IEEE P2800.2 7th Working Group Meeting

ANDY HOKE, P2800.2 WG CHAIR
MANISH PATEL, SECRETARY
JENS BOEMER, BOB CUMMINGS, DIVYA CHANDRASHEKHARA,
JULIA MATEVOSYAN, MAHESH MORJARIA, STEVE WURMLINGER, VICE CHAIRS

December 12-14, 2023

Some content derived from IEEE 2800 WG and Jens Boemer, 2800 WG Chair

Please record your attendance

- Please record your attendance at:
  - https://imat.ieee.org/attendance
    - -> Select “EDPG Energy Development & Power Generation”
    - -> Select PE/EDPG/WSPPID/WSPI/WSPI-TV Attendance

  OR
  - https://imat.ieee.org/wg500900043/attendance-log?p=4471000005&t=500900043

- **Meeting attendance determines eligibility for WG voting membership**
  - Credit for attendance will be given to those who attend at least 2 of 3 days this week

- In lieu of verbal roll call, **please type your name and affiliation in the chat window**
  - IEEE affiliation FAQs: http://standards.ieee.org/faqs/affiliation.html

Acknowledgements and disclaimers

- General disclaimer:
  - The views presented in this presentation are the personal views of the individuals presenting it and shall not be considered the official position of the IEEE Standards Association or any of its committees and shall not be considered to be, nor be relied upon as, a formal position of IEEE, in accordance with IEEE Standards Association Standards Board Bylaws 5.2.1.6.

- Draft standard disclaimer:
  - P2800.2 is an unapproved draft of a proposed IEEE Standard. As such, the document is subject to change, any draft requirements and figures shown in this presentation may change.

- For those working group members whose effort on the standard was partially or fully supported by the U.S. DOE's National Renewable Energy Laboratory, the following statement applies:
  - This work was supported in part by the National Renewable Energy Laboratory, operated by Alliance for Sustainable Energy, LLC, for the U.S. Department of Energy (DOE) under Contract No. DE-AC36-08GO28308. Funding provided by U.S. Department of Energy Office of Energy Efficiency and Renewable Energy Solar Energy Technologies Office and Wind Energy Technologies Office. The views expressed in the article do not necessarily represent the views of the DOE or the U.S. Government.

Working Group Policies and Procedures

- We have the same P&Ps as the 2800 WG, as previously approved by the sponsor, available here: https://sagroups.ieee.org/2800/wp-content/uploads/sites/336/2020/08/EDPGC-Sponsored-WG-P-and-PV2Jan2020_IEEE-P2800-WG.pdf
  - Introduced at previous WG meetings
  - Link provided in meeting agenda
- Given ~130 WG members total, we have a quorum if 26 members or more are present

Agenda

US ET	US MT	Tuesday December 12	Wednesday December 13	Thursday December 14
11:00	9:00	Introduction	Subgroup 3 - Design evaluation	Power Quality Task Force
		2800 Adoption and P2800.2*	Subgroup 3 - Design evaluation	Power Quality Task Force
12:00	10:00	Subgroup 1: Overall document	Subgroup 3 - Design evaluation	Frequency scanning
		Break (recess)	Subgroup 3 - Design evaluation	Frequency scanning
1:00	11:00	Break (recess)	Break (recess)	Break (recess)
		Subgroup 2: Type tests	Break (recess)	Break (recess)
2:00	12:00	Subgroup 2: Type tests	Subgroup 3 - Design evaluation	Subgroup 5: Post-commissioning steps
		Subgroup 2: Type tests	Subgroup 3 - Design evaluation	Subgroup 5: Post-commissioning steps
3:00	1:00	Subgroup 2: Type tests	Subgroup 4 - Commissioning and as-built	Subgroup 5: Post-commissioning steps
		Subgroup 2: Type tests	Subgroup 4 - Commissioning and as-built	Wrap up and next steps

- Day 1
  - Call to order and welcome
  - Roll call and declaration of affiliation
    - (via chat window)
  - Approval of agenda and past minutes
  - IEEE patent, copyright, and participant policies (Vanessa Lalitte)
    - Call for potentially essential patents
  - IEEE 2800 adoption and P2800.2 conformity assessment paradigm
  - Subgroup 1: General Requirements
  - Subgroup 2: Type Tests
- Day 2
  - Subgroup 3: Design Evaluations
  - Subgroup 4: Commissioning Tests and As-built Evaluations
- Day 3
  - Power Quality Task Force
  - Frequency scanning for IBR unit model validation
  - Subgroup 5: Post Commissioning Model Validation, Monitoring, and Periodic Evaluations

