



**PES/NPEC SC-4: Working Group 4.6 - Preferred Power Supply
Meeting Minutes for S19-02**

**Williamsburg, VA
July, 24th, 2019**

1. Welcome and Introduction

Chairman Tamatha Womack called the meeting to order at 9:00 AM, July 24th, 2019.

2. Review of Membership/Attendance

The membership roster was reviewed and updated. See Attachment 1 for an updated list of members and guests who were in attendance. 23 of the 28 working group members were present to establish a quorum.

Masashi Sugiyama, Hector Leon, and Sheila Ray were added as a working group members.

Dave Pederson was moved to corresponding member.

3. Review of Meeting Minutes and Agenda

The 19-02 agenda was reviewed and approved with changes unanimously. The agenda is attached as Attachment 2.

Motion to approve 19-02 Agenda: Kenn Miller
Second: Audrey Baricko

The Meeting Minutes for 19-01 were reviewed and approved as written. The meeting minutes of 19-01 will be sent to the webmaster to be uploaded to the website.

Motion to approve 19-01 Minutes: John Disosway
Second: Gene Poletto



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4. Action Items

Item #	Assigned to	Action	Due	Status
16-1	Working Group Members	Review 1792 for possible impacts to frequency descriptions due to effects of NPIRs.	17-02	Retain for future discussion
17-3	Group Leads	Sub Groups evaluate impact of topics to 765.	19-02	In Progress – Sub Groups 1-3 presented in 18-01. Group 4 presented in 18-02 meeting. Sub Groups 1, 4 & 5 presented in 19-01. Groups 1, 4 and 5 presented in meeting 19-02. All groups to continue to work on scope of work. Draft markups of standard will be reviewed during 20-01 meeting.
19-1	Singh Matharu	Provide international stations that have two immediately available sources to be used as input for Sub-group 1.	12/2/19	
19-2	Working Group Leads	Each Sub Group lead to provide draft markups of sections of 765 to be reviewed during 20-01. Markups to be sent to Jason Bellamy.	10/30/19	
19-3	Tamatha Womack	Resend comment spreadsheet from previous ballot and editable standard.	8/7/19	

5. Specific Items Related to Standard 765

Ayodele Ishoa-Salawu presented the status of sub group 1 discussions. Discussed should international stations be considered for figures. Singh took action to provide international stations that have two immediately available sources to be incorporated into the figures. A draft of the figures was presented in 19-02. The new figures will be sent out to the working group to review prior to 20-01.

Sub Group 1 – Typical Station Designs

- Lead – Ayodele Ishoa-Salawu
- Jason Bellamy
- John Disosway
- Ken Fleischer



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Jason Bellamy presented status of sub group 5 discussions. A draft of the open phase revision to standard was presented. The final draft will be edited to be reviewed with working group.

Sub Group 5 – Benefits/Consequences Open Phase Lead – Jason Bellamy

- Kenn Miller
- Edwin Kovo
- John Minley
- Ayodele Ishola-Salawu
- Singh Matharu

Jeff Weibelt presented status of sub group 4 discussions. A white paper is going to be written to define capacity and capability.

Sub Group 4 – Capacity vs capability & availability

- Lead – Jeff Weibelt
- Thomas Koshy
- Roy Lyon
- Tamatha Womack
- Tim Lensmire
- Greg Reimer

6. Specific Items Related to Standard 1792

As with Standard 765, Standard 1792 will have further evaluation for changes associated with relaxing the frequency requirements.

7. General Items/New Business

White papers will be written to give background of the basis of the changes in this revision of IEEE 765. The goal is for this white paper to be published in an IEEE transaction.

A discussion was held to clarify the requirements of standards, recommended practices and guidelines. The summary of actions taken, Focus Groups Goals/Due Dates, and Whitepaper Idea(s) from Focus Group Topic Information were reviewed.



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8. Next Working Group Meeting

Next formal working group meeting will be held in conjunction with SC-4 20-01 meeting. Team meetings and working group input sessions will be held at satellite location(s) or a webex.

