IEEE/PES SWITCHGEAR COMMITTEE
Switchgear ADSCOM Meeting Agenda
Orlando, FL, USA
Thursday, April 26, 2018

	Agenda Item	Presenter
1	Call Meeting to Order	Keith Flowers – Chairman
	Called to order at 8:00 AM	
2	Introduction of Members & Guests	Keith Flowers
	Self-introductions with affiliations were made by the attendees.	
3	Attendance and Quorum Check • Rosters are being passed around. • Sign only one. • Add your name and company information if you are not on the list.	Doug Edwards

	Sign-in sheets were circulated. Quorum was verified.
	• *24 members + 3 Past Chair members = 27 Members at meeting. Thus 14 members for required quorum.*
	• *Actual Attendance:*
	  ○ *17 Members (quorum met)*
	  ○ *39 Guest*
	  ○ *56 Total attendees*
	Attendance is documented in at the end of this document and is maintained in 123Signup.	

4	Agenda Review and Approval	Keith Flowers
	Proposed agenda was reviewed. Motion to approve by Mike Wactor. Motion was seconded by Nenad Uzalec. Motion carried.	
5	Approval of Fall 2017 Minutes	Keith Flowers
	Minutes from Portland, ME and on-line meetings shared. Motion to approve by John Webb to approve all sets. Motion was seconded by Ted Olsen. Motion carried.	
	Requests to ADSCOM	
6	Education, Recognition & Publications (ERP)	John Webb
	No requests to ADSCOM.	
7	High Voltage Fuses (HVF)	John Leach
	No requests.	
8	High Voltage Switches (HVS)	James Houston
	No request.	
9	High Voltage Circuit Breakers (HVCB)	Mike Skidmore
	No request.	
10	Low Voltage Switchgear Devices (LVSD)	Dave Dunne
	No request.	

	Agenda Item	Presenter
11	Reclosers and Other Distribution Equipment (RODE)	Francois Soulard

Visible break. A draft definition for visible breaker was established. TF requests approval to move forward with use of and implementation of definition.

Definition slide was presented.

> *Visible break – a gap between conductors that can be visually verified, and meets the dielectric withstand requirements in the relevant product standard.*

Discussion:

- *Discussion of isolation dielectric versus service dielectric requirements raised.*
- *Francois: Agreed to distribute definition to AdsCom members requesting additional review and comments to address this issue.*
- *Thus for now, no future actions at this time.*

12	Switchgear Assemblies (SA)	Mike Lafond

No request.

13	Technology and Innovation Subcommittee (TI)	Nenad Uzelac

PAR for new document, Guide for the Evaluation of Performance Characteristics of Non-SF6 Insulation and Arc Quenching Media for Switchgear Rated Above 1000 V presented (see Annex A of these minutes). PAR is output of SF6 Alterative Gasses Task Force.

Motion made requesting permission from AdsCom to move forward with PAR and forming WG.

Discussion: Recommendation made that SF6 be spelled out for its first use.

Motion carried.

This will be an AdsCom WG.

Reported at end of meeting. Plans are to target review and maintaining documents that are created on a two-year cycle.

Roster Location Check

14	Standards Coordinator Report	Michael Wactor

Large number of documents pending. Document list was read and reviewed in the meeting.
Report provided – reference IEEE PES Switchgear Minutes webpage.

IEEE – If not completed, document will be transferred to "Inactive" and then could be addressed in future.

Additionally, it is requested that all Subcommittee Chairs send a status update two weeks prior to the Spring and Fall face-to-face meetings.

Other Requests to ADSCOM

15	Registrar	Jeremy Hensberger

No request.

16	Webmaster	Jeff Mizener

No present – No known request.

Any updates desired of the website should be sent to Jeff, and he will get the site updated.

17	Meeting Coordinator	John Webb

No request.

