

# **Minutes of Meeting**

## **Task Force to Study Shunt Reactor Switching Endurance for HVCB**

**Location:** Hilton Burlington, VT  
**Date:** Wednesday October 19, 2022 (8:00-9:45 AM)  
**Participants:** 12 of 23 members present (52%)  
5 guests

**TF Chair:** Lucas Collette  
**TF Secretary:** Craig Polchinski

### **Call to order**

TF Chair called to order and discussed the history and purpose of the Task Force.

### **Introduction of members and guests**

Roster distributed and attendance recorded (attendance sheet attached to MOM)

### **Review copyright and patent slides and call for patent identification**

No essential patents or copyrights identified

### **Review of TF Membership**

Chair showed TF membership list and checked for quorum. Quorum was achieved (12 of 23 members present)

### **Review and Approval of Minutes from April 13th, 2022**

Chair reviewed the MOM from the previous meeting.

Motion to approve: Arben Bufi  
2nd to the motion: Carl Schuetz  
Approved by unanimous consent.

### **Next steps**

Chair presented the following items for discussion:

*Is there still an interest in pursuing this work?*

- *TF Vote*

*If so, to what level?*

- *Industry survey (as is or should it be simplified)*
- *Technical report (standalone, addition to C37.015)*
- *Additional test requirements added to C37.09*

*Other?*

The following is the discussion related to the items above:

A question was asked if the previous MOM and survey documents been posted to iMeet Central? The chair responded that the files have not been uploaded but will be following the meeting.

A question was asked if we received any failure data back from the survey? The chair responded that the survey was sent out to a small group, so the data received was limited.

The TF discussed the existing IEC reactor switching test and how labs already have the capability to achieve the test values in the standard. There would be benefit in gathering data from the industry to see if real life values are consistent with existing test conditions.

A limitation of existing tests is no verification of endurance. The consensus of the TF was that a recommendation for more test requirements, such as endurance testing for shunt reactor switching, would be difficult to implement given the cost and variety of shunt reactor applications in practice.

Some indicated that the manufacturers have a good understanding of the shunt reactor switching and how to design for it. However, it is important for the industry to understand the severity of the duty and importance of proper design and consideration (e.g., number of operations and application can determine the life of the breaker in some cases).

It was suggested that C37.015 could be used as a place to provide more information. However, there was discussion that a technical brochure may be a better place instead of waiting for the next revision of C37.015. It was noted that the next revision of C37.015 would likely be initiated soon.

Motion: Carl Schuetz made a motion to “Disband the taskforce and retain data collected to date for use in the next revision of IEEE Std C37.015”. Seconded by Marcus Young.

Vote was 12 of 12 members to Approve.

Motion is approved.

Next steps to make a motion to disband the TF at the HVCB subcommittee meeting.

Motion to adjourn: Victor Hermosillo

2nd to the motion: Carl Schuetz

### **Adjournment**

TF Chair adjourned the meeting at 8:52 AM.

**IEEE PES Switchgear Committee**  
**HVCB C37.09 TF for Shunt Reactor Switching - Meeting Roster**

Place / Date of meeting: Hilton Burlington, VT / October 19, 2022

Initial to denote	Last name	First name	Company name	Role
	Alexander	Roy	RWA Engineering	Guest
	Ayers	Roy	Nashville Electric Service	Guest
	Bosma	Anne	ABB Inc.	Guest
	Boulus	Michael	PSE&G	Guest
	Brunke	John	Power Engineers	Guest
X	Bufi	Arben	Meiden America Switchgear	Member
	Caverly	David	Trench Limited	Member
X	Chovanec	Andrew	GE Grid Solutions	Member
	Christian	Michael	ABB Inc.	Member
X	Collette	Lucas	Duquesne Light	Chair
X	Crawford	Mike	MEPPI	Guest
	Dilillo	Pat	Con Ed	Guest
	Edwards	Ken	First Energy	Member
	Fennell	Bruce	Nashville Electric	Guest
	Frazier	Raymond	Ameren	Member
	Glynn	Andrea	Xcel Energy	Guest
	Hall	John	TVA	Guest
	Heiermeier	Helmut	ABB	Guest
	Hensberger	Jeremy	MEPPI	Guest
X	Hermosillo	Victor	GE Grid Solutions	Member
	Hu	Joanne	RBJ Engineering Corporation	Guest
	Hurst	Bill	GE	Guest
	Irwin	Todd	GE Grid Solutions	Guest
	Jarnigan	Chris	Southern Company Services	Guest
	Johnson	Dave	Independent	Guest
	Keels	Andy	KE Electric	Member
X	Kurinko	Carl	Hitachi-ABB Power	Member
	Lee	Chang-hoon	Hyosung	Guest
	Lemmerman	David	PECO/Exelon	Guest
	Li	Wangpei	Eaton Corporation	Guest
	Ling	Jane	GE	Guest
	Liu	Hua Ying	Southern California Edison	Member
X	Marshall	Vincent	Southern Company	Member
	May	Steven	Southern Company Services	Guest
X	Meyer	Peter	S&C Electric	Guest
	Nayar	Raj	Siemens	Guest
	Nelson	Jeff	TVA	Guest
	Palazoo	Mirko	ABB	Guest
	Pellerito	Tom	DTE Energy	Guest
	Peterson	Andrew	ABB	Guest
	Polchinski	Craig	MEPPI	Member
	Ricciuti	Tony	Eaton Corporation	Guest
	Roberts	Brian	Southern States LLC	Member
	Rogers	Jon	Siemens Energy, Inc	Guest
	Schiffbauer	Dan	Toshiba	Guest
X	Schuetz	Carl	American Transmission Company (ATC)	Member
	Scott	Jeff	Ameren	Guest
	Sharma	Devki	Entergy	Member
	Shinde	Sushil	ABB Inc.	Guest
	Skidmore	Michael	AEP	Member
	Slattery	Chris	First Energy	Guest
	Smith	Kirk	Retired	Guest
	Steigerwalt	Don	Duke	Guest
X	Toups	Vernon	Siemens	Guest
	Van de ligt	Jim	Cana Energy Ltd	Guest