9. Meeting Closing Remarks/Adjournment

Meeting adjourned at 11:55 AM.

Motion to Adjourn: Tim Lensmire

Second: Ayodele Ishola-Salawu

Attachments

Attachment 1 – Membership

Attachment 2 – Agenda

Attachment 3 – IEEE Legal Slides



ATTACHMENT 1
Attendance/Membership

Member #	Member Name	In Attendance
1	Audrey Baricko	Yes
2	Jason Bellamy	Yes
3	Mark Bowman	Yes
4	John Disosway	Yes
5	Ken Fleischer	No
6	Evan Heacock	No
7	Ayodele Ishola-Salawu	Yes
8	Shinji Kawanago	Yes
9	Edvin Kozo	No
10	Harvey Leake	No
11	Tim Lensmire	Yes
12	Hector Leon	Yes
13	Roy Lyon	Yes
14	Singh Matharu	Yes
15	Kenn Miller	Yes
16	John Minley	Yes
17	Gene Poletto	Yes
18	James Reddy	Yes
19	Gregg Reimers	Yes
20	Shawn Simon	Yes
21	Neal Simmons	Yes
22	Tom Solinsky	no
23	Masashi Sugiyama	Yes
24	Scott Sweat	Yes
25	Hideki Tanaka	Yes
26	Sudhir Thakur	Yes
27	Jeff Weibelt	Yes
28	Tamatha Womack	Yes
Guests in Attendance		
Brad Miller		
Mike Detrick		
Nadim Khan		
Rachel Flanigan		
Sheila Ray		
Sunil Kabra		
Thomas Koshi		
Timothy O'Leary		



AGENDA
Working Group 4.6 - Preferred Power Supply
IEEE Std. 765 and 1792
MEETING: Williamsburg, VA (19-02)
Wednesday July 24, 2019

9:00 AM – 12:00 PM Location: Cascade 2		Time
1.	Welcome and Introductions	9:00 – 9:30
2.	Roll Call and Quorum	
3.	Opening Remarks and Approval of Agenda	
4.	Review and Approval of Previous Meeting Minutes	
5.	Review IEEE SA Definitions for Types of Standards	
6.	Status of Action Items	
7.	Team 1 Presentation (Ayodele Ishola-Salawu) – Recommended Figures for Standard	9:30 – 10:00
8.	Team 5 Presentation (Jason Bellamy) – “Open Phase” Changes	10:00 – 10:30
9.	Break	10:30 – 11:00
10.	Team 4 Presentation by (Jeff Weibelt) – Update on Progress	11:00 – 11:30
11.	New Action Items	11:30 – 11:45
12.	Closing Remarks	11:45 – 12:00
ADJOURN		

Action Items:

Item #	Assigned To	Action	Due	Status
16-01	All Working Group Members	Review 1792 for possible impacts to frequency descriptions due to effects of NPIRs	22-01	
17-3	Group Leads	Focus Groups evaluate impact of topics to 765.	19-02	In Progress – Focus Groups 1-3 presented in 18-01, 4 presented in 18-02. Focus Groups 1, 4 & 5 presented in 19-01. All groups to continue to work on scope of work. Draft markups of standard presented during 19-02.



AGENDA

Working Group 4.6 - Preferred Power Supply IEEE Std. 765 and 1792

MEETING: Williamsburg, VA (19-02)

Wednesday July 24, 2019

Summary of actions taken

- 18-01: The key items used for development of changes made by focus groups are; no scope changes, graphics and design figures updated, expand/clarify capacity/capability and availability, and to determine if open phase items can/need to be added. Group 1 provided summary of typical station designs. Group 2 provided an update of non Class 1E Equipment that provides a safety function, and Group 3 provided a mapping guide between IEEE 765 and GDC-71.
- 18-02: A joint meeting with working groups 4.1 and 4.7 to discuss open phase. General consensus of the group was that open phase was a power quality problem and not a preferred power criteria issue. The group should focus on any changes made to Std 308-2012 and ensure consistent through 765.
- 19-01: Groups 1, 4, and 5 met prior to main working group meeting. Status of group 1 discussions included inclusion of figures considering future plant design and possible addition of multi-unit representation (team to determine if there is a general representation to use as example). Group 4 presented draft of proposed definitions to add to the standard with no comments from working group. The proposed impact of section 5.3.4 was presented for open phase. It was discussed that the recommended practice 1792 will be revised during its next PAR to include expanded discussion related to open phase and other power quality/source degradations.