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	Agenda Item	Presenter
	ADSCOM WORKING GROUP/TASK FORCE REPORTS	
18	C37.59 Conversion of Power Switchgear Equipment	Dean Sigmon
	Minutes provided – reference IEEE PES Switchgear Minutes webpage. *Number of on-line meetings, in addition to the past Portland, ME meeting were held and then face-to-face meeting on Tuesday afternoon were help along with recirculation ballots being conducted. Currently, last ballot (only two (2) ballot comments) have been addressed. 10-day ballot was initiated during meeting this meeting and simultaneously document has been submitted to RevCom in advance of upcoming RevCom deadline so that document should be reviewed that the IEEE-SA SASB/RevCom meeting.* *Anticipate disbanding request in Fall 2018 meeting.*	
19	C37.100.1 Common Requirements for HV Power Switchgear	Keith Flowers
	Minutes provided – reference IEEE PES Switchgear Minutes webpage. *Number of on-line meetings were held and then face-to-face meeting on Monday afternoon.* *Copyright issues had resulted in IEC not approving use.* *AdsCom decisions were to keep C37.100.1 alive. Discussions of how to move forward resulted in a plan to re-initiate ballot with only minor revisions with go.* *Motion shown.* *Motion for WG to re-initiate revisions of C37.100.1-2007 with goals of extending the life of document as is. That is:* • *No specific substantive or technical changes to be targeted.* • *Editorial changes to be made as needed, e.g. IEEE Frontmatter, document references.* *Motion by Doug Edwards* *Second by John Webb* *Motion carried.*	
20	C37.100.2 Capacitor Switching Common Clauses	Neil McCord
	Document was approved by IEEE-SA SASB (March 8, 2018). *No meeting.* *In process of editing review.* *Should publish in May, 2018.* *Neil McCord: Motion to disband WG.* *Disbanding of WG was approved.*	
21	C37.100.5 Definitions for HVCB and RODE	Tom Mulcahy
	Document was approved by IEEE-SA SASB (January 30, 2018). *No meeting.* *Published April 6, 2018 with some minor editorial revisions.* *Tom Mulcahy: Motion to disband WG.* *Disbanding of WG was approved.*	

	Agenda Item	Presenter
22	C37.301 Partial Discharge Measurements	Jean-Marc Torres

Minutes provided – reference IEEE PES Switchgear Minutes webpage.

Working on issues for SOW, e.g. adaption of IEC text or not.
Requesting clarification of extent of Scope of Work for revisions.

Need participation of experts for different equipment areas.

Request WG review the current Scope.
If desire to change / expand Scope.

Keith Flowers & Doug Edwards agree to support as Mentors for IEEE processes.

23	Task Force: Visible Break	Fracois Soulard

Slides presented and text provided - See item 11.

Promoting WG's to consider and review how they will use this definition.

24	Task Force: Seismic Qualification of Electrical Equipment to Conform with ASCE/SEI 7 Seismic Requirements for Nonstructural Components	Eddie Wilkie

Reported by Darryl Moser as delegate of the Chair - Eddie Wilkie (unable to attend).

Previous PAR is described as too broad as it included equipment not within the Scope of PES Switchgear Committee. PAR has been revised.

Discussion: 1E equipment. Suggestion that clarifying text be included in the Introduction.

GIS: Suggest request input from C37.20.9.

Motion by TF – Scope presented.

Friendly Amendment by Paul Sullivan: Request striking C37.121 Substation reference.
Amendment was accepted by Darryl Moser.

Friendly Amendment by Francois Souland: Request striking C37.74 reference.
Amendment was not accepted by Darryl Moser. Request is for RODE to attend in future and if in needed, a PAR change could be executed.

Motion by TF: Revised PAR presented.

This guide establishes selection criteria that is used to determine representative components or devices and assembly specimen configurations (both indoor and outdoor) to test as part of seismic qualification efforts for attaining building code seismic conformance for nonstructural equipment in commercial and industrial applications. ~~Nonstructural equipment applications fitting within the scope of the International Building Code and ASCE/SEI 7 Minimum Design Loads for Buildings and Other Structures are addressed.~~ Additionally, guidance for specific acceptance criteria is provided. Equipment types covered by this guide include those covered by the following standards:

- *IEEE Std C37.04, AC High-Voltage Circuit Breakers with Rated Maximum Voltages above 1000 V*
- *IEEE Std C37.20.1, Metal-Enclosed Low- Voltage (1000 Vac and below, 3200 Vdc and below) Power Circuit Breaker Switchgear*
- *IEEE Std C37.20.2, Metal-Clad Switchgear*
- *IEEE Std C37.20.3, Metal-Enclosed Interrupter Switchgear (1 kV–38 kV)*
- *IEEE Std C37.20.9, Metal-Enclosed Switchgear Rated 1 kV to 52 kV Incorporating Gas Insulating Systems*
- *IEEE Std C37.21, Control Switchboards*
- *IEEE Std C37.23, Metal-Enclosed Bus*
- *IEEE Std C37.74, Subsurface, Vault, and Padmounted Load-Interrupter Switchgear and Fused Load-Interrupter Switchgear for Alternating Current Systems up to 38 kV*
- *IEEE Std C37.121, IEEE Guide for Switchgear – Unit Substation – Requirements*

	Agenda Item	Presenter
	~~• IEEE Std C57.12, Liquid-Immersed Distribution, Power, and Regulating Transformers~~ ~~• UL 67, Panel boards~~ ~~• UL 98, Enclosed and Dead-front Switches~~ ~~• UL 347, Medium-Voltage AC Contactors, Controllers, and Control Centers~~ ~~• UL 347A, Medium-Voltage Power Conversion Equipment~~ ~~• UL 489, Enclosed Circuit Breakers~~ ~~• UL 508, Industrial Control Equipment~~ ~~• UL 508A, Industrial Control Panels~~ ~~• UL 845, Motor Control Centers~~ ~~• UL 857, Busways~~ ~~• UL 891, Switchboards~~ ~~• UL 1008, Transfer Switch Equipment~~ ~~• UL 1008A, Medium-Voltage Transfer Switches~~ ~~• UL 1561, Dry-Type General Purpose and Power Transformers~~ ~~• UL 1778, Uninterruptable Power Supplies and Accessories~~ ~~• UL 5085, Low Voltage Transformers~~ ~~• UL 61800-5-1, Adjustable Speed Electrical Power Drive Systems~~ *Motion carried.*	
	Old Business	
25	Presentation on multiplication of definitions.	John Webb
	No additional discussions.	
	Roster Location Check	
	New Business	
26	Quorum Verification	Doug Edwards
	Quorum confirmed.	
27	General Data Protection Regulation (GDPR)	Keith Flowers
	GDPR presentation provided by Erin Spiewak during Tuesday (24 April) breakfast. Additional training and instructions will be being provided to IEEE members.	
28	Switchgear Officers – Potential Candidates Search	Keith Flowers
	If interested, please let leadership team member know. Leadership team is working to identify potential candidates.	
29	Items to report to Main Switchgear Committee	Keith Flowers
	None	
30	Actions & Minutes	Keith Flowers
	SC Chairs send updates, Subcommittee meeting minutes and Working Group minutes to SG Committee Secretary, Doug Edwards (doug.edwards@ieee.org) by May 4, 2018. *All updates are to be submitted on the report spreadsheet found at the following link:* *http://www.ewh.ieee.org/soc/pes/switchgear/subcommittees/Subcommittee_Table.xlsx*	
31	Adjourn	Keith Flowers
	The meeting adjourned at 9:56 am.	