**IEEE PES Switchgear Committee  
HVCB Task Force to Study  
Shunt Reactor Switching Endurance**

**Hilton Burlington, VT  
October 19, 2022**

## Agenda

1. Call to Order
2. Introduction of Members and Guests
3. Review of Copyright Policy and Patent slides
  - Call for Patents
    - If anyone is aware of any Patent Claims that might be Essential Patent Claims please make that known to the Working Group at this time.
4. Review of TF Membership
5. Review and Approval of Minutes from April 13<sup>th</sup>, 2022
6. Next Steps
7. Adjournment

## Call to Order

### Recap of Initial Meeting for Reference (October 11, 2017)

- Concerns identified for electrical switching endurance based on field experience for inductive load (shunt reactor) switching.
- The TF was formed with the intention to develop a PES Technical Report or provide recommendations for breaker or reactor testing.
- It was decided by the TF that a user and manufacturer survey would be useful for attaining failure data, a list of criteria used for specifying reactor switching breakers, and numbers of various ratings of reactor switching devices/shunt reactors sold etc.

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## **IEEE SA COPYRIGHT POLICY**

**By participating in this activity, you agree to comply with the IEEE Code of Ethics, all applicable laws, and all IEEE policies and procedures including, but not limited to, the IEEE SA Copyright Policy.**

- Previously Published material (copyright assertion indicated) shall not be presented/submitted to the Working Group nor incorporated into a Working Group draft unless permission is granted.
- Prior to presentation or submission, you shall notify the Working Group Chair of previously Published material and should assist the Chair in obtaining copyright permission acceptable to IEEE SA.
- For material that is not previously Published, IEEE is automatically granted a license to use any material that is presented or submitted.

## **IEEE SA COPYRIGHT POLICY**

- The IEEE SA Copyright Policy is described in the IEEE SA Standards Board Bylaws and IEEE SA Standards Board Operations Manual
  - IEEE SA Copyright Policy, see
    - Clause 7 of the IEEE SA Standards Board Bylaws  
<https://standards.ieee.org/about/policies/bylaws/sect6-7.html#7>
    - Clause 6.1 of the IEEE SA Standards Board Operations Manual  
<https://standards.ieee.org/about/policies/opman/sect6.html>
- IEEE SA Copyright Permission
  - <https://standards.ieee.org/content/dam/ieee-standards/standards/web/documents/other/permissionltrs.zip>
- IEEE SA Copyright FAQs
  - <http://standards.ieee.org/faqs/copyrights.html/>
- IEEE SA Best Practices for IEEE Standards Development
  - [http://standards.ieee.org/develop/policies/best\\_practices\\_for\\_ieee\\_standards\\_development\\_051215.pdf](http://standards.ieee.org/develop/policies/best_practices_for_ieee_standards_development_051215.pdf)
- Distribution of Draft Standards (see 6.1.3 of the SASB Operations Manual)
  - <https://standards.ieee.org/about/policies/opman/sect6.html>

## **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](mailto: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 WORKING GROUP 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. Formally object to the discussion immediately.

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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](mailto:patcom@ieee.org)**

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## Current Task Force Membership (23 Members)

Last name	First name	Company name	Role
Bufi	Arben	Meiden America Switchgear	Member
Caverly	David	Trench Limited	Member
Chovanec	Andrew	GE Grid Solutions	Member
Christian	Michael	ABB Inc.	Member
Collette	Lucas	Duquesne Light	Chair
Edwards	Ken	First Energy	Member
Frazier	Raymond	Ameren	Member
Hermosillo	Victor	GE Grid Solutions	Member
Keels	Andy	KE Electric	Member
Kurinko	Carl	Hitachi-ABB Power	Member
Liu	Hua Ying	Southern California Edison	Member
Marshall	Vincent	Southern Company	Member
Polchinski	Craig	MEPPI	Member
Roberts	Brian	Southern States LLC	Member
Schuetz	Carl	American Transmission Company (ATC)	Member
Sharma	Devki	Entergy	Member
Skidmore	Michael	AEP	Member
Weeks	Casey	Siemens Energy	Member
Weisker	Jan	Siemens Energy	Member
York	Richard	MEPPI	Member
Young	Marcus	MEPPI	Member
Zahrko	Samuel	MEPPI	Member
Zhang	Will	Southern Compnay	Member

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  - TF Vote
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