

**IEEE SCC21 1547™ Series Standards Development  
P1547.X Working Group Meeting  
Date–Date, 200X; City, State**

**P1547.X Standard Title,  
Scope and Purpose**

Chairperson:

Vice Chair:

Secretary:

# 1547 Series of Meetings: Date–Date, 200X

Typical Draft Timeline: see each work group agenda for details

Mon: Arrive

Tues–Fri: Register 8–8:30 a.m. (check with each WG chair for final)

- Date, 200X Tuesday

8 a.m.–5 p.m. P1547.X

8 a.m.–5 p.m. P1547.XX

- Date, 200X Wednesday

8 a.m.–3 p.m. P1547.X

8 a.m.–3 p.m. P1547.XX

- Date, 200X Thursday

8 a.m.–5 p.m. P1547.Y

8 a.m.–5 p.m. P1547.YY

- Date, 200X Friday

8 a.m.–3 p.m. P1547.Y

8 a.m.–3 p.m. P1547.YY

## General Agenda: P1547.X Date–Date, 200X

- **Welcome and Introductions:** sign the attendee list - correct and/or add your contact information.
- **Approval of past minutes, and this meeting's agenda** (see accompanying detailed agenda)
- **IEEE Standards Development**
- **P1547.X Discussion and Breakouts**
- **Next Actions; Adjourn**

# Participants, Patents, and Duty to Inform

All participants in this meeting have certain obligations under the IEEE-SA Patent Policy. Participants:

- “Shall inform the IEEE (or cause the IEEE to be informed)” of the identity of each “holder of any potential Essential Patent Claims of which they are personally aware” if the claims are owned or controlled by the participant or the entity the participant is from, employed by, or otherwise represents
  - “Personal awareness” means that the participant “is personally aware that the holder may have a potential Essential Patent Claim,” even if the participant is not personally aware of the specific patents or patent claims
- “Should inform the IEEE (or cause the IEEE to be informed)” of the identity of “any other holders of such potential Essential Patent Claims” (that is, third parties that are not affiliated with the participant, with the participant’s employer, or with anyone else that the participant is from or otherwise represents)
- The above does not apply if the patent claim is already the subject of an Accepted Letter of Assurance that applies to the proposed standard(s) under consideration by this group

Quoted text excerpted from IEEE-SA Standards Board Bylaws subclause 6.2

- Early identification of holders of potential Essential Patent Claims is strongly encouraged
- No duty to perform a patent search

# Patent Related Links

All participants should be familiar with their obligations under the IEEE-SA Policies & Procedures for standards development.

Patent Policy is stated in these sources:

IEEE-SA Standards Boards Bylaws

*<http://standards.ieee.org/guides/bylaws/sect6-7.html#6>*

IEEE-SA Standards Board Operations Manual

*<http://standards.ieee.org/guides/opman/sect6.html#6.3>*

Material about the patent policy is available at

*<http://standards.ieee.org/board/pat/pat-material.html>*

If you have questions, contact the IEEE-SA Standards Board Patent Committee Administrator at [patcom@ieee.org](mailto:patcom@ieee.org) or visit <http://standards.ieee.org/board/pat/index.html>

This slide set is available at <http://standards.ieee.org/board/pat/pat-slideset.ppt>

# Call for Potentially Essential Patents

- If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance:
  - Either speak up now or
  - Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible or
  - Cause an LOA to be submitted

# Other Guidelines for IEEE WG Meetings

- **All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.**
  - **Don't discuss the interpretation, validity, or essentiality of patents/patent claims.**
  - **Don't discuss specific license rates, terms, or conditions.**
    - Relative costs, including licensing costs of essential patent claims, of different technical approaches may be discussed in standards development meetings.
      - Technical considerations remain primary focus
  - **Don't discuss or engage in the fixing of product prices, allocation of customers, or division of sales markets.**
  - **Don't discuss the status or substance of ongoing or threatened litigation.**
  - **Don't be silent if inappropriate topics are discussed ... do formally object.**

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See *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and “Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association's Antitrust and Competition Policy” for more details.

# IEEE 1547 Series Web Site

1547 series public Web site

[http://grouper.ieee.org/groups/scc21/dr\\_shared/](http://grouper.ieee.org/groups/scc21/dr_shared/)

- **Archives**

- **Meeting information**
- **Registration Information – First time attendees, please return a completed registration form to David Glickson and Tom Basso, the SCC21 secretary, at least two weeks before the meeting. Ongoing attendees, please RSVP and provide any changes to your contact information.**
- **Agenda – for most recent meeting**
- **Minutes**

# **1547 Series Web Site Work Group Areas**

- **P1547.X Work Group Areas (password protected)**
  - **Contacts – WG member information (standards development use only).**
  - **Special Topics – background information for the Work Group**
  - **StdDrafts – Drafts under development**
  - **Listserv – listserv archived e-mails**

# P1547.X IEEE ListServ

ListServ is for IEEE standards development use only.  
IEEE code of ethics identified in information file sent to each subscriber.