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Attendance

Role	Last, First Name	Company
Chair	Flowers, Keith	Siemens Industry, Inc.
Secretary	Edwards, Doug	Siemens Industry, Inc.
Member	Burse, Ted	Powell Industries, Inc
Member	Dunne, David	Schneider Electric
Member	Hensberger, Jeremy	Mitsubishi Electric Power Products Inc.
Member	Houston, James	Southern Company Transmission
Member	Irwin, Todd	GE Grid Solutions
Member	Lafond, Michael	General Electric
Member	Leach, John	Consultant - Hi-Tech Fuses
Member	Olsen, T	Retired, formerly with Siemens Industry, Inc.
Member	Sigmon, Dean	Eaton Corporation
Member	Skidmore, Michael	AEP
Member	Soulard, Francois	Hydro-Quebec
Member	Sullivan, Paul	DuPont
Member	Uzelac, Nenad	G&W Electric
Member	Wactor, Michael	Powell Industries, Inc
Member	Webb, John	ABB
Guest	Armstrong, Brad	Meramec Instrument Transformer Co.
Guest	Blair, Thomas	Tampa Electric Company
Guest	Bosma, Anne	ABB AB
Guest	Brignac, Andrew	Entergy
Guest	Christian, Michael	ABB
Guest	Darko, Kennedy	G&W Electric Co
Guest	Dhawan, Anil	ComEd
Guest	Dufournet, Denis	Retired
Guest	Eastman, John	INCON
Guest	Haynes, Gary	ABB Inc.
Guest	Haynes, Gary	ABB Inc.
Guest	Hermosillo, Victor	GE Grid Solutions
Guest	Johnson, Travis	Xcel Energy
Guest	Kaminski, John	Siemens
Guest	Lagree, James	Eaton
Guest	Lambert, Frank	Georgia Tech / NEETRAC
Guest	McClelland, John	Technibus
Guest	McCord, Neil	KEC Precision
Guest	Meiners, Steven	GE
Guest	Morse, Charles	Siemens Industry, Inc.
Guest	Moser, Darryl	ABB
Guest	Mulcahy, Tom	Dominion Virginia Power
Guest	Owens, Mary	Eaton
Guest	Parsi, Sean	Kinectrics
Guest	Riley, Caryn	Georgia Tech/NEETRAC
Guest	Rohr, Richard	Powell Electrical Systems

Guest	Rokser, Ian	Eaton Corp
Guest	Rostron, Joe	Southern States LLC
Guest	Sharma, Devki	Consultant
Guest	Sharma, Devki	Consultant
Guest	Spiewak, Erin	IEEE
Guest	Swing, Donald	Hubbell Power Systems
Guest	Torres, Jean-Marc	Eaton Corporation
Guest	Trichon, Francois	Schneider Electric
Guest	Trost, Karla	G&W Electric
Guest	Venne, Bruce	Rockwell Automation
Guest	Webb, John	ABB
Guest	Whitney, Michael	S&C Electric Company
Guest	Woodyard, Terry	Siemens Industry Inc.

Annex A: New Guide PAR

PAR for a New IEEE Standard

Section 1

1.1 Assigned Project Number:

If left blank, a project number will be assigned by the NesCom Administrator when your PAR is received. Please contact the NesCom Administrator for any questions about a specific project number.

1.2 Type of Document: *Standard, Recommended Practice, or Guide*

GUIDE

Standards, Guides and Recommended Practices are generically referred to as IEEE Standards.
Standards are documents with mandatory requirements. Standards are generally characterized by the use of the verb "shall."
Recommended Practices are documents in which procedures and positions preferred by the IEEE are presented. Recommended practices are generally characterized by the use of the very "should."
Guides are documents in which alternative approaches to good practice are suggested, but no clear-cut recommendations are made. Guides are generally categorized by the use of the verb "may."

1.3 Life Cycle: *Full Use or Trial Use*

FULL USE

A standard can be designated full-use or trial-use.
A standard can be designated as **trial-use** when a draft satisfies the criteria of the standards-developing group (i.e., subcommittee or working group), but needs input from a very broad constituency. This is a preferred alternative to the widespread distribution of unapproved drafts. Such a draft requires a letter ballot of the sponsor and approval by the IEEE-SA Standards Board as a trial-use standard. Trial-use standards are effective for no more than two years from the date of publication. If no comments are received during the trial period, the standard is subject to adoption as a full-use standard upon receipt of written recommendation from the sponsor and approval by the IEEE-SA Standards Board.

Section 2

2.1 Project Title:

Guide for the evaluation of performance characteristics of non-SF_6 insulation and arc quenching media for switchgear rated above 1000 V.

The title shall not contain the acronym "IEEE." This is added to the title when the standard publishes. All other acronyms shall be spelled out in the title. Typically titles begin with "Standard for….", "Guide for…." or "Recommended Practice for…."
If a general term is used to represent ranges (e.g. high, medium, low) within the title, scope or purpose, numerically define such ranges where they first appear (title, scope or purpose as applicable).

