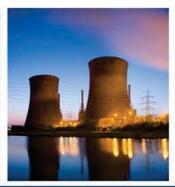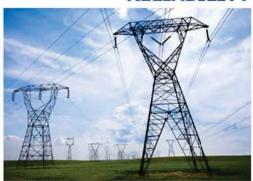# System Analysis and Modeling Subcommittee (SAMS) Update

SAMS, LMTF and PPMVTF

Michael R. Lombardi, SAMS Chair
Planning Committee Meeting
March 6-7, 2018

RELIABILITY | ACCOUNTABILITY

- Monitoring IEEE 1547 – Completed
  - Dec. 2017 - Submitted to IEEE Review Committee (RevCom)
- NERC-NATF Modeling Workshop
  - 2018: Scheduled June 20-21, 2018
- Node-Breaker Representation in Planning Models – Ongoing
  - Gather Experience and Lessons Learned
  - Small-scale pilot of node-breaker implementation
  - Wide-scale construction of planning base case with full node-breaker capability by MOD-032 Designee
- Modeling Notifications – Ongoing
  - Second generation renewables models
  - Generator protection GP1/GP2 models
  - Composite load model benchmarking
  - Modeling Momentary Cessation (IRPTF) - New

- NERC Acceptable Models List – Ongoing
- Generator Protection Model Implementation – On track; Q2 2018
- Assessment of Case Creation for Development of Interconnection-wide Models and Planning Practices – On track; Q3 2018
- Governor Deadband Modeling – On track; Q3 2018
- Applicability of Transmission-Connected Reactive Power Resources – New; On track; Q3 2018
- 2018 NERC State of Modeling Report – New; On track Q1 2018

RELIABILITY | ACCOUNTABILITY

- Load Model (Software) Benchmarking – Ongoing
  - Phase 1 complete; additional work on track
- Robust (Default) Data Sets (guidance on reasonable load model parameters) – On track; Q2 2018
  - Two data sets posted; 3rd data set with relaxed protection setting is underdevelopment
- System Impact Assessment – Ongoing
- Dynamic Load Modeling in Real-Time Stability Analysis – On track; Q4 2018 (re-scheduled)
- Progressive Protection System Modeling – On track; Q4 2018 (re-scheduled)
- Improved Single-Phase Motor Model – On track; Q4 2018 (re-scheduled)

RELIABILITY | ACCOUNTABILITY

- Improved Three-Phase Motor Model – On track; Q4 2018 (re-scheduled)

- Efficient Data Format & Model Management – On track; Q4 2018 (re-scheduled)
  - PSLF and Powerworld already capable, PSS/E will need major version release (Version 35)

- Modeling Notifications: Composite Load Model Benchmarking – On track Q3 2018 (re-scheduled)

- Load Composition Analysis (e.g Buildings, end uses) – New; Ongoing

- Power Electronics Load, adjustable drive (VFD, ECM) electric vehicle charger – New; Ongoing

- Load Model Data Management Tool – New; Ongoing

- Power Plant Modeling & Verification Forum – Ongoing
- Power Plant Model Review – On track; Q1 2018
- Plant Auxiliary Modeling Practices – On track; Q1 2018
- Reliability Guideline: MOD-032-1 Generator Data Requests – On track; Q2 2018
- Reliability Guideline: Power Plant Model Verification for Inverter-Based Resources – On track; Q2 2018
- Inverter-Based Resource Short Circuit Representation – On track; Q2 2018
- Inverter-Based Resource Modeling & Verification Forum – Ongoing

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Questions and Answers