

## Agenda for July 20, 2022 with Minutes

### *Joint Meeting of the Wind and Solar Power Plant Interconnection and Design Subcommittee and the Plant Interconnection Working Group* of

#### **IEEE PES Energy Development and Power Generation Committee**

**Date:** Wednesday July 20, 8:00 am – 10:00 am (Mountain time zone)

**Location:** Sheraton Denver, Director's Row J, and WebEx

**Leadership:** Main SC- Chair: Tom Key, VC: Jens Boemer, Sec: Nath Venkit  
Interconnection WG- Chair: J. Boemer, VC: N. Venkit, Sec: D. Chandrashekhara  
Design WG- Chair: Loren Powers, VC: Sudipta Dutta, Sec: Rob Schaerer

1. 8:00 MT - Welcome and Introductions Tom Key, EPRI  
Tom Key opened the meeting and welcomed the participants. Tom requested Rich Bauer to brief the team on the Solar trip events in California and Rich agreed.
2. Acceptance of minutes from Summer 2021 meeting (covers interconnection WG and the subcommittee meeting together), Nath Venkit, GE  
Nath Venkit asked if there were any corrections or edits to be made to the minutes from the last meeting in August 2021. There were none. Nath asked for a motion to approve the minutes – Loren Powers moved the motion and Ben York seconded. There were no objections and the minutes from the last meeting were approved.
3. 8:15 MT - Working Group Activity Reports
  - Wind and Solar Plant Design WG – Chair Loren Powers  
Loren gave an update of the activities of the Wind and Solar Plant Design working group. The working group met on 19<sup>th</sup> July 2022. Papers were published on collector system design. Certificates of contribution were provided to WG members for their contribution to standards and guides on Wind and Solar plant grounding.
    - Update on WG meeting plans for 2023  
Next meeting planned in January 2023 in Florida around the same time as GTCM.
    - Task Force on Wind and Solar Plant Grounding Activities – Rob Schaerer
      - IEEE 2760 Guide completed on wind plant grounding
      - IEEE 2778 Guide completed on solar plant grounding and designNo formal presentation on the above topics but there was plenty of good discussion as described below:  
Issues with grounding when adding storage – Solar grounds neutral but storage typically does not..  
Discussion on modeling step and touch potentials.

## Discussion on fire protection

- Hot Topics on Design, TBD, 10 min
- Looking ahead, other WG Activities/Plans

More participation was encouraged including in writing papers. Meeting in smaller groups during GTCM was encouraged.

Efforts underway on writing papers related to cable ampacity, reactive power, dc collection for PV, and MV cables.

- Wind and Solar Plant Interconnection WG – Nath Venkit

- ***Distribution-Connected*** Inverter Based Resources (DER)

- 1547 revision plans (scope/timeline/sponsors) – Dave Narang (NREL)

Dave's slides will be added to the deck. Major revision planned for 1547. Dave led study group effort concluded resulting in the approval of a PAR for revision. Officer team and SGs being determined.

Discussion on harmonizing protection aspects of IEEE 1547 and IEEE 2800.

Discussion on why there are 9 parts to 1547. Mike Ropp explained that 1547 is the main standard and all 1547.x are guides and recommended practices that provide additional information for application, testing etc. Also splitting it into multiple parts keeps the size of the document manageable and allows users to purchase only what they need. An index of all parts of IEEE 1547 was requested.

- 1547.2 update status – Wayne Stec (Distregen)

Application guide for IEEE 1547. Comments received and out for re-circulation.

- P1547.9 project – Mike Ropp (SANDIA)/Charlie Vartanian (PNNL)

Application aspects of IEEE 1547 specifically for Energy storage. This is approved and the P should be removed. Mike explained how 1547.9 addresses the “exporting power” criteria in 1547.

Educational efforts and panel discussions are underway to encourage adoption of 1547.9

- New Sponsored Par: Utility Infrastructure DER Gateway (***1547.10***) – Jithendar Anandan (EPRI) - 15 min

Jithendar's presentation will be added to the slide deck. WG meetings yet to begin. Kick-off expected in a couple of months.

EPRI WG report in link

<https://www.epri.com/research/products/000000003002018673>

There was a suggestion to harmonize 1547.10 with P2800, 2030.11, and P2688.

- Topical Presentation on Interconnection, TBD, 20 min

No specific discussion

4. 9:00am MT

- EDPG Interconnection WG Activities Reports, Continued
  - ***Bulk System-Connected*** Inverter-Based Resources Activities
    - [P2800](#) Update Trans Interconnection Std – Andy Hoke (NREL) – 5 min
    - P2800.2 Certification Tests Standard – Andy Hoke (NREL) – 15 min

Andy's presentation on IEEE 2800 and IEEE P2800.2 added to the slide deck. IEEE 2800 is released and efforts are underway to publicize and encourage adoption.

There was a question on how IEEE 2800 is related to the Unified Consortium on grid forming. Andy commented that IEEE 2800 has no firm requirements for grid forming and it is conceivable that the UNIFI recommendations could become part of 2800 at a future date.

- Topical Presentation on Loss of Inverter Events, TBD – 20 min

Rich Bauer presented on the recent bulk power system IBR trips in Texas and California. Slides will be added to the deck.

In these events the models did not match the performance of the IBRs. There was a comment that Accurate models and commissioning tests are very high priorities. There was also a comment that lack of good data is hampering investigation into these events and that PMU data is not good enough.

5. Coordination Reports

- IEEE P2882, Guide for Validation of Software Models of Renewable and Conventional Generators for Power System Studies, TBD
- PES Wind and Solar Standards Coordinating Committee, TBD
- PES T&D Distributed Energy Resources WG, Ben York
- Distributed Resources Modeling and Analysis WG, TBD
- Other Coordinations

6. Any Old Business?

- Report on SC sponsored Panels or Papers at Denver PES

7. Future Meetings and Session Plans (T&D, PES GM, etc.)

- 2023 Tutorials – tbd
- 2023 Panels – tbd
- 2023 Papers – tbd

No specific discussion

8. Other Action items?

None discussed

9. 10:00am MT Adjourn

Ben York moved the motion to adjourn the meeting and Andy Hoke seconded. The meeting was adjourned at 12.03pm Mountain time.