Section 3

3.1 Working Group: (auto-filled)
3.2 Sponsoring Society and Committee: (auto-filled)
[A listing of Sponsor P&Ps and Sponsor Scopes is available at https://development.standards.ieee.org/pub/view-sponsor-pnps]
3.3 Joint Sponsor: (chosen from drop down menu)

If you are not adding a joint sponsor to this project, you may leave this field blank.

Section 4

4.1 Sponsor Balloting Information: *Individual or Entity*

Is the balloting group for this standard expected to be composed of **individuals** or **Entities** (persons representing corporations/government bodies, institutions or SDO's)? See Section 5.4.1 in the IEEE Standards Board Operations Manual for further explanation.

4.2 Expected Date of Submission of Draft to the IEEE-SA for Initial Sponsor Ballot

Month:6 Year: 2020

Additional communication and input from other organizations or other IEEE Standards Sponsors should be encouraged through participation in the working group or the invitation pool prior to Sponsor Ballot.

4.3 Projected Completion Date for Submittal to RevCom

Month: 12 Year: 2020

Enter the date the draft standard is planned to be submitted to RevCom for processing (not to exceed four years from the date of PAR submission). **It is suggested to allow at least six months after Initial Sponsor Ballot for the ballot process.** Cutoff dates for submitting draft standards to RevCom are generally in February, May, August, and October. Check the appropriate calendars for the specific dates as the draft matures. Use a best guess estimate for the PAR.

Section 5

5.1 Approximate number of people expected to be actively involved in the development of this project:

This includes Working Group members, additional non-voting participants, etc.

30

5.2 Scope of the proposed standard:

The guide reviews existing standards and performance criteria for switchgear rated above 1000 V. Each aspect of performance is discussed within the context of SF_6 alternatives, how their behavior may differ from existing technologies and how this behavior may lead to changes in the qualification process. Relevant analytical, numerical and test methods are discussed which may contribute to the process of performance evaluation and evolution of the standards.

The Scope should appear as it will in the draft standard. The Scope stated on the PAR shall be written in present tense, in complete sentences, and with proper grammar as it is intended to appear in the published standard. All acronyms shall be spelled out at first use. The title and (if appropriate) date of any document referenced in the Scope shall be listed in the Additional Explanatory Notes field at the end of this PAR form.

5.3 Is the completion of this standard contingent upon the completion of another standard? Yes or No

no

5.4 Will this document contain a Purpose clause? Yes or No

If yes, enter the purpose of the proposed standard:

The purpose of this guide is to review the performance characteristics of current SF_6 alternatives in gas insulated equipment (GIE) and compare these with the demands encountered in service. The guide reveals the reasoning behind existing standard requirements and presents information relevant to their adequacy for SF_6 alternatives.

A purpose statement is encouraged but not mandatory. If the document will not include a purpose statement choose "No" and leave the purpose field blank.

The purpose stated on the PAR shall be written in present tense, in complete sentences, and with proper grammar as it is intended to appear in the published standard. The title and (if appropriate) date of any

document referenced in the Purpose shall be listed in the Additional Explanatory Notes field at the end of the PAR form.

5.5 Need for the project:

Gas insulated switchgear and substation equipment (GIE) technology is evolving due to a new market force which is the desire to reduce negative environmental impact. Existing standards may not adequately address the performance characteristics of these new technologies. Therefore, there is a need to systematically review the service demands placed upon GIE, compare those demands to the characteristics of new technologies and propose guidelines for the evaluation of performance.

The need for the project details the specific problem that the standard will resolve and the benefit that users will gain by the publication of the standard. The need statement should be brief, no longer than a few sentences.

5.6 Stakeholders for the standard:

The stakeholders (e.g., telecom, medical, environmental) for the standard consist of any parties that have an interest in or may be impacted by the development of the standard.

Section 6

6.1 Intellectual Property:

A. Is the Sponsor aware of any copyright permissions needed for this project? ***Yes or No***

No

If yes, please explain below:

If the proposed standard uses copyrighted material, copyright releases must be obtained by the working group and shall be included in the final package submitted to the IEEE-SA Standards Board. Additionally, remember that during development of your approved project, the proper IEEE copyright notices must be maintained on all drafts.

