



September 13, 2022

NYSRC IEEE 2800-2022 Workshop OEM/Developer Perspective

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GE Perspective

- As an OEM, GE supplies equipment globally for:
 - On-shore and off-shore wind plants
 - Solar, BESS and hybrid plants
 - HVDC links for off-shore wind plants
 - FACTS and power factor correction equipment
 - Power plant controllers and SCADA
- GE welcomes IEEE Std 2800-2022 and looks forward to the standard being adopted globally for inverter-based resources
- GE actively participated in the IEEE Std 2800-2022 working group
- GE is now actively participating in the recommended practice, IEEE P2800.2, *Test and Verification Procedures* working group



GE Considerations for Adoption of 2800-2022

- IEEE Std 2800-2022 is a plant level standard
 - Most requirements in IEEE 2800 are at the plant Point of Measurement (POM)
 - IEEE 2800 does not have specific requirements or pass/fail criteria for IBR units for most of the clauses
- IEEE P2800.2 will specify test standards for IBR units
- IEEE P2800.2 should be published before IEEE 2800-2022 is adopted/enforced
- P2800.2 may set performance or test requirements for IBR units which may have a large impact on product design and/or tests
- Testing is expensive and time-consuming
- Concern that OEMs may be asked to self-certify/attest to compliance to IEEE 2800 even though it is a plant standard

Addressing Adoption Challenges



- GE has been evaluating plant level IEEE 2800-2022 from the perspective of an IBR unit
 - Some requirements in IEEE 2800 can be met by a plant with proper plant design with current GE products
 - Other requirements in IEEE 2800 will require some changes in the products
 - A few requirements in IEEE 2800 are more challenging
- GE is looking into including IEEE 2800-2022 requirements into new product designs
- Typical design, test, verification and certification cycles for new products are 3-4 years
- Many ISOs/RTOs and utilities are considering adopting IEEE 2800-2022 in a staged manner until P2800.2 has been published
- We look forward to increasing discussions of IEEE 2800 adoption (staged and full) and equipment readiness with developers and also with ISOs/RTOs, utilities, TOs and GOs

Developer Perspective



- The developer is responsible for the plant meeting IEEE 2800-2022 requirements
- To assess compliance with IEEE 2800-2022, the developer needs to know the test and verification requirements, which will only be available with the publication of P2800.2
- The developer also needs to understand equipment capabilities from OEMs
- IEEE 2800 is a “minimum” standard and includes flexibility for the TO to include more stringent requirements
- Developers need to discuss IEEE 2800-2022 adoption and verification requirements with TOs and OEMs and other stakeholders



Concluding Remarks

- GE welcomes IEEE 2800-2022
- We eagerly await the publication of IEEE P2800.2
- IEEE 2800-2022 adoption discussions must continue between all stakeholders - ISOs/RTOs, utilities, TOs, GOs, developers and OEMs
- Staged adoption of IEEE 2800-2022 must consider availability of equipment functionality and test and verification procedures



Thank You

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