IEEE P2800.2 Working Group Meeting Minutes, 01/18/2021

IEEE P2800.2 Recommended Practice for Test and Verification Procedures for Inverter-Based Resources Interconnecting with Bulk Power Systems

Chair: Andy Hoke
Secretary: Manish Patel
Vice-Chairs: Jens Boemer, Bob Cummings, Divya Chandrashekhara, Julia Matevosyan, Mahesh Morjaria, Steve Wurmlinger

Meeting Date/Time/Location: January 18, 2021, 12 noon – 2 pm ET, Virtual Meeting

Andy Hoke kicked-off the meeting with a brief introduction. This meeting was the kick-off meeting of the IEEE P2800.2 Working Group. The meeting was held virtually. In lieu of a roll call, Andy Hoke requested attendees to put their name and affiliation in the chat window. Attendees were also asked to record attendance at https://imat.ieee.org/attendance. Attendees interested in joining the P2800.2 WG were asked to send a request to Manish Patel (mpatel@southernco.com) with a copy to Andy Hoke (Andy.Hoke@nrel.gov).

Ryan Quint (NERC) briefly summarized importance and industry need of both IEEE P2800 and IEEE P2800.2.

Jens Boemer provided a brief status update on the IEEE P2800. The standard is submitted to IEEE RevCom and is placed on the January 25th, 2022 meeting agenda. Upon approval by RevCom, it will be forwarded for IEEE SASB approval, which is expected in mid-to-late March 2022.

Malia Zaman presented the following: WG policies and procedures and IEEE privacy policy. Attendees were requested to acknowledge the privacy policy at IEEE SA - Privacy Policy Acceptance. Andy Hoke noted that the WG will use tools such as myProject, Listserv, iMeet Central, Imat, WordPress (public site), and online meeting software etc. as appropriate.

Andy Hoke presented the agenda, which was emailed to invitees eight days previously. Jens Boemer moved to approve the agenda. Bob Cummings seconded. No discussion, objection or abstentions were noted. Agenda was approved.

Malia Zaman presented IEEE Patents and Copyright policies. Rajat M asked if EPC submitted for P2800 also applies to P2800.2. Malia noted that EPC are standard specific and if patents are related to P2800.2 then separate a EPC should be submitted.

Andy Hoke briefly discussed objectives of IEEE P2800.2 and explained how IEEE P2800.2 may differ from IEEE 1547.1. The IEEE P2800.2 is expected to focus on plant-level conformance and not so much on device level type tests. Also, IEEE P2800.2 is expected to be less prescriptive. It was also noted that the IEEE P2800 can be adopted before P2800.2 is published using existing verification methods.

Question was raised if this standard would also cover grid-forming technology. Andy Hoke referred to language in the proposed IEEE P2800 which allows for some flexibility to grid-forming technologies and same would be followed in IEEE P2800.2.

Andy Hoke emphasized that the IEEE P2800.2 is a recommended practice, i.e., will use 'should' language, not 'shall' language and includes type tests (unit level), design evaluation including modeling, as-built evaluation and commissioning tests, post-commissioning model validation, monitoring as well as periodic tests and verifications.

Li Yu asked in case of hybrid plants (plants with rotating machines), does the standard cover only inverter part of the plant or the entire plant? Jens Boemer referred to language in P2800 for such a plant and same is expected to be followed in IEEE P2800.2

Gustavo B asked what is considered a type test? Andy clarified that intent is not to type test the entire plant, however, type test results at a unit level are to be used in IBR plant design evaluation and to develop plant level validated models. Gustavo mentioned that based on his experience with development of related IEC standards, OEMs are reluctant because measurement outputs at a unit level are not always available to show compliance. Andy acknowledged and offered to discuss further in upcoming meetings.

Andy proposed formation of five sub-groups with following scopes:

SG1 – overall document and general requirements
SG2 – unit level type tests
SG3 – design evaluation including modeling
SG4 – as-built installation evaluation and commissioning tests
SG4 – post-commissioning model validation, monitoring, periodic tests/verification

Harish Sharma, Amir Kazemi, Dan Sabin noted that organization of sub-groups based on technical topic might be a better idea. Gabriel Gomez mentioned that sub-groups could be further divided based on type of technology (i.e., WTGs, PV, BESS etc.) Julia M preferred to stay with the original structure as proposed by Andy. Stephen W agreed with Julia. Jens B suggested to stay with the structure as proposed based on verification steps, but then recommended to structure the WG meetings along the technical topics and have SGs sequentially present the verification process for each requirement. Andrew Isaacs noted that structuring SGs per technical topics will divide the needed expertise between SGs and stretch SMEs outside their technical capability or available bandwidth. Additionally, many of the technical topics have commonality.

Andy Hoke recognized differing proposals and agreed to discuss this further with the WG leadership.

Andy Hoke requested the WG officers to briefly introduce themselves.

Andy Hoke presented anticipated timeline for IEEE P2800.2 as well as emphasized related standards (IEC 61400 – WTG engineering verification, , IEEE 2988 – virtual synchronous machines and IEEE 2882 – guide for model validation for all generation types) where coordination might be needed.

Meeting adjourned at 2:02 pm ET.