Last meeting's minutes

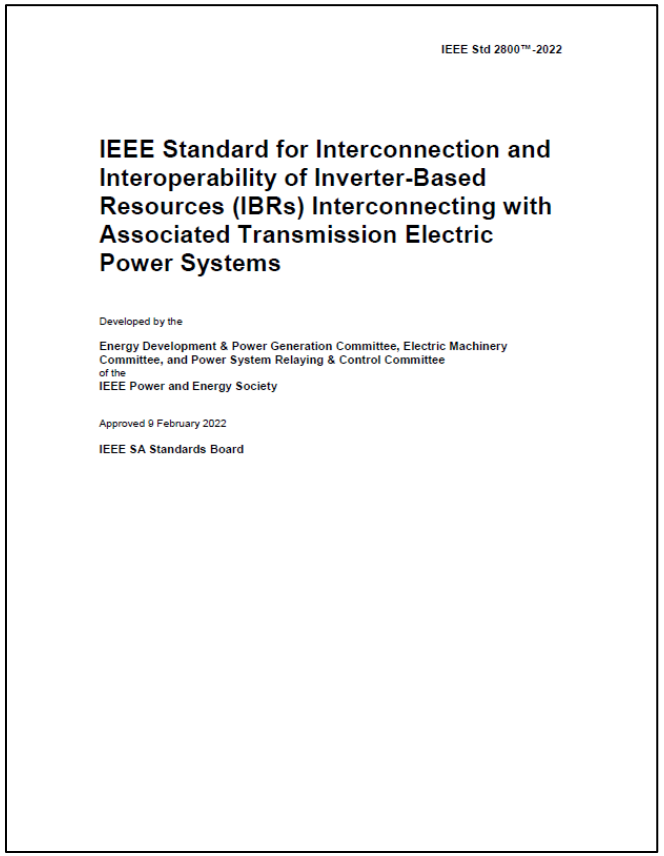
- The minutes of the last WG meeting (August 2023) were posted on iMeet Central shortly after the meeting
- WG members were notified of an opportunity to review the minutes upon posting
- Two changes to draft minutes:
  - Added mention of call for patents and response (no patent concerns raised)
  - Removed names of individual commenters
- **Call for additional comments**
- **Approval of last meeting minutes**

IEEE patent policy and legal notices

- IEEE Patent Policy
  - https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.pdf
  - **Call for potentially essential patents**
- IEEE Copyright Policy:
  - https://standards.ieee.org/content/dam/ieee-standards/standards/web/documents/other/copyright-policy-WG-meetings.potx
- IEEE Participant Behavior:
  - https://standards.ieee.org/wp-content/uploads/import/documents/other/Participant-Behavior-Individual-Method.pdf
- IEEE Privacy Policy - https://www.ieee.org/security-privacy.html
- (Links also provided in meeting agenda)

Status of IEEE 2800-2022

- 94% ballot approval. **Published April 22, 2022**.
- Harmonizes interconnection requirements for large solar, wind, and storage plants (and other inverter-based resources)
- A consensus-based standard developed by over ~175 Working Group participants from utilities, system operators, transmission planners, & OEMs over 2+ years
- IEEE standards are **voluntary until adopted by an appropriate entity**. Such entities are encouraged to consider adoption of 2800 to the extent feasible even before IEEE P2800.2 is complete. Many entities have begun adoption process.


IEEE Std 2800™-2022

IEEE Standard for Interconnection and Interoperability of Inverter-Based Resources (IBRs) Interconnecting with Associated Transmission Electric Power Systems

Developed by the

Energy Development & Power Generation Committee, Electric Machinery Committee, and Power System Relaying & Control Committee
of the
IEEE Power and Energy Society

Approved 9 February 2022

IEEE SA Standards Board

Available at https://standards.ieee.org/ieee/2800/10453/

IEEE PES Power & Energy Society®

IEEE

P2800.2 Overview (from PAR)

- Title:
  - Recommended Practice for Test and Verification Procedures for Inverter-based Resources (IBRs) Interconnecting with Bulk Power Systems
- Scope:
  - Define **recommended practices** for test and **verification procedures to confirm plant-level conformance** of IBRs interconnecting with bulk power systems in compliance with IEEE Std 2800
  - Applies to IBRs in **transmission** and **sub-transmission systems** (both meshed and radial)
  - May also apply to isolated IBRs interconnected to an AC transmission system via dedicated voltage source converter high-voltage direct current (VSC-HVDC) transmission facilities, e.g., offshore wind farms
  - Specifications for the equipment, conditions, tests, modeling methods, and other verification procedures that should be used to demonstrate conformance with IEEE 2800
- Includes:
  - **Type tests** (unit level, not full compliance)
  - **Design evaluation**, including modeling
  - **As-built evaluation** and **commissioning tests**
  - **Post-commissioning model validation, monitoring, periodic tests**, and **periodic verifications**
- Recommended practice: Uses “should” language, not “shall” language.

P2800.2 wants to hear from you

- Several P2800.2 leaders have mentioned that they keep hearing from the same handful of voices
  - This puts us at risk of confirmation bias, or of writing a document that only makes sense to a handful of "experts"
- We want to hear from more of you
- That can be:
  - During this WG meeting
  - Via an email or a call to a WG leader
  - Written comments on D0.5 of P2800.2
    - Out for comment until September 7
  - During a subgroup or task force meeting
- The more people we hear from, the better the standard will be

