	-3.00%		$20,675,783

Notes:

Report date: 3/18/2021

AES Ohio
Rule 26 Report for 2020

9. 4901:1-10-26(B)(3)(e) Average remaining depreciation life of distribution and transmission facilities

Transmission or Distribution	Asset type	FERC account/ subaccount	Total depreciable life of asset	Total depreciated life of asset	Total remaining life of asset	Percent of remaining life of asset	How age was determined
Transmission	Structures and Improvements	352	50.00	39.09	10.91	21.81%	Net Plant/Gross Plant
Transmission	Station Equipment	353	50.00	43.11	6.89	13.78%	Net Plant/Gross Plant
Transmission	Towers and Fixtures	354	49.60	48.05	1.55	3.13%	Net Plant/Gross Plant
Transmission	Poles and Fixtures	355	46.70	34.22	12.48	26.72%	Net Plant/Gross Plant
Transmission	Overhead Conductors and Devices	356	48.20	39.74	8.46	17.54%	Net Plant/Gross Plant
Transmission	Underground Conduit	357	60.00	17.73	42.27	70.45%	Net Plant/Gross Plant
Transmission	Underground Conductors and Devices	358	45.00	12.99	32.01	71.13%	Net Plant/Gross Plant
Transmission	Roads and Trails	359	45.00	32.11	12.89	28.64%	Net Plant/Gross Plant
Distribution	Structures and Improvements	361	45.00	20.81	24.19	53.76%	Net Plant/Gross Plant
Distribution	Station Equipment	362	50.00	26.45	23.55	47.10%	Net Plant/Gross Plant
Distribution	Poles , Towers and Fixtures	364	38.00	20.32	17.68	46.52%	Net Plant/Gross Plant
Distribution	Overhead Conductors and Devices	365	40.00	13.09	26.91	67.28%	Net Plant/Gross Plant
Distribution	Underground Conduit	366	55.00	29.58	25.42	46.21%	Net Plant/Gross Plant
Distribution	Underground Conductors and Devices	367	38.00	18.57	19.43	51.12%	Net Plant/Gross Plant
Distribution	Line Transformers	368	44.00	16.92	27.08	61.55%	Net Plant/Gross Plant
Distribution	Services	369	33.00	22.07	10.93	33.12%	Net Plant/Gross Plant
Distribution	Meters	370	32.00	4.16	27.84	86.99%	Net Plant/Gross Plant

Report date: 3/25/2021

AES Ohio
Rule 26 Report for 2020

9. 4901:1-10-26(B)(3)(e) Average remaining depreciation life of distribution and transmission facilities

Transmission or Distribution	Asset type	FERC account/ subaccount	Total depreciable life of asset	Total depreciated life of asset	Total remaining life of asset	Percent of remaining life of asset	How age was determined
Distribution	Installations on Customer Premises	371	20.00	14.13	5.87	29.37%	Net Plant/Gross Plant
Distribution	Leased Property on Customer Premises	372	40.00	40.00	0.00	0.00%	Net Plant/Gross Plant

Notes:

AES Ohio
Rule 26 Report for 2020

10. 4901:1-10-26(B)(3)(f), (B)(3)(f)(i) Inspection, maintenance, repair, and replacement of distribution, transmission, and substation programs summary report

