2027 RTEP Assumptions
DAYTON – Western Sub-Region

December 11, 2026

2027 RTEP Assumptions

Load Flow Cases

- AES Ohio participates in the development of
  - MMWG base cases
  - PJM RTEP cases
- Internal cases may be developed using either
  - PJM RTEP cases
  - MMWG or
  - PJM base cases to study specific system conditions or customer requests
- Typical annual load flow model updates include but are not limited to
  - Topology updates
  - Contingency updates
  - Updated load and generation profiles
  - Applicable ratings updates, etc.

Loads

- AES Ohio is a summer peaking zone
- 2026 actual: 3,452 MW non-coincident
- PJM projection for 2032: 5,123 MW non-coincident

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Baseline Assessment

Objective

- Evaluate projected transmission system performance to identify potential reliability criteria violations
- Propose system upgrades to resolve any violations and ensure NERC TPL, PJM, and AES Ohio reliability standards are met

NERC Reliability Criteria

- TPL-001-5.1 Transmission System Planning Performance Requirements

PJM Reliability Criteria

- Manual 14B
- www.pjm.com/planning/planning-criteria.aspx

AES Ohio Reliability Criteria

- FERC 715 filing
  - https://www.pjm.com/planning/planning-criteria/to-planning-criteria.aspx
- Facility Connection Requirements
  - www.pjm.com/planning/design-engineering/to-tech-standards.aspx

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Baseline Assessment

Process

- Coordinate with PJM to identify and validate any potential reliability violations identified through PJM RTEP analysis and local assessment
- Baseline violations are submitted to PJM in accordance with PJM's annual RTEP process
- PJM reviews all validated violations at TEAC and/or Sub-regional RTEP Committees
- As required, AES Ohio will submit Baseline upgrades to PJM according to PJM's annual open window processes.
- All AES Ohio baseline proposals are reviewed at PJM TEAC and/or Sub-regional RTEP Committees
- RTEP load flow cases are made available through PJM, subject to PJM's NDA and CEII guidelines

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AES Ohio Transmission Projects

Supplemental Projects

- **Customer Service**
  - **New or upgraded customer delivery points**
  - **Distribution or customer load growth**
  - **Customer Outage Exposure**

- **Infrastructure Resilience**
  - **Identify and reduce single points of failure**
  - **Severe event analysis and necessary mitigations**

- **Operational Flexibility and Efficiency**
  - **Improve system operating performance and conditions**
  - **Elimination of three terminal lines and hard taps**
  - **Mitigation of non-standard switching arrangements that can impact system/customer reliability**
  - **Enhance system operational flexibility through switching enhancements**

- **Equipment Material Condition, Performance and Risk**
  - **Address facilities with performance degradation and/or reliability concerns**
  - **Asset health and risk information**

All needs and solutions are reviewed at the sub-regional TEAC meeting for stakeholder input as part of the M-3 Process

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AES Ohio End of Life

2027

AES Ohio Asset Lifecycle Management – End of Life

Overview

- AES Ohio has developed an End of Life (EOL) Program pursuant to Attachment M-3 of the PJM Tariff.
- AES Ohio utilizes field equipment assessments through regular asset inspections, historical system performance, customer impacts, and operational asset condition data to form the basis of our EOL program.
- The EOL program functions as part of AES Ohio's overall asset lifecycle management program.
- The AES Ohio EOL program specifically identifies possible asset replacements for submittal to PJM in the form of an EOL Candidate List.
  - The EOL Candidate List includes AES Ohio BES transmission lines & transmission transformers requiring complete replacement within the 5-year window covered by the annual RTEP process.
- If a facility listed in the EOL Candidate List requires potential complete replacement as determined by AES Performance and Asset Management, it advances forward as a Need in the M-3 Process.
- If there is an overlap between an AES Ohio EOL Candidate and a PJM/AES Ohio planning criteria violation as part of the RTEP evaluation, PJM and AES Ohio works jointly to validate and communicate the associated overlap to stakeholders as required by PJM Manual 14B.

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Transmission Lines at End of Life

Program for Transmission Line Evaluations

- AES Ohio Inspection Program
  - Serves as a key input to the AES Ohio's overall lifecycle asset management program including EOL
  - Transmission Lines are inspected on a regular schedule based upon voltage class and asset construction type.
  - AES Ohio's program includes data from both ground and aerial inspections submitted by AES Ohio field crews.

- Typical Inspection Points include (but not limited to)
  - Structure Condition
  - Grounding
  - Anchors and Guys
  - Joint Use Connections
  - Insulators
  - Conductor and Static/Shield Wire
  - Structure Crossing
  - Clearances
  - Signage
  - Soil and Pavement Conditions
  - Right of Way Conditions
  - Lightning Arresters
  - Switches
  - Animal Damage
  - Vegetation

- AES Ohio Performance Monitoring Program
  - AES Ohio utilizes inspection, outage, SCADA/PI loading data, etc. to trend asset health conditions and identify factors contributing to existing and potential performance issues.
  - Facilities identified for further evaluation when placed on the EOL Candidate list based upon the asset's operational risk resulting in existing and potential performance related issues.

- Once a transmission line facility is placed on the EOL Candidate List based upon it's performance monitoring points outlined above, AES Ohio Performance and Reliability, Transmission Planning, and Operations teams consider all performance and condition related inputs to determine if the facility should advance from the EOL Candidate List to a formal Need in the M-3 Process.

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Transformers at End of Life

Transmission Transformer Evaluation

- AES Ohio Inspection Program
  - Serves as a key input to the AES Ohio's overall lifecycle asset management program including EOL.
  - Transmission transformers are inspected on a regular schedule, based on the voltage and criticality of the transformer.

- Typical Inspection Points Include (but are not limited to)
  - Physical Inspection
  - Oil Sampling
  - Dissolved Gas Analysis (DGA)
  - Doble Insulation Test
  - Through Fault Event Analysis
  - Historical Unit Loading
  - Winding Resistance
  - Excitation
  - Power Factor Test
  - Bushing Power Factor
  - Bushing Hot Collar
  - Partial Discharge
  - Water Concentration levels

- AES Ohio Performance Monitoring
  - AES Ohio utilizes inspection data, outage data, SCADA/PI loading data, etc. to trend asset health and identify factors and conditions contributing to potential performance issues.
  - Based upon the operational risk of the facilities exhibiting existing and potential performance issues, facilities identified as requiring further evaluation are placed on the EOL Candidate list.
  - This review identifies facilities that may be failing between inspection cycles and doing prioritized inspections to ensure continued reliable service to customers.

- Once a transmission line facility is placed on the EOL Candidate List based on the performance monitoring points outlined above, AES Ohio Performance and Reliability, Transmission Planning, and Operations teams consider all the performance inputs to determine whether the facility should advance from the EOL Candidate List to a Need in the M-3 Process.

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