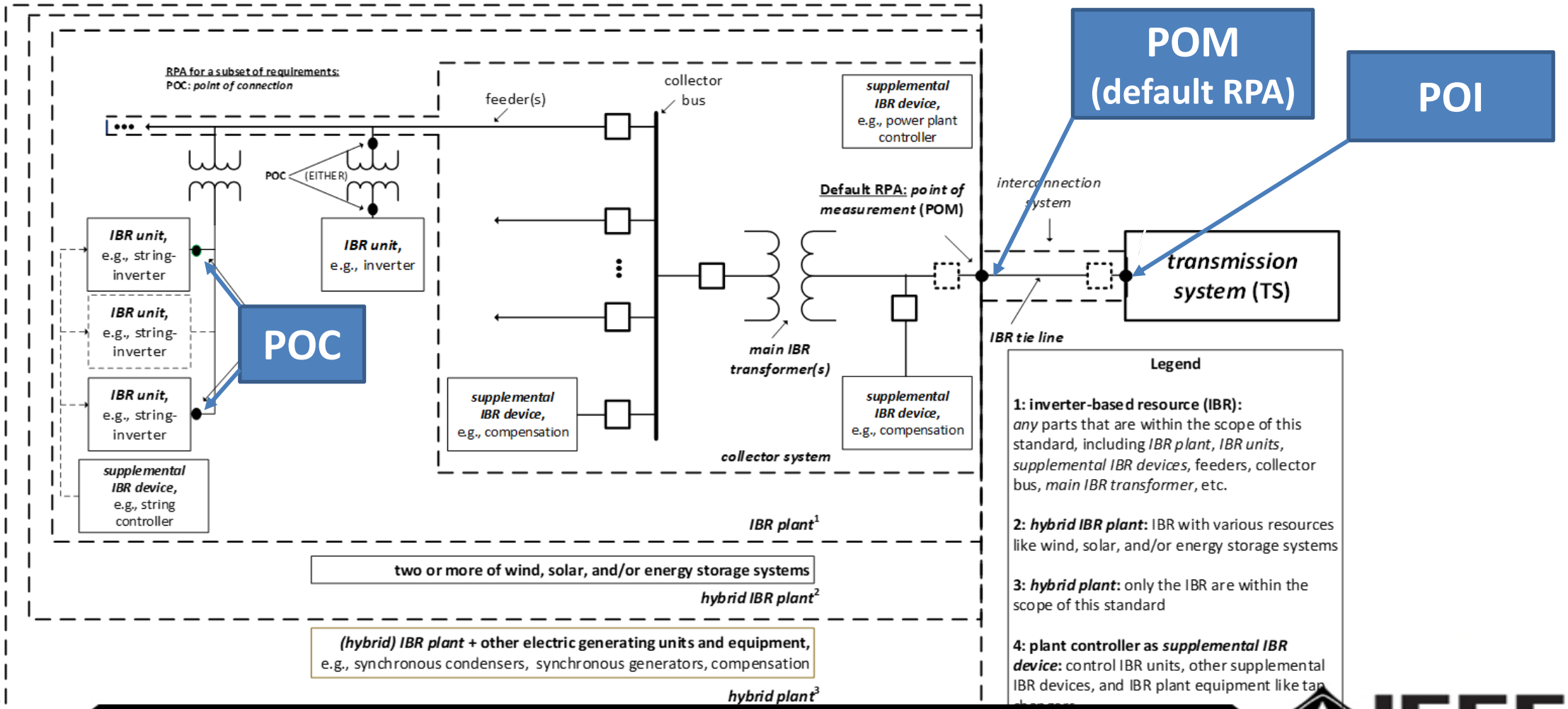
P2800.2 – Relationship to the IBR interconnection process

- Defining (or re-defining) an interconnection process is not in the scope of IEEE P2800.2
- Procedures recommended by P2800.2 are intended to be used *as part of* an interconnection process:
  - P2800.2 type tests can inform interconnection process
  - P2800.2 design evaluation, commissioning tests, and post-commissioning model validation can occur during interconnection process (along with other steps not in scope of P2800.2)