Asset type	Program Name	Program Goals	Goals achieved?
Transmission	345 kV Aerial Patrol	Inspect 345 kV circuits, 4 times per year	Y
Transmission	138 kV Aerial Patrol	Inspect 138 kV circuits, 4 times per year	N
Transmission	69 kV Aerial Patrol	Inspect 69 kV circuits, semi-annually	N
Transmission	Thermographic Inspection of Transmission Lines	Perform thermographic inspections where needed	Y
Transmission	Transmission Line Clearance	Trim trees where needed	Y
Transmission	Herbicide Application	Apply herbicide as needed	Y
Transmission	Transmission Inspection Program	Inspect 25 circuits in metro - no fly zone	Y
TS and DS	External visual inspection of Substation Transformers	Inspect approximately 300 Substation Transformers monthly	Y
Transmission	Thermographic Imaging of Substation Transformers	Infrared approximately 300 Substation Transformers	Y
Transmission	Substation Transformers Dielectric Oil Breakdown Test	Perform oil dielectric breakdown on 60 transformers	Y
TS and DS	Substation Transformer LTC Maintenance	Complete LTC maintenance as needed based on oil analysis	Y
TS and DS	Substation Transformer Power Factor Test	Perform power factor testing on 60 substation transformers	Y
TS	Operational Testing of Circuit Breakers	Conduct an operational test for breakers that are not otherwise operated during the calendar year	N
TS and DS	Visual Inspection of Circuit Breakers	Inspect approximately 1,300 Circuit Breakers monthly	Y

Report date: 3/25/2021

AES Ohio
Rule 26 Report for 2020

10. 4901:1-10-26(B)(3)(f), (B)(3)(f)(i) Inspection, maintenance, repair, and replacement of distribution, transmission, and substation programs summary report

Asset type	Program Name	Program Goals	Goals achieved?
TS/DS	Circuit Breaker Preventive Maintenance	Complete maintenance on 195 circuit breakers	Y
TS	BES Relay Testing	Test 25 relays	Y
DS	Non-BES Relay Testing	Test 290 relays	Y
Distribution	Distribution Relay Testing	Test 475 relays	Y
TS	Thermographic Inspection of Substation Switches	Infrared approximately 2,362 Substation Switches	Y
Distribution	Capacitor Inspections	Complete the inspection of approximately 1281 capacitors	Y
Distribution	Recloser Inspections	Complete the inspection of approximately 590 reclosers	Y
Distribution	Underground Device Inspections	Inspect URD devices on 356 map grids	Y
Distribution	Monitor Circuit Reliability Performance	Evaluate least-reliable circuits and initiate remedial action where needed	Y
Distribution	Monitor Branch Line Reliability Performance	Evaluate least-reliable branch lines and initiate remedial action where needed	Y
Distribution	Distribution Circuit Patrol	Inspect 85 circuits	Y
Distribution	Distribution Line Clearance	Perform full circuit vegetation maintenance in order to return to a 5 year cycle. Fewer miles will be trimmed if increased costs and labor resource constraints continue as discussed in Section 10b.	N
Distribution	Pole Replacement and Testing Program	Inspect approximately 31,700 poles	Y

Notes:

Report date: 3/25/2021

AES Ohio
Rule 26 Report for 2020

10a. 4901:1-10-26(B)(3)(f), (B)(3)(f)(i), (B)(3)(f)(ii) If response in Column "Goals achieved?" of Report 10 is "Yes"

Program Name	Explanation of how goals were achieved	Quantitative description of goal achieved	Summary of Findings
345 kV Aerial Patrol	Inspected 14-345 kV transmission lines, 4 times each	100.00%	
Thermographic Inspection of Transmission Lines	No inspections were scheduled in 2020	100.00%	
Transmission Line Clearance	Full maintenance on 4 circuits.	100.00%	
Herbicide Application	81 areas received herbicide application.	100.00%	
Transmission Inspection Program	Inspected 25 circuits in metro no fly zone	100.00%	
External visual inspection of Substation Transformers	Performed monthly inspections on approximately 300 transformer units monthly	100.00%	
Thermographic Imaging of Substation Transformers	Performed infrared inspection on 300 transformer units.	100.00%	
Substation Transformers Dielectric Oil Breakdown Test	Performed oil dielectric breakdown tests on 292 transformers	100.00%	
Substation Transformer LTC Maintenance	Performed maintenance on 26 LTCs.	100.00%	
Substation Transformer Power Factor Test	Power factor testing was performed on 74 transformers.	100.00%	
Visual Inspection of Circuit Breakers	Visually inspected 1300 circuit breakers monthly.	100.00%	
Circuit Breaker Preventive Maintenance	Performed maintenance on 195 circuit breakers.	100.00%	
BES Relay Testing	Tested 28 relays	100.00%	

