OVEC Transmission
Local Planning Assumptions for PJM RTEP Baseline, Network, Supplemental and Asset Management Projects

PJM Sub-Regional RTEP

Western Meeting

December 11, 2026

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  - Supplemental Planning Criteria
    - Five types of criteria drivers, including Condition, Performance and Risk
      - This criteria drives End-Of-Life and Asset Management Needs
- Retirement of Existing Facilities

Overview of OVEC

- OVEC and its wholly owned subsidiary, IKEC, were formed in 1952 by investor-owned utilities furnishing electric service in the Ohio River Valley area and their parent holding companies for the purpose of providing the large electric power requirements for the uranium enrichment facilities by the Atomic Energy Commission (AEC) near Portsmouth, Ohio. Transmission planning services are provided to OVEC by its parent company AEP.
    - 2.2 GW of generating capacity
    - 705 miles of electric transmission lines
    - 4 substations
    - Own, operate, and maintain transmission facilities in 1 RTO and 3 states
    - Interconnection with 3 major utilities across the U.S.

Overview of OVEC Zone

- Total OVEC Transmission facilities in PJM region:
  - 345 kV ~705 miles

- Connected demand modeled in OVEC Transmission zone in PJM

	2025 Summer	2025/26 Winter
• Ohio	0 MW	0 MW

Assumptions

- This entire slide deck constitutes and addresses the assumptions requirement outlined in Attachment M-3 to the PJM Tariff.