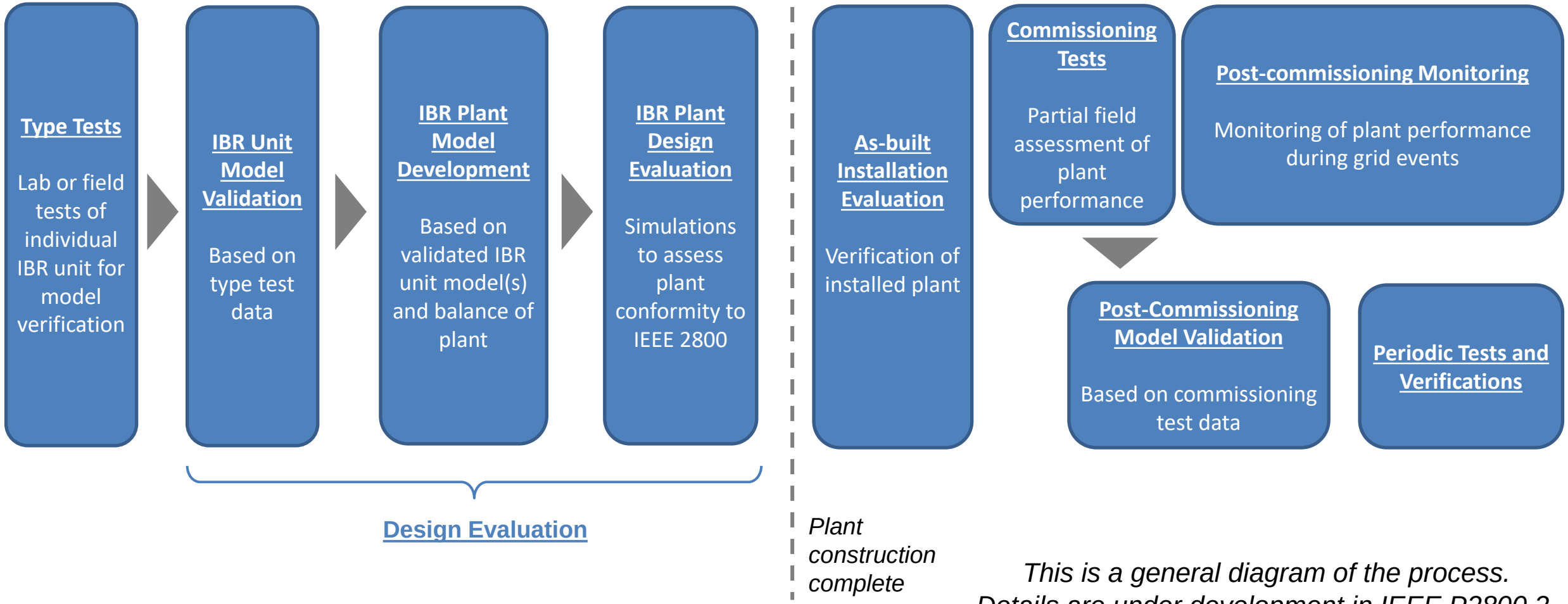
- In an early meeting, we agreed that in P2800.2, our job is (only) to **write procedures to verify that IBRs conform to IEEE 2800**
  - Important discussions related to interconnection that do not relate to *IEEE 2800 conformance verification* can take place *primarily outside* P2800.2
  - By providing standardized procedures, we are taking a major step to improve the interconnection process (without trying to fix everything)

Role of P2800.2 in IEEE 2800 Adoption

Almost all **requirements of IEEE 2800 apply at Point of Measurement (POM)** by default



Overview of conformity assessment steps in IEEE P2800.2



This is a general diagram of the process. Details are under development in IEEE P2800.2. Some variations permitted.

• Equipment certification?

- Almost all requirements in IEEE 2800 apply to the IBR plant (not the inverter/WTG)
- The type tests in IEEE P2800.2 do not generally have pass/fail criteria.
  - Instead, they generate data (e.g. test waveforms) to validate the unit-level model.
- Certification of inverters/WTGs to 2800 or P2800.2 by a Nationally Recognized Test Laboratory (NRTL, e.g. UL) appears unlikely in the near term.
  - Required unit-level capabilities depend strongly on balance of plant
- Even “self-certification” of inverters/WTGs is not really possible because compliance is at the plant level
- Therefore an “IEEE 2800 *certified* inverter/WTG” probably will not exist
  - Instead, inverters/WTGs could perhaps be considered “2800 compatible” if 2800 requirements have been taken into consideration so that they can be used to build a 2800-compliant plant.
- This is different from the IEEE 1547/1547.1/UL 1741 paradigm on the distribution system, where pass/fail type tests and NRTL certification play a large role in conformity assessment

What can I do to prepare for 2800?

- OEM
  - Review 2800 requirements. Does product need to be updated to be used in a 2800-compliant plant? May need to work with plant designer(s) to decide.
  - Develop, test, and clearly describe product capabilities that a plant designer can use to build a 2800-compliant plant.
  - Provide unit-level (EMT) model and type test data to verify model
- Plant developer/EPC/consultant/owner
  - Review 2800 requirements. Collaborate with OEMs to identify product capabilities and balance-of-plant needed for plant-level compliance with 2800
  - Develop plant models that can be used to demonstrate conformance with 2800. Models should be based on OEM's validated unit-level model.
- Transmission utility/ISO
  - Work towards adoption of IEEE 2800. Determine specific requirements within range offered by 2800.
  - Determine compliance timeline
  - Keep in mind compliance is at plant level
- All: Join IEEE P2800.2 working group. Help make sure verification procedures work for you.