Focus Groups Goals/Due Dates:

- Focus Group 1 (Typical Station Designs): Figures 1-4 transferred to autocad drawings to replace “grainy” quality. Team to determine if any changes are necessary for Figures 1-4 to resolve ballot comments and if additional figures would be helpful in the standard. ***Due: Present the updated figures at 19-02 meeting***
- Focus Group 2 (Non-1E Equipment with Safety Function): An input to white paper.
- Focus Group 3 (GDC 17 Map): An input to white paper.
- Focus Group 4 (Capacity/Capability/Availability): Definitions added to 765 for capacity, capability, availability, and independence. Provide clarification, if required, in 765 for how each of these are determined for both the end user (NPGS) and the provider (Transmission). Research will provide an input to the white paper should also show any similarities and combine the regulatory requirements of each entity. ***Due: Present the update at 19-02 meeting, changes to 765 at 20-01 meeting***
- Focus Group 5 (Open Phase): Team is to propose modification, if required, based on joint meeting direction. Joint meeting determined that IEEE 308, 765, 741, and 1792 should consider all Power Quality requirements instead of focusing on only “open phase”. 308 states “The variations of voltage, frequency, and waveform (including the effects of harmonic distortion) in Class 1E power systems during any mode of plant operation shall not degrade the performance of any safety system load below an acceptable level.” ***Due: Present updated sections at 19-02 meeting***



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Whitepaper Idea(s) from Focus Group Topic Information:

Scope: Define the building blocks for both technical and regulatory requirements of the PPS pathway. Should detail the actual requirements of the PPS, how/why determined to provide safety function, any implications of reliability.

Concept #1: To promote knowledge and understanding (knowledge transfer) to be utilized for PPS for both current and future designs. This is the physical construction piece and may include items of consideration to size equipment and how to document what is required of the system. This can be used as a foundation of both technical considerations as well as regulatory standpoints/positions for better PPS design.

Concept #2: To promote knowledge and understanding between the two concepts and define what is/isn't controllable or expected for each connecting side when referring to transmission system and nuclear interface. (Knowledge transfer) This is to be utilized for this crossover point and give members a foundation of both technical considerations as well as regulatory standpoints/positions, which can be utilized for better transmission/nuclear interface design and/or communication. Possible enhancements to recommendations in 1792.

Participants have a duty to inform the IEEE

- 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
- Participants should inform the IEEE (or cause the IEEE to be informed) of the identity of any other holders of potential Essential Patent Claims

**Early identification of holders of potential
Essential Patent Claims is encouraged**

Ways to inform IEEE

- **Cause an LOA to be submitted to the IEEE-SA (patcom@ieee.org); 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**
- **Speak up now and respond to this 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, please respond at this time by providing relevant information to the WG Chair

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 of different technical approaches that include relative costs of patent licensing terms may be discussed in standards development meetings.
 - **Technical considerations remain the 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.**

For more details, see *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and *Antitrust and Competition Policy: What You Need to Know* at <http://standards.ieee.org/develop/policies/antitrust.pdf>

Patent-related information

The patent policy and the procedures used to execute that policy are documented in the:

- ***IEEE-SA Standards Board Bylaws***
(<http://standards.ieee.org/develop/policies/bylaws/sect6-7.html#6>)
- ***IEEE-SA Standards Board Operations Manual***
(<http://standards.ieee.org/develop/policies/opman/sect6.html#6.3>)

Material about the patent policy is available at
<http://standards.ieee.org/about/sasb/patcom/materials.html>

**If you have questions, contact the IEEE-SA
Standards Board Patent Committee
Administrator at patcom@ieee.org**