To: [stds-p1547-x@ieee.listserv.org](mailto:stds-p1547-x@ieee.listserv.org)

From: [you@yourISP.com](mailto:you@yourISP.com)

Only subscribers can send to the list. Exchanges between individuals and among your self-established small groups are encouraged.

ListServ e-mails are immediately sent to all subscribers.

Reply to all – sent to all

Reply to sender – only sent to sender

E-mail to listserv is auto-archived at

P1547.x Work Group Area (password protected)

at ListServ

Archived e-mails can be viewed under

Subject Thread or Date Thread.

# IEEE Standards Classification

**Standard**: documents with mandatory requirements  
(**shall**)

**Recommended Practice**: documents in which  
procedures and positions preferred  
by the IEEE are presented (**should**)

**Guide**: documents in which alternative approaches  
to good practice are suggested but  
no clear-cut recommendations are made (**may**)

# IEEE SCC21 1547 Series of Interconnection Standards

## IEEE Std 1547<sup>TM</sup> (2003) Standard for Interconnecting Distributed Resources with Electric Power Systems

**P1547.6** Draft Recommended Practice for Interconnecting Distributed Resources with Electric Power Systems Distribution Secondary Networks

**P1547.7** Draft Guide to Conducting Distribution Impact Studies for Distributed Resource Interconnection

**IEEE Std 1547.3<sup>TM</sup>** (2007) Guide for Monitoring, Information Exchange and Control of DR Interconnected with EPS

**P1547.4** Draft Guide for Design, Operation, and Integration of Distributed Resource Island Systems with Electric Power Systems

**IEEE Std 1547.2<sup>TM</sup>** (2008) Application Guide for IEEE 1547 Standard for Interconnecting Distributed Resources with Electric Power Systems

**Guide  
For  
Interconnection  
System Certification**

**IEEE Std 1547.1<sup>TM</sup>** (2005) Standard for Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems

**P1547.5** Draft Technical Guidelines for Interconnection of Electric Power Sources Greater Than 10 MVA to the Power Transmission Grid

**DP Specifications & Performance** (includes modeling)

(publication year in parentheses; P1547.X are under development; other topics are under consideration by SCC21 work group members)

# Current SCC21 Interconnection Projects

<b>Title</b>	<b>Scope &amp; Purpose</b>
IEEE Std 1547 <sup>TM</sup> (2003, 2008 reaffirmed) <u>Standard for Interconnecting Distributed Resources with Electric Power Systems</u>	<ul style="list-style-type: none"><li>• This <u>Standard</u> establishes criteria and requirements for interconnection of distributed resources (DR) with electric power systems (EPS).</li><li>• This document provides a uniform standard for interconnection of distributed resources with electric power systems. It provides requirements relevant to the performance, operation, testing, safety considerations, and maintenance of the interconnection.</li></ul>
IEEE Std 1547.1 <sup>TM</sup> (2005) <u>Standard for Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems</u>	<ul style="list-style-type: none"><li>• This <u>Standard</u> specifies the type, production, and commissioning tests that shall be performed to demonstrate that interconnection functions and equipment of a distributed resource (DR) conform to IEEE Std 1547.</li><li>• Interconnection equipment that connects distributed resources (DR) to an electric power system (EPS) must meet the requirements specified in IEEE Standard 1547. Standardized test procedures are necessary to establish and verify compliance with those requirements. These test procedures must provide both repeatable results, independent of test location, and flexibility to accommodate a variety of DR technologies.</li></ul>

# Current SCC21 Interconnection Projects

Title	Scope and Purpose
IEEE Std 1547.2 <sup>TM</sup> (2008) <u>Application Guide</u> for IEEE Standard 1547 for Interconnecting Distributed Resources with Electric Power Systems	<ul style="list-style-type: none"><li>• This <u>Guide</u> provides technical background and application details to support the understanding of IEEE 1547 Standard for Interconnecting Distributed Resources with Electric Power Systems.</li><li>• This document facilitates the use of IEEE 1547 by characterizing the various forms of distributed resource technologies and the associated interconnection issues. Additionally, the background and rationale of the technical requirements are discussed in terms of the operation of the distributed resource interconnection with the electric power system. Presented in the document are technical descriptions and schematics, applications guidance and interconnection examples to enhance the use of IEEE 1547.</li></ul>
IEEE Std 1547.3 <sup>TM</sup> (2007) <u>Guide</u> for Monitoring, Information Exchange and Control of Distributed Resources Interconnected with Electric Power Systems	<ul style="list-style-type: none"><li>• This document provides guidelines for monitoring, information exchange, and control for distributed resources (DR) interconnected with electric power systems (EPS).</li><li>• This document facilitates the interoperability of one or more distributed resources interconnected with electric power systems. It describes functionality, parameters and methodologies for monitoring, information exchange and control for the interconnected distributed resources with, or associated with, electric power systems. Distributed resources include systems in the areas of fuel cells, photovoltaics, wind turbines, microturbines, other distributed generators, and, distributed energy storage systems.</li></ul>

