OVEC Transmission Local Planning Assumptions, Models, and Criteria

PJM Sub-Regional RTEP

Western Meeting

December 18, 2019

Introduction to 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.
    - 1 customer
    - 2.2 GW of generating capacity
    - 705 miles of electric transmission lines
    - 4 substations
    - Own, operate, and maintain transmission facilities in 1 RTOs and 3 states
    - Interconnection with 3 major utilities across the U.S.

OVEC Zone in PJM

- 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	35 MW	35 MW

- OVEC load in the RTEP base cases is scaled to PJM forecast.

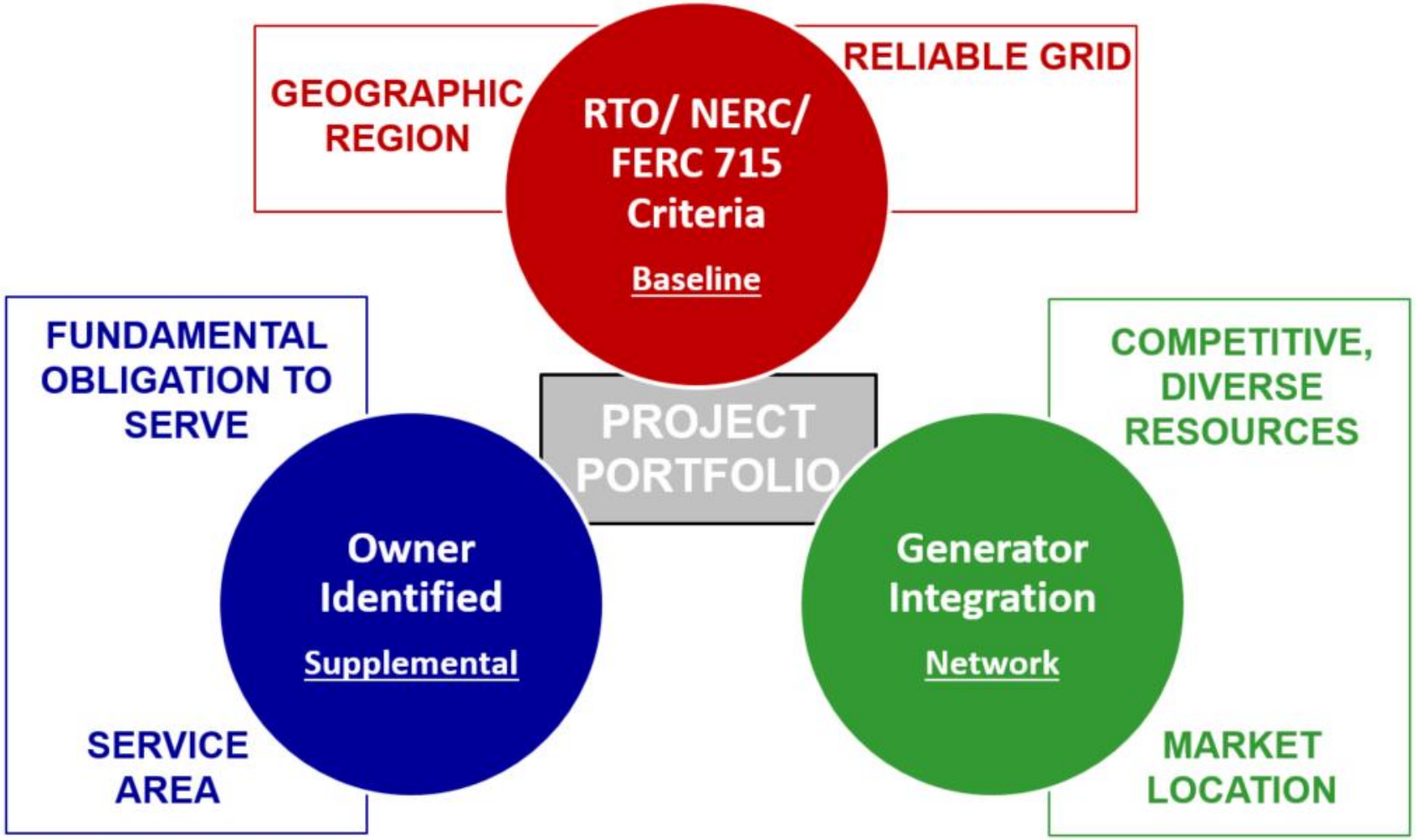
PJM Power Flow Models

- OVEC supports development of and updates to RTEP base cases.

- 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.

Types of Projects in PJM Region



OVEC Planning Criteria – FERC 715

- OVEC transmission system is planned in adherence with NERC TPL-001-4 and PJM Planning Criteria outlined in Manual 14B.

- OVEC Planning Criteria (FERC 715) aligns with NERC and RTO planning criteria.

- All planning studies utilize the latest available PJM RTEP base cases.

- 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 FERC 715:
https://www.pjm.com/library/request-access/ferc-form-715.aspx

Customer Interconnections

- 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 initial studies to determine the system impacts and develop a plan of service for contracted load levels.
  - Required transmission upgrades are validated by PJM under baseline reliability criteria.

- OVEC may, at its discretion, enhance plans to serve projected contracted load levels such that the plans are able to serve any projected non-contracted load
  - OVEC consults with the customers as well as the local and state economic development organizations in assessing the likelihood of non-contracted projections.
  - Any required upgrades to meet projected non-contracted loads are considered supplemental.
  - Any required upgrades to improve grid capacity to meet projected contracted load are considered baseline.

Link to OVEC Interconnection Requirements:

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

Guidelines for TO Identified Needs

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

- The AEP guidelines allow determination of asset needs which need to be revitalized to ensure safe, reliable and cost-effective operation of the grid.

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

Link to AEP Guidelines for TO Identified Needs:
https://www.aep.com/about/codeofconduct/OASIS/TransmissionStudies/

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.

OVEC/IKEC
Ohio Valley Electric Corporation / Indiana-Kentucky Electric Corporation

Questions?