

Transmission and Substation Subcommittee Updates

Jay Liu, Ph.D.
Secretary, TSS Subcommittee
Sr. Lead Engineer
Infrastructure Coordination, PJM

Planning Committee
June 8th , 2021

- TSS is a technical advisory subcommittee under PC
<https://www.pjm.com/-/media/committees-groups/subcommittees/tss/tss-charter.ashx?la=en>
 - TSS Chair: Mr. Shashi Patel, PSE&G
 - Secretaries: Jay Liu, PJM and Joe Hay, PJM
- Maintain technical guidelines for transmission facilities
 - Investigate new technologies and develop associated design guidelines
 - Track best practices of the industry
- Monthly meetings

- New Section(s) in TSS Guideline under review
 - Section I.c. Recommendations of Resilience and System Hardening Practices
 - Section VI.c. Circuit Breaker Rating Calculation Spreadsheet
 - Section VI.i. Gas Insulated Substation Rating Methodology
- New Sections in TSS Guideline under development:
 - Section V.q. STATCOM
 - Section V.s. Wildlife Mitigation on Transmission Lines

- Joint technical discussions with PJM Operation and Planning
 - Flow CBs and associated substation rating methodology
 - Reviewing technical survey to TOs
 - SVC and STATCOM Reactive Power Model and Operational Performance
 - Continuing technical discussions with TOs and Manufactures
- Technical workshops by vendors
 - Technical workshop on STATCOM/SVC modeling and high penetration Inverter Based Resources (May 2021)

- Other topics under investigation and new TSS Guideline Sections
 - Winterization of substations and transmission lines
 - Design and maintenance guidelines on GIS and GIL facilities
 - Dynamic line rating methodologies
 - Transmission facility design challenges associated with large scale renewable integration
 - Resilience related design issues: GMD/EMP; system hardening, etc.
 - New transmission line and substation materials and designs
 - FACTS and HVDC facilities

Presenter:
Jay Liu

Jay.Liu@pjm.com

Transmission and Substation Subcommittee Update



Member Hotline

(610) 666 – 8980

(866) 400 – 8980

custsvc@pjm.com