# Current SCC21 Interconnection Projects

Title	Scope and Purpose
<p>P1547.4<sup>TM</sup> Draft <u>Guide for Design, Operation, and Integration of Distributed Resource Island Systems with Electric Power Systems</u></p>	<ul style="list-style-type: none"><li>• This document provides alternative approaches and good practices for the design, operation, and integration of distributed resource (DR) island systems with electric power systems (EPS). This includes the ability to separate from and reconnect to part of the area EPS while providing power to the islanded local EPSs. This guide includes the distributed resources, interconnection systems, and participating electric power systems.</li><li>• This guide is intended to be used by EPS designers, operators, system integrators, and equipment manufacturers. The document is intended to provide an introduction, overview and address engineering concerns of DR island systems. It is relevant to the design, operation, and integration of DR island systems. Implementation of this guide will expand the benefits of using DR by targeting improved electric power system reliability and build upon the interconnection requirements of IEEE 1547.</li></ul>

# Current SCC21 Interconnection Projects

<b>Title</b>	<b>Scope and Purpose</b>
P1547.5 Draft <u>Technical Guidelines</u> for Interconnection of Electric Power Sources Greater Than 10 MVA to the Power Transmission Grid	<ul style="list-style-type: none"><li>• This document provides guidelines regarding the technical requirements, including design, construction, commissioning acceptance testing and maintenance /performance requirements, for interconnecting dispatchable electric power sources with a capacity of more than 10 MVA to a bulk power transmission grid.</li><li>• The purpose of this project is to provide technical information and guidance to all parties involved in the interconnection of dispatchable electric power sources to a transmission grid about the various considerations needed to be evaluated for establishing acceptable parameters such that the interconnection is technically correct.</li></ul>
P1547.6 Draft <u>Recommended Practice</u> for Interconnecting Distributed Resources With Electric Power Systems Distribution Secondary Networks	<ul style="list-style-type: none"><li>• This standard builds upon IEEE Standard 1547 for the interconnection of distributed resources (DR) to distribution secondary network systems. This standard establishes recommended criteria, requirements and tests, and provides guidance for interconnection of distribution secondary network system types of area electric power systems (Area EPS) with distributed resources (DR) providing electric power generation in local electric power systems (Local EPS).</li><li>• This standard focuses on the technical issues associated with the interconnection of Area EPS distribution secondary networks with a Local EPS having DR generation. The standard provides recommendations relevant to the performance, operation, testing, safety considerations, and maintenance of the interconnection. In this standard consideration is given to the needs of the Local EPS to be able to provide enhanced service to the DR owner loads as well as to other loads served by the network. Equally, the standard addresses the technical concerns and issues of the Area EPS. Further, this standard identifies communication and control recommendations and provides guidance on considerations that will have to be addressed for such DR interconnections.</li></ul>

# Current SCC21 Interconnection Projects

Title	Scope and Purpose
<p>P1547.7 Draft Guide to Conducting Distribution Impact Studies for Distributed Resource Interconnection</p>	<ul style="list-style-type: none"> <li>• This guide describes criteria, scope, and extent for engineering studies of the impact on area electric power systems of a distributed resource or aggregate distributed resource interconnected to an area electric power distribution system.</li> <li>• The creation of IEEE Std 1547 “IEEE Standard for Interconnecting Distributed Resources with Electric Power Systems” has led to the increased adoption of DR throughout distribution systems. This document describes a methodology for performing engineering studies of the potential impact of a distributed resource interconnected to an area electric power distribution system. Study scope and extent are described as functions of identifiable characteristics of the distributed resource, the area electric power system, and the interconnection. Criteria are described for determining the necessity of impact mitigation.</li> </ul> <p>Establishment of this guide allows distributed resource owners, interconnection contractors, area electric distribution power system owners and operators, and regulatory bodies to have a described methodology for when distribution system impact studies are appropriate, what data is required, how they are performed, and how the study results are evaluated. In the absence of such guidelines, the necessity and extent of DR interconnection impact studies has been widely and inconsistently defined and applied.</p>

# Next Actions

- **Summary list of action items (due date and volunteer lead)**
- **Timeline for P1547.x development**
- **Next meeting (tentative dates and location)**
- **Other actions:**