Report date: 3/18/2021

AES Ohio
Rule 26 Report for 2020

10a. 4901:1-10-26(B)(3)(f), (B)(3)(f)(i), (B)(3)(f)(ii) If response in Column "Goals achieved?" of Report 10 is "Yes"

Program Name	Explanation of how goals were achieved	Quantitative description of goal achieved	Summary of Findings
Non-BES Relay Testing	Tested 290 relays	100.00%	
Distribution Relay Testing (12/4 kV)	Tested 478 relays	100.00%	
Thermographic Inspection of Substation Switches	Performed inspections on approximately 2362 substation switches.	100.00%	
Capacitor Inspections	Inspected 1287 capacitors	100.00%	Difference is related to circuits being re-evaluated.
Recloser Inspections	Inspected 593 reclosers	100.00%	
Underground Device Inspections	Completed inspections on 356 URD grids	100.00%	
Monitor Circuit Reliability Performance	Analyzed the 39 Rule 11 circuit through the Overhead Reliability Program	100.00%	
Monitor Branch Line Reliability Performance	Multiple branchlines on 9 distribution circuits were inspected and reliability plans initiated where appropriate	100.00%	
Distribution Circuit Patrol	Completed inspections on 84 circuits	100.00%	One circuit identified a 100% underground so it was not inspected during the Distribution Circuit Patrol.
Pole Replacement and Testing Program	Inspected 28,761 poles	100.00%	Approximate number of poles reported in 4901:1-26(10)

Notes:

Report date: 3/18/2021

AES Ohio
Rule 26 Report for 2020

10b. 4901:1-10-26(B)(3)(f), (B)(3)(f)(i), (B)(3)(f)(ii) If response in Column "Goals achieved?" of Report 10 is "No"

Program Name	Cause(s) for not achieving goals	Description of level of completion	Quantitative description of level of completion	Summary of Findings
138 kV Aerial Patrol	Out of an abundance of caution in order to limit potential exposure of personnel to Covid-19, 1st quarter inspections were limited to only ground inspections on 345kV transmission lines by a sole Patroller. AES Ohio's inspections are normally performed via helicopter and we were unable to effectively ensure social distancing for our Patroller and the aircraft Pilot due to the limited space in the cockpit. In the absence of formal inspections, crew observations were utilized where necessary.	75%	Performed 3 quarterly inspections	

AES Ohio
Rule 26 Report for 2020

10b. 4901:1-10-26(B)(3)(f), (B)(3)(f)(i), (B)(3)(f)(ii) If response in Column "Goals achieved?" of Report 10 is "No"

Program Name	Cause(s) for not achieving goals	Description of level of completion	Quantitative description of level of completion	Summary of Findings
69 kV Aerial Patrol	Out of an abundance of caution in order to limit potential exposure of personnel to Covid-19, 1st quarter inspections were limited to only ground inspections on 345kV transmission lines by a sole Patroller. AES Ohio's inspections are normally performed via helicopter and we were unable to effectively ensure social distancing for our Patroller and the aircraft Pilot due to the limited space in the cockpit. In the absence of formal inspections, crew observations were utilized where necessary.	78%	Performed two aerial inspection on 40 circuits and a single aerial patrol was performed on the remaining circuits.	

AES Ohio
Rule 26 Report for 2020

10b. 4901:1-10-26(B)(3)(f), (B)(3)(f)(i), (B)(3)(f)(ii) If response in Column "Goals achieved?" of Report 10 is "No"