IEEE P2800.2 Subgroup Scopes

SG 1

Overall document and general requirements

Excerpt of 2800 Table 20: Verification Methods Matrix

		SG 2 Type tests	SG 3 Design Evals.	SG 4 Commissioning and As-built		SG 5 Post-commissioning model validation, monitoring, etc.			
Requirement	RPA at which requirement applies	*IBR unit*-level tests (at the POC)		*IBR plant*-level verifications (at the RPA)					
		Type tests[152]	Design evaluation (including modeling for most require-ments)	As-built installation evaluation	Commissioning tests	Post-commissioning model validation	Post-commission-ing monitoring	Periodic tests	Periodic verification
		Responsible Entity							
		IBR unit or *supplemental IBR device* manufacturer	*IBR developer / TS owner / TS operator*	*IBR developer / TS owner / TS operator*	*IBR developer / TS owner / TS operator*	*IBR developer / IBR operator / TS owner / TS operator*	*IBR operator / TS owner / TS operator*	*IBR operator / TS owner / TS operator*	*IBR operator / TS owner / TS operator*
4.12 Integration with TS grounding	POM	NR	R	R	NR	NR	NR	D	NR
Clause 5 Reactive Power—Voltage Control Requirements within the Continuous Operation Region									
5.1 Reactive power capability	POM	R	R	R	R	R	D	D	D
5.2 Voltage and reactive power control modes	POM	D	R	R	R	R	D	D	D
Clause 6 Active-Power – Frequency Response Requirements									
6.1 Primary Frequency Response (PFR)	POC & POM	NR[153]	R	R	R	R	D	D	D
6.2 Fast Frequency Response (FFR)	POC & POM	R[154]	R	R	R	R	D	D	D
Clause 7 Response to TS abnormal conditions									
7.2.2 Voltage disturbance ride-through requirements	POC[155] & POM[156]	R	R	R	NR	R	R	D	D
Clause 8 Power quality									
8.2.2 Rapid voltage changes (RVC)	POM	NR	R	R	R	D	R	D	D
8.2.3 Flicker	POM	NR	NR	NR	R	D	R	N/A	D
8.3.1 Harmonic current distortion	POM	R[157]	R	R	R	D	R	N/A	D
~~8.3.2 Harmonic voltage distortion~~	POM	D	D	D	D	D	D	D	D
8.4.1 Limitation of cumulative instantaneous over-voltage	POM	R	R	R	NR	NR	R	NR	NR
8.4.2 Limitation of over-voltage over one fundamental frequency period	POM	D	R	R	NR	NR	R	NR	NR

Power Quality Task Force

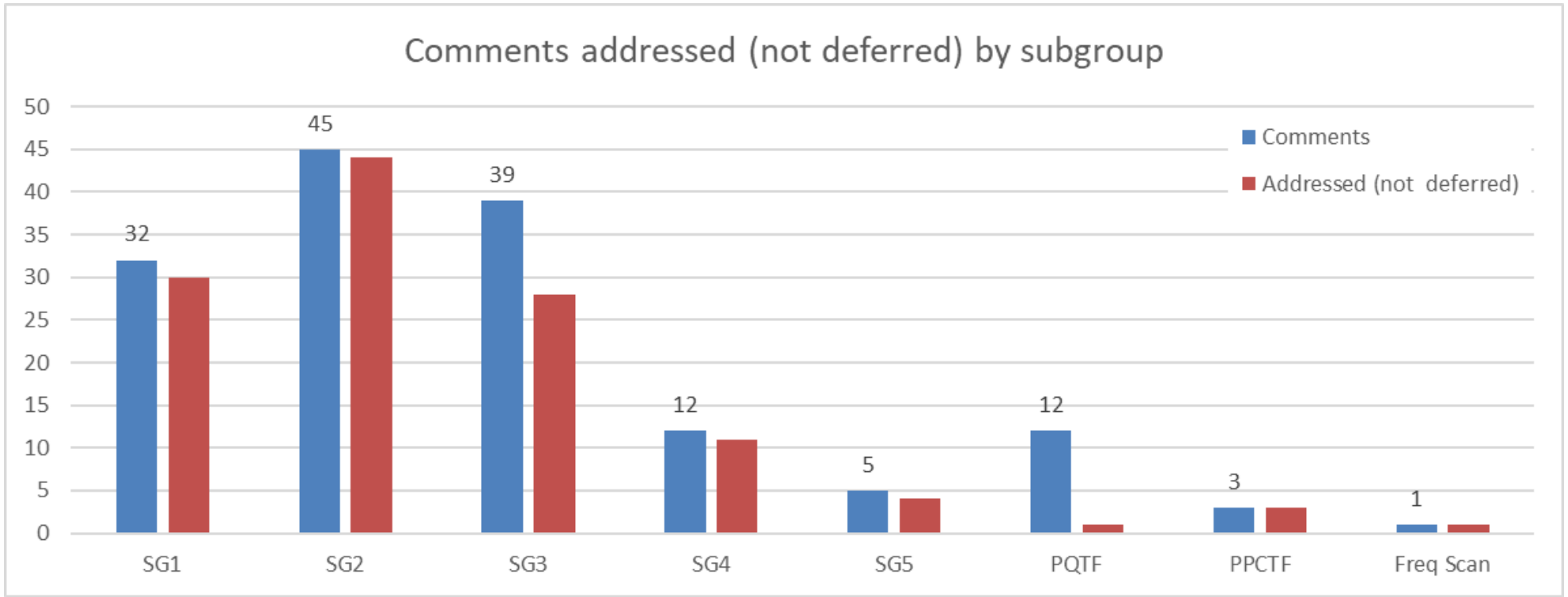
Draft 0.5 comment resolutions

- Posted on iMeet Central 12/5/2023

Subgroup	Comments	Addressed	Remaining	Accept	Revise	Reject	Defer till later	Defer to officers	Addressed (not deferred)	% complete	% complete (not including deferred)
SG1	32	32	0	7	18	5	2	0	30	100%	94%
SG2	45	45	0	14	24	6	1	0	44	100%	98%
SG3	39	39	0	5	18	5	10	1	28	100%	72%
SG4	12	12	0	1	2	8	0	1	11	100%	92%
SG5	5	5	0	2	1	0	1	0	4	100%	80%
PQTF	12	12	0	1	0	0	11	0	1	100%	8%
PPCTF	3	3	0	0	3	0	0	0	3	100%	100%
Freq Scan	1	1	0	0	0	1	0	0	1	100%	100%
total	**149**	**149**	**0**	**30**	**66**	**25**	**25**	**2**	**122**	**100%**	**82%**

Draft 0.5 comment resolutions

- 82% of comments resolved. 18% deferred.



