



New Leemon 69 KV Substation for Load Addition

**Expedited Project Review Technical
Study Task Force (EPR- TSTF)**

September 09, 2025

Purpose and Key Takeaways

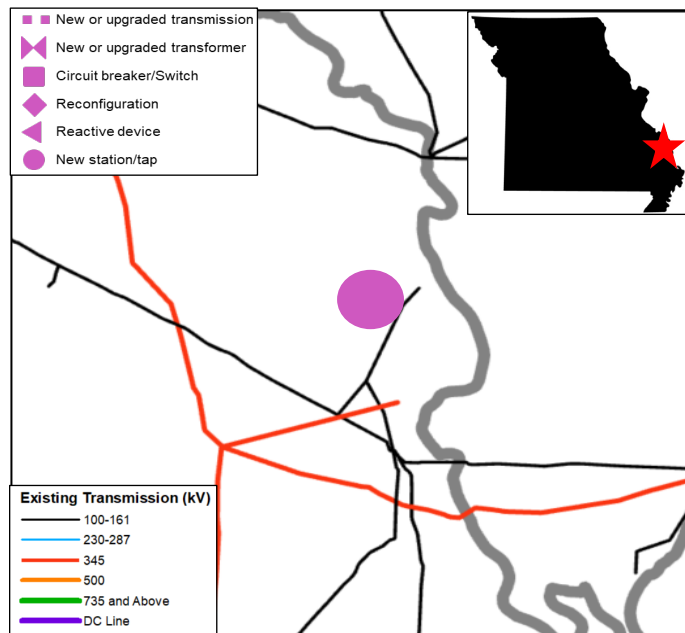


Purpose: Review the results of CECT's EPR for Leemon 69 kV substation for load addition (P50732)

Key Takeaways:

- New 4.6 MW Distribution load at Leemon 69 kV substation near Fruitland, Missouri.
- No reliability issues were identified nor any new TPL violations discovered from the implementation of the EPR.
- MISO recommends approving the project and will report this EPR as a part of MTEP26 cycle.

AMMO: New Leemon 69 kV substation



Project #	50732
Project Name	New Leemon 69 KV substation for load addition
Project Type	Other, Load Growth
Project Description	New 10/14 MVA 69-12.47kV distribution substation to address load growth in the Fruitland, MO area. This new substation will tap into the Neely-Fruitland 69 kV line. Minor rerouting of the existing transmission line will be required.
System Need	To support serving the load in this area, expected ISD requires 15 months for Engineering, Procurement, and Legislature approval prior to normal MTEP26 timeline.
Current Cost	\$2.75 M
Expected ISD	12/31/2026
Target Appendix	A in MTEP26

Models, Reliability Analysis, and Neighbor Coordination

- The EPR was applied to all applicable MTEP models based on the In-Service Date. Models were posted for review prior to analysis.
- MISO performed TPL-001-5.1 no-harm analysis utilizing n-1 and n-1-1 contingencies centered around the point of interconnection of the EPR
 - Results were posted for member feedback
 - Zero (0) new TPL violations or worsened reliability issues were identified
- MISO coordinated with impacted neighboring entities based on the analysis results

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Questions

MTEP26 reliability analysis scope is consistent with previous cycle to ensure compliance with NERC standards

Steady State Analysis	Transient Stability Analysis	Voltage Stability Analysis	Transfer Capability Assessment	Nuclear Plant Assessment	Generator Deliverability Analysis
Contingency analysis for both planning and extreme events	Disturbance analysis for both planning and extreme events	Identify voltage stability limits under a set of transfer scenarios	Evaluate transfer capability of the system under various transfer scenarios	Monitor and identify potential NPIR violations	Determine deliverability of existing network resources
Near and Long term horizons (year 2, 5, 10)	Near and Long term horizons (year 5, 10*)	Near term horizon (year 5)	Near term horizon (year 5)	Near and Long term horizons (year 2, 5,10)	Near and Long term horizons (year 5, 10)
TPL-001-5.1 FAC-014 PRC-023	TPL-001-4 FAC-014 PRC-023	FAC-014 PRC-023	FAC-013 FAC-014 PRC-023	NUC-001 PRC-023	

NERC TPL-001-5.1 establishes contingencies and acceptable mitigation requirements

TPL Category	Description	Acceptable Mitigation		
		BES Level	Physical Upgrade Required?	Load Shed or Redispatch Allowed?
P0	System intact	EHV, HV	Yes	No
P1	Single contingency (Fault of a shunt device- fixed, switched or SVC/STATCOM is new)	EHV, HV	Yes	No
P2	Single event which may result in multiple element outage. Open line w/o fault, bus section fault, internal breaker fault	EHV HV	Yes No	No Yes
P3	Loss of generator unit followed by system adjustments + P1. No load shed is allowed	EHV, HV	Yes	Yes
P4	Fault + stuck breaker events	EHV HV	Yes No	No Yes
P5	Fault + relay failure to operate (new)	EHV HV	Yes No	No Yes
P6	Two overlapping singles (not generator)	EHV, HV	No	Yes
P7	Common tower outages; loss of bipolar DC	EHV, HV	No	Yes