Program Name	Cause(s) for not achieving goals	Description of level of completion	Quantitative description of level of completion	Summary of Findings
Distribution Line Clearance	Challenging labor market conditions affecting the entire vegetation management industry have led to widespread price increases and schedule completion shortfalls for many utilities. Currently there is not enough qualified labor in the utility vegetation management industry to effectively meet the increasing needs of electricity providers. As a result, AES Ohio has faced significant challenges in trying to overcome the labor shortages and the related price increases. To the best of its ability, AES Ohio made strategic decisions to focus its vegetation management efforts in such a way as to maximize the potential benefit to customers by prioritizing circuits based on safety, reliability and vegetation risk.	Per AES Ohio's ESSS Rule Vegetation Management program, full circuit maintenance trimming was completed on 89 circuits. The remaining circuits are being deferred until there is sufficient contractor resources to safely and effectively complete the work due to the aforementioned cost and labor resource issues. DP&L provides monthly program updates to PUCO Staff which include circuit completion, budget utilitization and crew status.	We identified the circuits to be deferred based upon safety, reliability and vegetation risk.	Performed full circuit vegetation management on 1518 miles of our distribution system which encompasses 89 circuits.
Operational Testing of Circuit Breakers	Conduct an operational test for breakers that are not otherwise operated during the calendar year	2 breakers could not be operated due to contingency issues and 3 breakers could not be operated due to customer outages.	99% of breakers operated	

Report date: 3/25/2021

AES Ohio
Rule 26 Report for 2020

10c. 4901:1-10-26(B)(3)(f), (B)(3)(f)(iii) Remedial activity

Program Name	Program finding(s) resulting in remedial action	Remedial activity performed	Completion date	Remedial activity yet to be performed	Estimated completion date
Transmission Aerial Patrols	4 items were identified that needed repaired	Completed 4 repair items from 2020 patrols.	12/31/2020		
External visual inspection of Substation Transformers	17 maintenance items were identified as requiring remedial activity.	All repairs were completed.	12/31/2020		
Thermographic Imaging of Substation Transformers	1 transformer hot spot was identified and mitigated.	All repairs were completed.	12/31/2020		
Substation Transformer Power Factor Test	Elevated readings were found on 4 substation transformers that suggest the need for bushing replacements. 2 of the transformers have been completed and 2 transformers remain to have bushings replaced.	Replaced 2 bushings.	12/31/2020	2 bushings still need replaced.	12/31/2021
Operational Testing of Circuit Breakers	4 breakers failed to operate.	All repairs were completed.	12/31/2020		
Visual Inspection of Circuit Breakers	5 items were identified requiring remedial activity.	All repairs were completed.	12/31/2020		
Thermographic Inspection of Substation Switches	Infrared inspections of substation switches identified bad or deteriorated contacts. 3 problems were identified during inspections.	All repairs were completed.	12/31/2020		
Capacitor Inspections	39 repair items were identified during the capacitor inspections. Typical repairs include replacing blown fuses, bad capacitors, or control issues.	All repairs were completed.	3/2/2021		
Recloser Inspections	4 repair items were identified during recloser inspections.	All repairs were completed during the inspection.	12/31/2020		

Report date: 3/25/2021

AES Ohio
Rule 26 Report for 2020

10c. 4901:1-10-26(B)(3)(f), (B)(3)(f)(iii) Remedial activity

Program Name	Program finding(s) resulting in remedial action	Remedial activity performed	Completion date	Remedial activity yet to be performed	Estimated completion date
Underground Device Inspections	658 repair items were identified during the underground device inspection program. Typical repair items can be described as defective locking mechanisms, defective pads, exposed cable	604 items have been completed.	2/25/2021	54 repair items still need to be completed. Additionally, 92 repair items still need to be completed from 2019 inspections. 66 repair items still need to be completed from 2018 inspections, and 43 repair items form 2017 inspections which will be scheduled with regular work on circuit.	
Distribution Circuit Patrol	4,111 repairs were identified during the inspections. Repair items include broken groundwires and loose or broken guy wires, blown arrestors, or broken crossarm braces, etc.	4,002 items have been completed.	3/5/2021	109 items remain from the 2020 inspections. Additionally, 85 repair items remain from 2019 inspections, 132 repair items from 2018 inspections, 162 repair items from 2017 inspections, and 179 repair items from 2016 inspections which will be scheduled with routine work on the circuit.	
Pole Replacement and Testing Program	Inspected 28,761 poles through the pole replacement and testing program	2,387 poles failed the inspection or integrity test with 15 poles replaced.		343 poles to be reinforced and 2029 poles to be replaced.	12/31/2024
Monitor Circuit Reliability Performance	Repair items were identified during the inspection of ORP circuits. Typical repair items include: Lightning arrestors, cut-out, pole replacements/reinforcements, cable injection or replacement	Refer to Rule 11 for specifics on remedial items for individual ORP circuits.		Refer to Rule 11 for specifics on remedial items for individual ORP circuits	12/31/2021