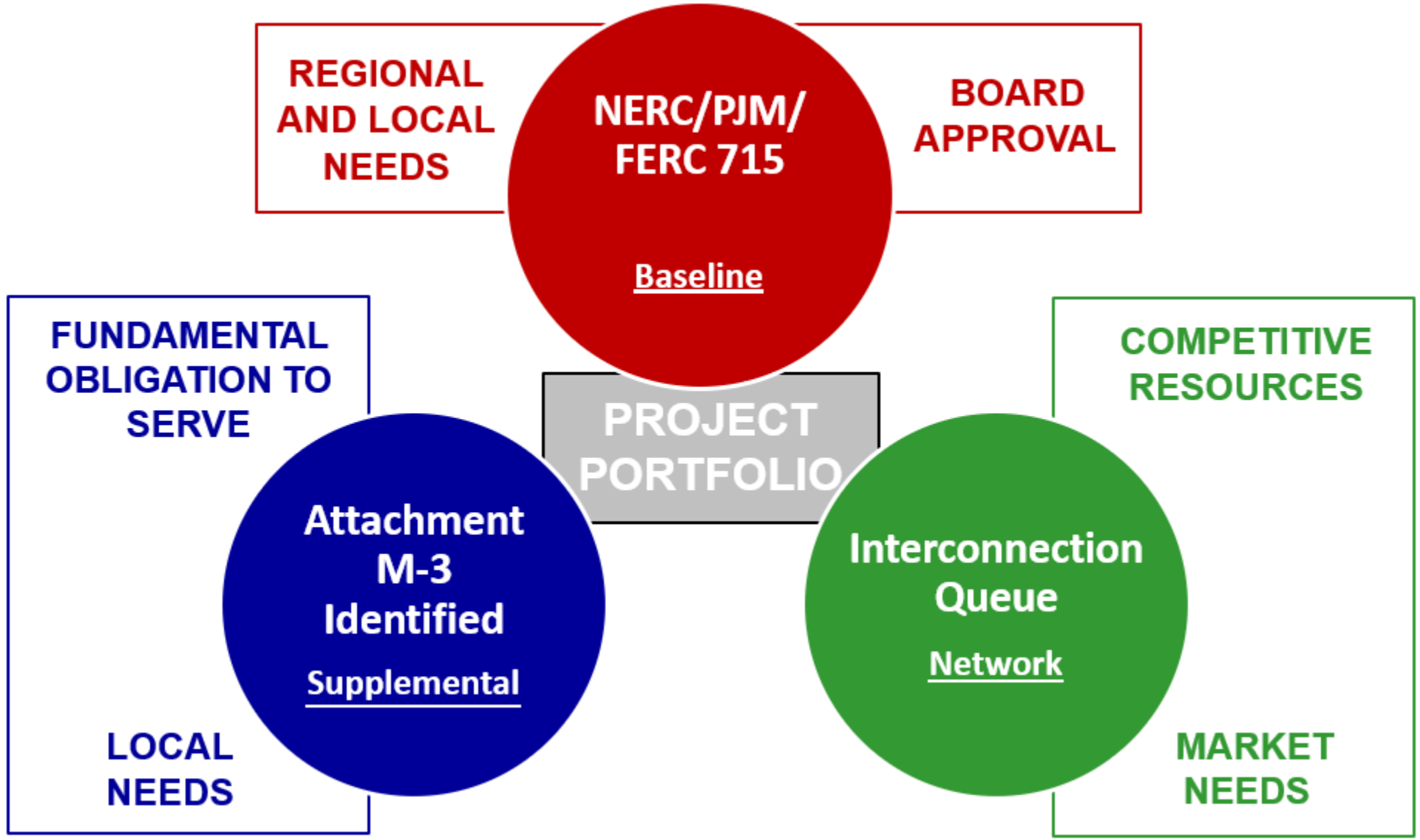
Models

- OVEC supports development of and updates to RTEP base cases, including power flow, short circuit and stability.

- OVEC participates in development of annual series of ERAG MMWG base cases.
  - Cases include seasonal, near-term, and long-term models used in ERAG and RFC assessments of the Transmission system.

- OVEC planning studies utilize available PJM RTEP base cases.
  - Internal cases are developed, on case by case basis as needed, to represent and address local historical constraints observed in real-time.

Overview of RTEP Projects



Local Needs and FERC Form 715

- Local Needs Driven by Local Planning Criteria in FERC Form 715
- Drive Baseline and Network Projects
- Address Needs that Lend Themselves to Bright-Line Criteria

Local Criteria and FERC Form 715

- OVEC transmission system is planned in adherence with the PJM Planning Criteria that are comprised of NERC Reliability Standards, PJM Planning Procedures and Transmission Owner Planning Criteria in FERC Form 715.

- OVEC Planning Criteria in FERC Form 715 align with NERC Reliability Standards and PJM Planning Procedures.

- All planning studies utilize the latest available PJM RTEP base cases.
  - Special cases are created to perform local area studies, as needed

- PJM evaluates compliance and adherence to above standards and criteria from regional perspective (top down), and OVEC does the same from a local perspective (bottom up).

Link to OVEC Transmission Planning Reliability Criteria in FERC Form 715:
https://www.pjm.com/library/request-access/ferc-form-715.aspx

Local Needs and Attachment M3

- Local Needs Driven by Local Planning Criteria under Attachment M-3
- Drive Supplemental and Asset Management Projects
- Address Needs that Do Not Lend Themselves to Bright-Line Criteria
  - For Example, Application of Requirements Not Reflected in TPL-001

Local Criteria and Attachment M3

- **Customer Service Criteria**
  - Service to new and existing customers. Interconnect new customer load. Address distribution load growth, customer outage exposure, equipment loading.
- **Equipment Material Condition, Performance and Risk Criteria**
  - Degraded equipment performance, material condition, obsolescence, including at the end of the useful life of equipment or a facility, equipment failure, employee and public safety and environmental impact.
- **Operational Flexibility and Efficiency Criteria**
  - Optimizing system configuration, equipment duty cycles and restoration capability, minimize outages.
- **Infrastructure Resilience Criteria**
  - Improve system ability to anticipate, absorb, adapt to, and/or rapidly recover from a potentially disruptive event, including severe weather, geo-magnetic disturbances.
- **Other Criteria**
  - Meet objectives not included in other definitions such as, but not limited to, technological pilots, industry recommendations, environmental and safety impacts, etc.

Customer Service

- In accordance with NERC Standard FAC-001-2, OVEC has posted requirements for interconnections of end-use customers, generators, and transmission facilities.
- To provide service to end-use customers, OVEC performs studies to determine the system impacts and develop a plan of service for contracted load levels.
- OVEC will use good engineering judgement to potentially enhance plans to serve projected load levels to account for flexibility around any future customer demand.
  - OVEC consults with the customers as well as the local and state economic development organizations in assessing the likelihood of additional future demand.