Draft 0.6

- Posted on iMeet Central 12/5/2023 for WG member review
- Not requesting formal comments this round
  - Goal: allow SG2, SG3, and PQ task force to focus on drafting remaining content
- Feedback welcome during WG meeting, in subgroup and task force meetings, or by contacting a subgroup/task force leader directly
- Anticipate requesting formal comments on next draft (~April 2024)

Subgroup 1 material: Clause 1 – Overview

- Cleaned up some language in Clause 1. Removed some unnecessary language. Aligned content with remaining clauses.
- Added note that models should be parameterized appropriately to match the devices they represent
- Began replacing “testing and verification” with “conformity assessment”

Subgroup 1 material: Clause 3 – Definitions

- Added definition of power plant controller
- Minor updates to some other definitions
- Several new definitions proposed by SG3. Will be reviewed by SG1 after holidays

Subgroup 1 material: Clause 4 – General Reqs

- Clarified language related to IBR Plant Information Database (IBID)
  - The specifics of what data are retained in the IBID should be agreed upon by the *TS owner* and the *IBR plant owner*
  - Added reference to Annex G of 2800 for list of basic information that should appear in IBID
- In conformance verification flow chart, moved comments out of figures and into text
- Added clarifications in various places

Clause 4 – General Reqs: PPCs

- Added new subclause 4.6 on power plant controllers
- Provides overview of how PPCs are handled in P2800.2:
  - Similar to IBR units:
  - Type test of physical PPC using controller HIL. Goal is to **validate model of PPC**
  - Validated PPC model is used in plant model for design evaluation
  - Physical PPC plays important role in commissioning tests
  - Physical PPC plays important role in responses to field events

Conformity assessment is at **plant level**.

PPC not separately assessed

Next steps in SG1

- Address topics that cut across multiple subgroups
- Develop any general content needed (Clause 4)
- Incorporate definitions and references as they arise in other subgroups

- WG priority is filling in the details of the conformity assessment procedures in Clauses 5-11 (i.e., SG2-SG5, PQ Task Force)

Subgroup 1 – Overall document: Logistics

- Plan
  - Biweekly meetings (as needed), Mondays, 10am Mountain Time
- Leads
  - Andy Hoke (andy.hoke@nrel.gov)
  - Manish Patel (mpatel@southernco.com)
- How to get involved: Join listserv by sending an email message to listserv@listserv.ieee.org
  - In first line of email body, write: ***SUBSCRIBE*** STDS-P2800-2-SG1 <***Your Name***>
  - For example, "SUBSCRIBE STDS-P2800-2-SG1 Andy Hoke"

45 minute break – Back at 11:30 Mountain (1:30 Eastern)

- Subgroup 2 (Type Tests) up next

- Reminder: record your attendance in iMat:

  https://imat.ieee.org/wg656400043/attendance-log?p=4560500005&t=656400043

Subgroup 2

- Discussion led by Steve Wurmlinger, Pramod Ghimire, Mike Ropp

Agenda – Day 2

- Day 1
  - Call to order and welcome
  - Roll call and declaration of affiliation
    - (via chat window)
  - Approval of agenda and past minutes
  - IEEE patent, copyright, and participant policies (Vanessa Lalitte)
    - Call for potentially essential patents
  - IEEE 2800 adoption and P2800.2 conformity assessment paradigm
  - Subgroup 1: General Requirements
  - Subgroup 2: Type Tests
- Day 2
  - Subgroup 3: Design Evaluations
  - Subgroup 4: Commissioning Tests and As-built Evaluations
- Day 3
  - Power Quality Task Force
  - Frequency scanning for IBR unit model validation
  - Subgroup 5: Post Commissioning Model Validation, Monitoring, and Periodic Evaluations

US ET	US MT	Tuesday December 12	Wednesday December 13	Thursday December 14
11:00	9:00	Introduction	Subgroup 3 - Design evaluation	Power Quality Task Force
		2800 Adoption and P2800.2*	Subgroup 3 - Design evaluation	Power Quality Task Force
12:00	10:00	Subgroup 1: Overall document	Subgroup 3 - Design evaluation	Frequency scanning
		Break (recess)	Subgroup 3 - Design evaluation	Frequency scanning
1:00	11:00	Break (recess)	Break (recess)	Break (recess)
		Subgroup 2: Type tests	Break (recess)	Break (recess)
2:00	12:00	Subgroup 2: Type tests	Subgroup 3 - Design evaluation	Subgroup 5: Post-commissioning steps
		Subgroup 2: Type tests	Subgroup 3 - Design evaluation	Subgroup 5: Post-commissioning steps
3:00	1:00	Subgroup 2: Type tests	Subgroup 4 - Commissioning and as-built	Subgroup 5: Post-commissioning steps
		Subgroup 2: Type tests	Subgroup 4 - Commissioning and as-built	Wrap up and next steps