Notes: Some poles scheduled to be reinforced may be replaced depending on pole loading calculations.

Report date: 3/25/2021

AES Ohio
Rule 26 Report for 2020

10d. 4901:1-10-26(B)(3)(f): Current Year Goals

Asset Type	Program Name	Program Goals
Transmission	345 kV Aerial Patrol	Inspect 345 kV circuits, 4 times per year
Transmission	138 kV Aerial Patrol	Inspect 138 kV circuits, 4 times per year
Transmission	69 kV Aerial Patrol	Inspect 69 kV circuits, semi-annually
Transmission	Thermographic Inspection of Transmission Lines	Perform thermographic inspections where needed
Transmission	Transmission Line Clearance	Full trim on two 345kV lines and trim trees where needed
Transmission	Herbicide Application	Apply herbicide as needed
Transmission	Transmission Inspection Program	Inspect 25 circuits in metro - no fly zone
TS and DS	External visual inspection of Substation Transformers	Inspect approximately 300 Substation Transformers monthly
Transmission	Thermographic Imaging of Substation Transformers	Infrared approximately 300 Substation Transformers
Transmission	Substation Transformers Dielectric Oil Breakdown Test	Perform oil dielectric breakdown on all in service transformers
TS and DS	Substation Transformer LTC Maintenance	Complete LTC maintenance as needed based on oil analysis
TS and DS	Substation Transformer Power Factor Test	Perform power factor testing on aprroximately 44 substation transformers
TS	Operational Testing of Circuit Breakers	Conduct an operational test for breakers that are not otherwise operated during the calendar year
TS and DS	Visual Inspection of Circuit Breakers	Inspect approximately 1,300 Circuit Breakers monthly

Report date: 3/25/2021

AES Ohio
Rule 26 Report for 2020

10d. 4901:1-10-26(B)(3)(f): Current Year Goals

Asset Type	Program Name	Program Goals
TS/DS	Circuit Breaker Preventive Maintenance	Complete maintenance on 169 circuit breakers
TS	BES Relays	Test 120 relays
DS	Non-BES Transmission Relays	Test 200 relays
Distribution	Non-BES Distribution Relays	Test 210 relays
TS	Thermographic Inspection of Substation Switches	Infrared approximately 2,362 Substation Switches
Distribution	Capacitor Inspections	Complete the inspection of approximately 1287 capacitors
Distribution	Recloser Inspections	Complete the inspection of approximately 593 reclosers
Distribution	Underground Device Inspections	Inspect URD devices on 388 map grids
Distribution	Monitor Circuit Reliability Performance	Evaluate least-reliable circuits and initiate remedial action where needed
Distribution	Monitor Branch Line Reliability Performance	Evaluate least-reliable branch lines and initiate remedial action where needed
Distribution	Distribution Circuit Patrol	Inspect 91 circuits
Distribution	Distribution Line Clearance	Perform full circuit vegetation maintenance in order to return to a 5 year cycle. Fewer miles will be trimmed if increased costs and labor resource constraints continue as discussed in Section 10b.
Distribution	Pole Replacement and Testing Program	Inspect approximately 33,700 poles
Distribution	Regulator Inspections	Inspect approximately 560 regulators

Report date: 3/25/2021

AES Ohio
Rule 26 Report for 2020

11. 4901:1-10-26(B)(3)(f), (B)(3)(iv): Prevention of overloading or excessive loading of facilities and equipment