B. Is the Sponsor aware of possible registration activity related to this project? ***Yes or No***

If YES, please explain below:

The IEEE Registration Authority Committee (RAC) is a mandatory coordination body. A YES answer to this question provides early notification that RAC mandatory coordination will occur during Sponsor ballot. Working groups are welcome to engage the RAC if appropriate earlier in the project.

If the proposed standard requires (or is expected to require) the unique identification of objects or numbers for use in industry, the project has registration activity. This does not cover things like code points defined within the standard.

A YES answer with brief explanation is appropriate if:

1. The proposed standard creates a new registry.

2. The proposed standard includes new use of an existing registry (whether IEEE RA or other registry authority). An existing IEEE registry example would be use of an Organizationally Unique Identifier (OUI). An explanation of a new registration activity should be supplied on the PAR. Please visit the IEEE Registration Authority website (http://standards.ieee.org/develop/regauth/) for additional information regarding existing registries.

3. When RAC review of previously reviewed text is appropriate to assure terminology and descriptions of usage are current.

A NO answer is appropriate:

1. When the project has no registration activity.

2. When a project modifying an existing standard with registration activity will not be adding new text nor modifying existing registration activity text previously reviewed by the IEEE Registration Authority (e.g., corrigendum on non-registry content). Please briefly explain why RAC review is not required.

Please note that the RAC may request mandatory coordination on any project, independent of the answer to this question.

Section 7

7.1 Are there other standards or projects with a similar scope? ***Yes or No***

Identify any standard(s) or project(s) of similar scope(s), both within or outside of the IEEE, and explain the need for an additional standard in this area.

Sponsor Organization:
Project/Standard Number:
Project/Standard Date:
Project/Standard Title:

Information from 7.2 – 7.4 is captured for potential follow up and coordination but will not appear on the final PAR view.

7.2 Joint Development - Is it the intent to develop this document jointly with another organization? ***Yes or No***

Yes

If this document will be developed jointly with another organization, your IEEE-SA Staff Liaison must be made aware of this prior to final approval of the document by the IEEE-SA Standards Board [RevCom].

If yes, please indicate the organization, technical committee name/number and contact person within external organization
Organization:
Technical Committee Name: IEEE Substation committee
Technical Committee Number:
Contact Name:
Phone:
Email:

7.3 International Standards Activities

A. Adoptions - Is there potential for this standard to be adopted by another organization?: ***Yes or No***

No

If this document is to be adopted by another organization, the document must be adopted intact (whole and unmodified) and the requested contact persons entered on the submittal form. For information about adoptions, contact your IEEE-SA Staff Liaison.

If yes, please indicate the organization, technical committee name/number and contact person within external organization
Organization:
Technical Committee Name:

Technical Committee Number:
Contact Name:
Phone:
Email:

B. Harmonization - Are you aware of another organization that may be interested in portions of this document in their standardization development efforts?
Yes
If yes, please indicate the organization, technical committee name/number and contact person within external organization
Organization: IEC
Technical Committee Name: Switchgear and Controlgear
Technical Committee Number: TC17
Contact Name:
Phone:
Email:

7.4 Does the sponsor foresee a longer term need for testing and/or certification services to assure conformity to the standard? ***Yes or No***
Additionally, is it anticipated that testing methodologies will be specified in the standard to assure consistency in evaluating conformance to the criteria specified in the standard? ***Yes or No***

Section 8

8.1 Additional Explanatory Notes:
Include the Item # in front of each explanation to distinguish which PAR field it is referring to.
If there is any further information that may assist NesCom in recommending approval for this project, include this information here. The title of any documents referenced in the PAR should be listed here.

8.2 IEEE Code of Ethics
The PAR will not be accepted if the box below is not checked.
I acknowledge that I have read and I understand the IEEE Code of Ethics

I agree to conduct myself in a manner that adheres to the IEEE Code of Ethics when engaged in official IEEE business.