Welcome to Day 2 of IEEE P2800.2 WG meeting

- Please record your attendance at:
  https://imat.ieee.org/wg656400043/attendance-log?p=4560500005&t=656400043

- In lieu of verbal roll call, **please type your name and affiliation in the chat window**
  - IEEE affiliation FAQs: http://standards.ieee.org/faqs/affiliation.html

Subgroup 3 – Design Evaluations

xx minute break – Back at 11am MT, 1pm ET

- Subgroup 3 (Design Evaluation) continues next

- Reminder: record your attendance in iMat:

  https://imat.ieee.org/wg500900043/attendance-log?p=4471000005&t=500900043

Subgroup 4 – Commissioning and As-Built

Agenda – Day 3

US ET	US MT	Tuesday December 12	Wednesday December 13	Thursday December 14
11:00	9:00	Introduction	Subgroup 3 - Design evaluation	Power Quality Task Force
		2800 Adoption and P2800.2*	Subgroup 3 - Design evaluation	Power Quality Task Force
12:00	10:00	Subgroup 1: Overall document	Subgroup 3 - Design evaluation	Frequency scanning
		Break (recess)	Subgroup 3 - Design evaluation	Frequency scanning
1:00	11:00	Break (recess)	Break (recess)	Break (recess)
		Subgroup 2: Type tests	Break (recess)	Break (recess)
2:00	12:00	Subgroup 2: Type tests	Subgroup 3 - Design evaluation	Subgroup 5: Post-commissioning steps
		Subgroup 2: Type tests	Subgroup 3 - Design evaluation	Subgroup 5: Post-commissioning steps
3:00	1:00	Subgroup 2: Type tests	Subgroup 4 - Commissioning and as-built	Subgroup 5: Post-commissioning steps
		Subgroup 2: Type tests	Subgroup 4 - Commissioning and as-built	Wrap up and next steps

- Day 1
  - Call to order and welcome
  - Roll call and declaration of affiliation
    - (via chat window)
  - Approval of agenda and past minutes
  - IEEE patent, copyright, and participant policies (Vanessa Lalitte)
    - Call for potentially essential patents
  - IEEE 2800 adoption and P2800.2 conformity assessment paradigm
  - Subgroup 1: General Requirements
  - Subgroup 2: Type Tests
- Day 2
  - Subgroup 3: Design Evaluations
  - Subgroup 4: Commissioning Tests and As-built Evaluations
- Day 3
  - Power Quality Task Force
  - Frequency scanning for IBR unit model validation
  - Subgroup 5: Post Commissioning Model Validation, Monitoring, and Periodic Evaluations

Welcome to Day 3 of IEEE P2800.2 WG meeting

- Please record your attendance at:
  https://imat.ieee.org/wg656400043/attendance-log?p=4560500005&t=656400043

- In lieu of verbal roll call, **please type your name and affiliation in the chat window**
  - IEEE affiliation FAQs: http://standards.ieee.org/faqs/affiliation.html

Power Quality Task Force

Excerpt of 2800 Table 20:

Verification Methods Matrix

PQ Task Force

		SG 2	SG 3	SG 4		SG 5			
Requirement	**RPA at which requirement applies**	***IBR unit*-level tests (at the POC)**		***IBR plant*-level verifications (at the RPA)**					
		***Type tests*[152]**	**Design evaluation (including modeling for most require-ments)**	**As-built installation evaluation**	**Commissioning tests**	**Post-commissioning model validation**	**Post-commission-ing monitoring**	**Periodic tests**	**Periodic verification**
		Responsible Entity							
		***IBR unit* or *supplemental IBR device* manufacturer**	***IBR developer / TS owner / TS operator***	***IBR developer / TS owner / TS operator***	***IBR developer / TS owner / TS operator***	***IBR developer / IBR operator / TS owner / TS operator***	***IBR operator / TS owner / TS operator***	***IBR operator / TS owner / TS operator***	***IBR operator / TS owner / TS operator***
4.12 Integration with TS grounding	POM	NR	R	R	NR	NR	NR	D	NR
Clause 5 Reactive Power—Voltage Control Requirements within the Continuous Operation Region									
5.1 Reactive power capability	POM	R	R	R	R	R	D	D	D
5.2 Voltage and reactive power control modes	POM	D	R	R	R	R	D	D	D
Clause 6 Active-Power – Frequency Response Requirements									
6.1 Primary Frequency Response (PFR)	POC & POM	NR[153]	R	R	R	R	D	D	D
6.2 Fast Frequency Response (FFR)	POC & POM	R[154]	R	R	R	R	D	D	D
Clause 7 Response to TS abnormal conditions									
7.2.2 Voltage disturbance ride-through requirements	POC[155] & POM[156]	R	R	R	NR	R	R	D	D
Clause 8 Power quality									
8.2.2 Rapid voltage changes (RVC)	POM	NR	R	R	R	D	R	D	D
8.2.3 Flicker	POM	NR	NR	NR	R	D	R	N/A	D
8.3.1 Harmonic current distortion	POM	R[157]	R	R	R	D	R	N/A	D
~~8.3.2 Harmonic voltage distortion~~	POM	D	D	D	D	D	D	D	D
8.4.1 Limitation of cumulative instantaneous over-voltage	POM	R	R	R	NR	NR	R	NR	NR
8.4.2 Limitation of over-voltage over one fundamental frequency period	POM	D	R	R	NR	NR	R	NR	NR