Transmission or Distribution	Program Name	Program Goals
D	Distribution Planning	The distribution planning process includes an ongoing analysis of each component and its response to current and projected peak loads. Short and long-range plans are developed and continually refined based on changing customer needs and the dynamic nature of the distribution system.
T	Transmission Planning	AES Ohio performs an evaluation of its transmission system on an annual basis and in response to significant proposed changes to the system, such as the installation of a generating plant or a large change in customer load at a given location. AES Ohio bases its transmission system evaluations on a recent power flow model developed by PJM. Changes may be made to the generation dispatch in order to evaluate the most stressful conditions on the system. The evaluations typically consist of comprehensive contingency analyses including outages of single segment transmission lines, multiple-terminal transmission lines, transformers, generating units, towers, etc. The results of these studies are checked for thermal overloading, voltage magnitudes, and excessive voltage drop according to NERC/ReliabilityFirst.

Notes:

AES Ohio
Rule 26 Report for 2020

12. 4901:1-10-26(B)(3)(f), (B)(3)(iv): Actions to remedy overloading or excessive loading of facilities and equipment

Transmission or Distribution	Sub/Circuit name	Date overloading identified	Plan to remedy overloading	Estimated completion date	Actions taken to remedy overloading	Actual completion date
Distribution	Airway AJ1205	1/8/2018	Phase Balancing	6/1/2021	Phase swap on distribution circuit AJ1205 to balance phases	
Distribution	Wilmington HB1202	1/23/2018	Upgrade line regulator	7/1/2020		3/12/2021
Distribution	Greenville LD1211	3/1/2018	Upgrading OVHD conductor	5/1/2020		5/7/2020
Distribution	New Lebanon MI1205	6/18/2018	Upgrading OVHD conductor & Transferring load	12/31/2020	Balanced circuit	7/30/2020
Distribution	Waynesville BK-2	4/18/2018	Transferring Load	12/31/2020		6/1/2020
Distribution	Hursh Rd LA1201	7/21/2019	Upgrading Regulators	12/31/2020		12/15/2020
Distribution	W. Milton OC1207	1/20/2020	Upgrading Regulators	12/31/2020		3/12/2021
Distribution	Gettysburg LG1206	1/20/2020	Upgrading Regulators	12/31/2020		8/4/2020
Distribution	New Holland JH1202	7/30/2019	Upgrade Regulator	12/31/2021		
Distribution	Carrolton AM1202	12/6/2019	Phase Balancing	12/31/2021		
Distribution	Indian Lake EG1206/EG1205	8/13/2020	Extend 3 ph on EG1206 to reduce loading on EG1205	8/1/2021		
Distribution	Marysville CB1201/CB1202	8/4/2020	Extend 3 ph on CB1201 to reduce loading on CB1202	8/1/2021		

Notes:

Report date: 3/18/2021

AES Ohio
Rule 26 Report for 2020

13. 4901:1-10-26(B)(3)(f), (B)(3)(f)(vi): Programs deleted

Facility Type	Deleted Program Name

Notes: No deleted programs

AES Ohio
Rule 26 Report for 2020

14. 4901:1-10-26(B)(3)(f), (B)(3)(f)(vi): Programs modified

Facility Type	Deleted Program Name

Notes: No modifications

AES Ohio
Rule 26 Report for 2020

15. 4901:1-10-26(B)(3)(f), (B)(3)(f)(vi): Programs added

Facility Type	Deleted Program Name

Notes: No added programs

AES Ohio
Rule 26 Report for 2020

16. 4901:1-10-26(B)(4): Service interruptions due to other entity

Date of Interruption	Time of Interruption	Type of entity causing interruption	Name of entity causing interruption	Impact on Transmission or Distribution	Sub/Circuit Interrupted	Cause of interruption

Notes: No interruptions

Summary: Annual Report Pursuant to Rule 4901:1-10-26 Annual System Improvement Plan for the year 2020 electronically filed by Mr. Robert J Adams on behalf of The Dayton Power and Light Company d/b/a AES Ohio