GRID EMT
SIMULATION INITIATIVE



NERC Standard Development Project on EMT Modeling

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Motivation

- Increasing penetration of Inverter-Based Resources (IBRs) requires more detailed modeling.
- Positive Sequence Phasor-Domain (PSPD) models cannot capture key control interactions under certain system conditions.
- Reliability Standards must evolve to ensure consistent EMT model availability for planners.
- EMT modeling project supports more accurate planning assessments and the interconnection study process.

Approach

- Standards Development
  - Revising FAC-002 to include EMT model expectations for planners
  - Revising MOD-032 to align data collection requirements with EMT modeling needs
  - Integrating EMT study triggers and model requirements into existing standards language
- MSPP Integration (Modernization of Standards Processes and Procedures)
  - MSPP provides streamlined workflows and centralized SME participation
  - EMT modeling project will transition into MSPP after revisions are complete
  - Current drafting team members encouraged to join MSPP SME Pools

Results

- FAC-002 revisions completed with clearer EMT modeling expectations for planners.
- MOD-032 revisions progressing efficiently, aligned with EMT modeling needs
- Decision made not to send either standard out for ballot this year
- MSPP coordination is improving consistency and preparing standards for future modernization cycles.

Conclusions and Next Steps

- EMT modeling is now a core reliability requirement for modern grid conditions.
- EMT modeling project is delivering the necessary updates to support planners and operators.
- FAC-002 is complete; MOD-032 is nearing completion; both will transition into MSPP process.
- Drafting team will develop a transition document for the MSPP process.
- Move EMT modeling project into the MSPP process.
- Current drafting team members encouraged to join MSPP SME pools.



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