Transmission Expansion Advisory Committee
FirstEnergy Supplemental Projects

JCPL Transmission Zone

Needs

Stakeholders must submit any comments within 10 days of this meeting in order to provide time necessary to consider these comments prior to the next phase of the M-3 process

JCPL Transmission Zone M-3 Process
Red Bank Substation

Need Number: JCPL-2026-060

Process Stage: Need Meeting - TEAC - 12/01/2026

Project Driver:

- *Equipment Condition/Performance/Risk*

Specific Assumption References:

System Performance Global Factors

- System Reliability/Performance
- Substation/Line Equipment Limits

Substation Condition Rebuild/Replacement

- Age/Condition of Substation Equipment
- Circuit Breakers and Other Fault Interrupting Devices

Problem Statement:

The existing Red Bank Substation 230 kV oil circuit breakers TB and SB, 34.5 kV oil circuit breakers BK8D, Q95, P94 and U147 and associated disconnect switches are all over 30 years old and are approaching end of life. The 230 kV circuit switchers BK1, BK2, BK7 and BK 8 are all between 48 and 58 years old and are approaching end of life. The 34.5 kV capacitor banks 3, 4, 5 and 6 are all over 50 years old and approaching end of life. Replacement components are difficult to source leading to non-standard repairs.

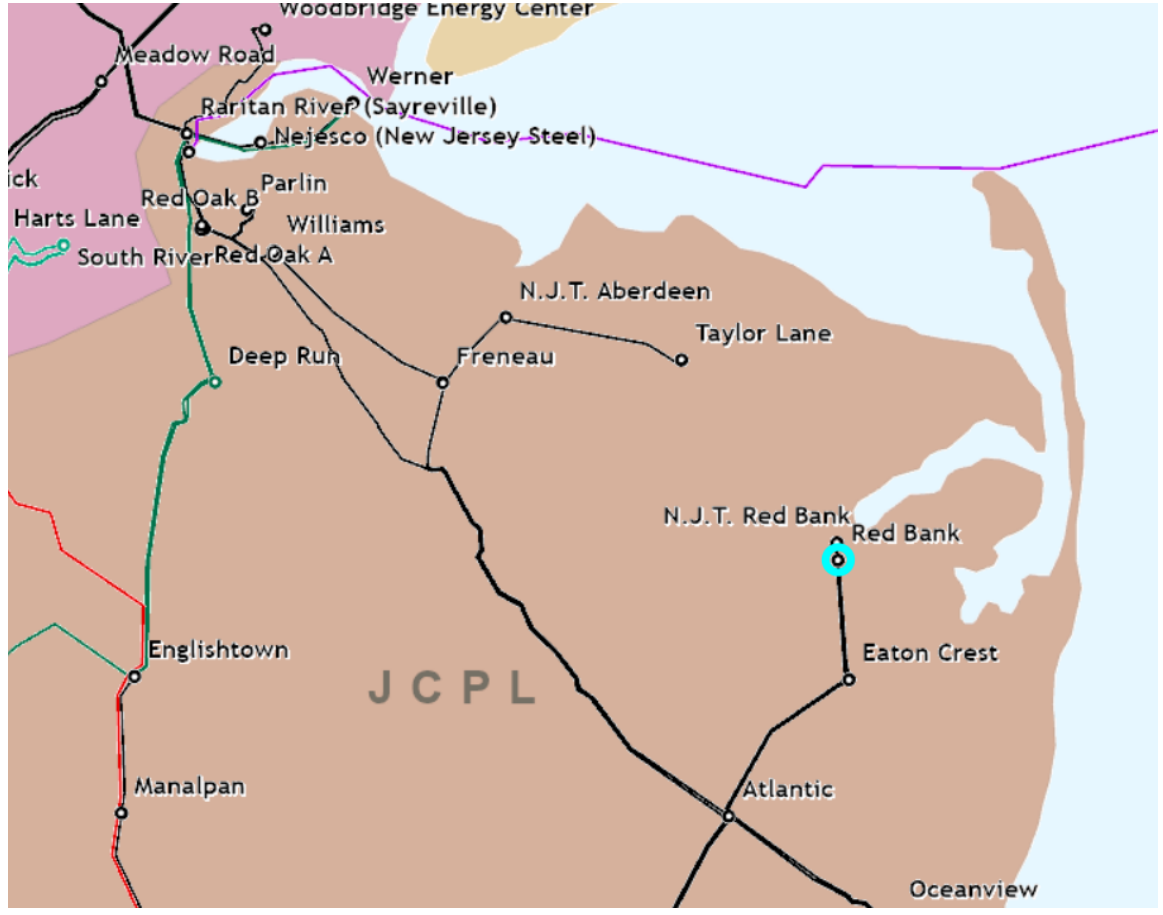
The transformers are currently limited by terminal equipment.

Red Bank 230-34.5 kV Bank 1:

- Existing Transformer Branch Ratings: 137 / 157 / 171 / 191 MVA (SN/SE/WN/WE)
- Existing Transformer Ratings: 149 / 157 / 188 / 191 MVA (SN/SE/WN/WE)

Red Bank 230-34.5 kV Bank 2:

- Existing Transformer Branch Ratings: 137 / 157 / 171 / 191 MVA (SN/SE/WN/WE)
- Existing Transformer Ratings: 149 / 157 / 188 / 191 MVA (SN/SE/WN/WE)



Revision History

11/20/2026 – V1 – Original version posted to pjm.com