

IEEE 1547.8 Expanding on IEEE 1547

Provide guidance on the expanded use
of IEEE 1547 in the light of new
technologies and higher penetrations.

IEEE 1547 Interconnection Standards

1547- 2008 Standard for Interconnecting
Distributed Resources with Electric Power
Systems

1547.1 - 2005 Conformance Test Procedures for
Equipment Interconnecting DR with EPS

1547.2 - 2008 Application Guide for IEEE 1547
Standard for Interconnection of DR with EPS

IEEE 1547 Interconnection Standards

- 1547.3 - 2007 Guide for Monitoring, Information Exchange and Control of DR
- P1547.4 Guide for Design, Operation, & Integration of Distributed Resource Island Systems with EPS
- P1547.6 Recommended Practice for Interconnecting DR With EPS Distribution Secondary Networks
- P1547.7 Draft Guide to Conducting Distribution Impact Studies for DR Interconnection

P1547.8 What is it?

- **Title: P1547.8 Draft Recommended Practice for Establishing Methods and Procedures that Provide Supplemental Support for Implementation Strategies for Expanded Use of IEEE Standard 1547**

1547.8 Scope

- **Scope**: This recommended practice **applies to the requirements set forth in IEEE Std 1547** and provides recommended methods that may expand the usefulness and utilization of IEEE Std 1547 through the identification of **innovative designs, processes, and operational procedures.**

1547.8 Purpose

- **Purpose**: The purpose of the methods and procedures provided in this recommended practice is to provide more flexibility in determining the design and processes used in expanding the implementation strategies used for interconnecting distributed resources with electric power systems. Further, based on IEEE Std 1547 requirements, the purpose of this recommended practice is to **provide the knowledge base, experience, and opportunities for greater utilization of the interconnection and its applications.**

Goal

- Expand the implementation of IEEE 1547
- Provide guidance for the expanded use of 1547
- Remain technology neutral

First Meeting

- Almost 80 volunteers, about 2100 years of experience!
- Team voted on the top items to tackle
- Broke into writing teams to work on the top several items

P1547.8 WG attendees priority draft topics of interest included:

- Capacity greater than 10 MVA
- High penetration of PV
- Vehicle to grid
- Allow active voltage regulation
- Issues identified by 2030
- Voltage and frequency ride-through
- Better integration with utility protection coordination
 - Frequency trip settings – under/over voltage
 - Operation under fault conditions
- Switching impacts of DR
- Power quality
- Monitoring and control (SCADA, etc.)
- Dynamically controlled inverters (24/7) – addresses lots of topics

The top items

- Section 4.1.1
- Section 4.1.6 Monitoring
- Section 4.2 Abnormal conditions
 - Section 4.2.1 Cease to Energize
 - Section 4.2.2 EPS faults
- Section 4.3 Power Quality

Some new topics

- 10 Coordination with UL 1741
- 10.1 Data to be provided from DR
- 10.2 Expanded use to 20 Mw
- 10.3 Group operation of DR
- 10.4 Fault detection and best practices

4.1.1 Regulation

- Review to provide more flexibility in application of DR
- Impacts on existing regulation devices
- Intermittent operation of DR
- Reactive power control
- Uses for voltage regulation
- Coordination of devices and DR

Section 4.2

- Initial discussion about alternatives to the prescribed voltage and frequency trips
- Review line protection versus anti-islanding
- Protection Options
- Grounding options

10.1 Data from DR

- Purpose to be able to model the DR
- Short circuit data
- Islanding event data
- Harmonic data
- Ramp rates

10.3 Group operation of DR

- Reliability improvement
- Power quality improvement
- Conservation voltage reduction
- O&M cost savings
- Ancillary service from DR
- Reduced congestion
- Emissions reductions
- Load relief

Questions or Comments?

- Are there any areas that we missed?
- Are there any concerns with the subjects presented or currently being investigated?