

## Transmission and Substation Subcommittee Updates

Jay Liu, Ph.D. Secretary, TSS Subcommittee Sr. Lead Engineer, Infrastructure Coordination Planning Committee December 6<sup>th</sup> , 2022





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



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- TSS Special Session on *Bare Overhead Transmission* Conductor Ratings started in March 2022
  - General revisions, edits, and modifications to OHL conductor rating calculations for expanded temperature range with results in 5F temperature intervals.
  - Sensitivity of environmental parameters to normal and short-term emergency ratings are also available in the ratings calculation tool for illustration purposes.
  - Draft revision of Section VI.a. and OHL Conductor rating calculation spreadsheet are posted for peer review



#### 2022 Activities (Cont'd)

- TSS survey on applicable wind speed design criteria for Transmission and Substation facilities
- TOs' good practices on Dynamic Line Rating technologies related equipment and associated O&M issues
- New materials and technologies
- Transmission and Substation design for grid resilience
- Participations at industry technical forums

#### 2023 Work Plan

- TSS will investigate technology evolutions and develop/update the following TSS Guideline Sections:
  - New transmission line and substation materials and designs
  - FACTS and HVDC facilities
  - Design and Maintenance Guidelines on GIS and GIL Facilities
  - Transmission facility design challenges associated with large scale renewable integration
  - Resilience related design issues: Winterization/GMD/EMP
  - Spare equipment philosophy
- TSS Special Session on OHL Conductor Rating will further investigate advance topics on the subject.





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### Transmission and Substation Subcommittee Update

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