Link to OVEC Interconnection Requirements for the OVEC Transmission System:

https://www.ovec.com/EO/OVEC%20Interconnection%20Requirements.pdf

Condition, Performance and Risk

- OVEC follows AEP guidelines for transmission owner identified needs to address equipment material conditions, performance, and risk while considering infrastructure resilience, operational flexibility and efficiency, and other criteria needs.

- The OVEC criteria and guidelines allow determination of asset needs which must be revitalized to ensure safe, reliable and cost-effective operation of the grid, and include those that address End-Of-Life needs in accordance with the provisions in Attachment M-3 of the PJM Tariff.

- OVEC takes a holistic view of all the needs in developing solution options to best address the identified needs.

Link to AEP Transmission Planning Criteria for End-Of-Life and Other Asset Management Needs:
https://www.aep.com/about/codeofconduct/OASIS/TransmissionStudies/

Operational Flexibility and Efficiency

- Optimize system configuration, equipment duty cycles and restoration capability.
- Minimize facility outages.
- Maximize system reliability through improved system restoration, equipment sectionalization, and system configuration.
- Removal and replacement of Special Protection Systems (SPS).
- Improve system reliability and safety by reducing operator interventions and actions.
- Enhance legacy facilities to modern engineering design standards.
  - Eliminate hard taps
  - Reduce multiple zones of protection
  - Loop radial facilities above a 75-MW/mile threshold
- Address safety hazards and reliability risks to system operations.

Infrastructure Resilience

- Improve system ability to anticipate, absorb, adapt to, and/or rapidly recover from a potentially disruptive events, including severe weather, geo-magnetic disturbances.
- Evaluate system strength and adaptability to reduce customer outages and disruptions from severe events.
- Mitigate risks across the system (reliability, safety, compliance, financial, etc.).
- Identify and reduce single points of failure.
- Harden grid against potential low-frequency, high-impact threats (physical, cyber, GMD, EMP, etc.).
- Optimize inventory of replacement facilities (spares, mobiles, etc.).

Other

- Meet objectives not included in previous four categories:
  - Customer Service
  - Equipment Material Condition, Performance & Risk
  - Operational Flexibility & Efficiency
  - Infrastructure Resilience

- Obligation to meet environmental requirements and needs.

- Address state, local, or other non-RTEP requirements, directives, and requests.

- Respond to requests from non-PJM public utilities and neighboring planning regional entities for supporting projects in PJM.

- Address reliability needs in anticipation of generation retirements.

- Support implementation of technological pilot projects.

- Ensure adherence to Good Utility Practice.

Baseline and Supplemental Solutions

- PJM has the responsibility of reviewing and approving any and all baseline solutions submitted in response to any PJM identified violations or any OVEC identified 715 criteria violations.
- OVEC has the responsibility to submit and review any and all needs and the solutions for those needs identified as part of the needs assessment outlined in the previous slides with PJM stakeholders.
- OVEC submits solutions for baseline violations for consideration by PJM through the Order 1000 process so that PJM can determine the most cost effective solution for the identified baseline issues.
- Where a previously-reviewed supplemental project or need overlaps with baseline criteria violations, solutions are still submitted to PJM for review as part of the Order 1000 process as a potential solution to the baseline criteria violation.
- PJM holds the responsibility of determining the most holistic solution for any given criteria violation, taking into consideration any overlapping baseline and supplemental needs.
- Any supplemental need remaining after the designation of a baseline solution is complete will continue through the M-3 process for OVEC to address with a separate supplemental project.
- After all solutions in a given area are identified, the OVEC Project Management team will look for opportunities to combine work execution together to help reduce outage times and associated costs.

Retirement of Existing Facilities

- The purpose of transmission planning is to ensure that the capacity of the existing transmission system is maintained or expanded as needed to ensure the reliability, efficiency, safety, resilience and security of the transmission system for the benefit of customers.
- There are no national, regional or local standards or criteria driving the retirement and not replacement of existing facilities. Although in specific situations, facilities may be removed and not replaced as dictated by system and/or customer needs, or the design and construction of new or replacement transmission projects, decisions to not replace individual facilities may have the cumulative effect of negatively impacting the reliability, efficiency, safety, resilience and security of the transmission system. That cumulative negative impact could also drive the need for additional facilities to be constructed to compensate for those removed, including greenfield installations.
- Accordingly, existing facilities are maintained in service or retired based on Good Utility Practice.