Frequency scanning for IBR unit model validation

xx minute break – Back at 11am MT, 1pm ET

- Subgroup 5 is next

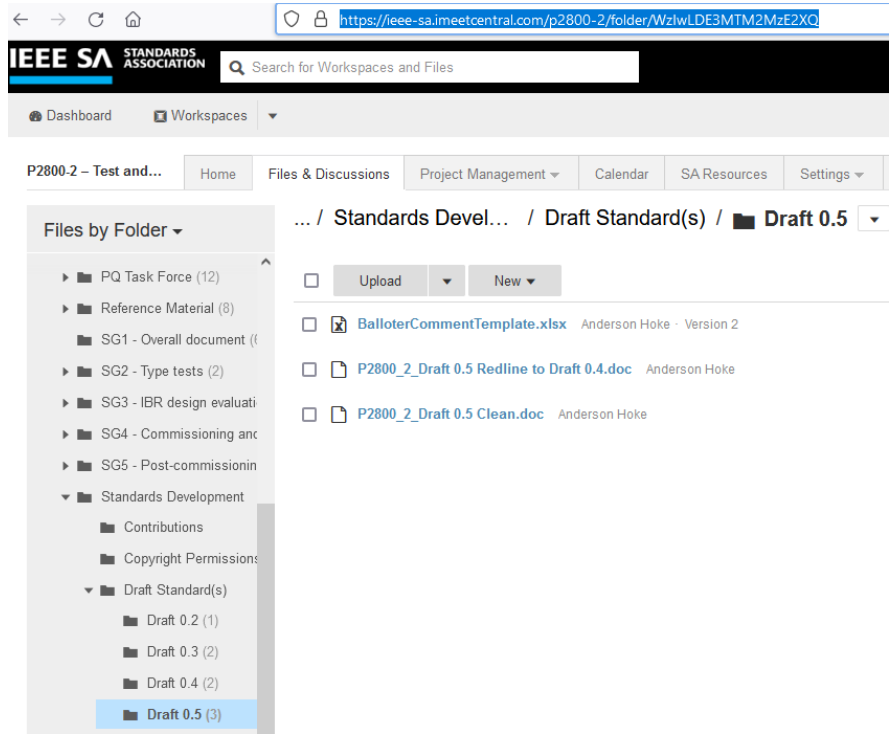
- Reminder: record your attendance in iMat:

  https://imat.ieee.org/wg656400043/attendance-log?p=4560500005&t=656400043

Subgroup 5 – Post-Commissioning Model Validation, Performance Monitoring, and Periodic Tests

Wrap-up and Next Steps

- Please join any subgroup or task force aligned with your interest/knowledge
  - Join listserv, and send a note to the lead so they are aware
  - Consider volunteering to draft procedures/content in that subgroup
- Draft 0.5 is available for comment by WG members until September 7
  - https://ieee-sa.imeetcentral.com/p2800-2/folder/WzIwLDE3MTM2MzE2XQ
  - Prioritize directional comments and technical comments. Editorial comments not requested at this time.
  - Use comment spreadsheet. **Page/line numbers from D0.5 Clean**
  - Email completed spreadsheet to Manish and Andy



Save the date for next WG meeting

- **April 30-May 2, 2024**
- Similar format to this week's meeting
- Fully remote, three half-day sessions

To get involved in IEEE P2800.2:

- To join Working Group:
  - If you have attended two WG meetings and want to be a WG voting member, email Manish Patel: Mpatel@southernco.com; CC Andy.Hoke@nrel.gov
  - If not, attend two meetings and request membership
- Join listserv for any subgroup or task force of interest
- WG member iMeet site: https://ieee-sa.imeetcentral.com/p2800-2/home
  - Contains draft documents, subgroup documents, references, etc.
- Public website: https://sagroups.ieee.org/2800-2/

IEEE P2800.2 Email Listservs

- Overall listserv "P2800-2" will be used to communicate meeting dates, agendas, etc.
- Each subgroup and PQ task force each have listserv – sign up to get involved in that group:
  - Overall Working Group: P2800-2
  - Subgroup 1 (overall document): STDS-P2800-2-SG1
  - Subgroup 2 (type tests): STDS-P2800-2-SG2
  - Subgroup 3 (design evaluation): STDS-P2800-2-SG3
  - Subgroup 4 (commissioning and as-built): STDS-P2800-2-SG4
  - Subgroup 5 (post-commissioning): STDS-P2800-2-SG5
  - Power quality task force: STDS-P2800-2-PQTF
- To join a listserv, send an email message to listserv@listserv.ieee.org
  - In first line of email body, write: ***SUBSCRIBE <list name> <Your Name>***
  - For example, "SUBSCRIBE STDS-P2800-2-SG1 Andy Hoke"

P2800.2 WG Timeline

Potential Adoption Timeline