

## IEEE SWITCHGEAR COMMITTEE CORRESPONDANCE

Minutes: IEEE High-Voltage Fuses Subcommittee  
Place: Burlington, VT  
Date: Wednesday, May 1<sup>st</sup> 2019  
Presiding officer: Jim Wenzel– Chair  
Recorder: John Leach – Vice-Chair/Secretary

### MEMBERS PRESENT

Chris Borck	Eaton
Sterlin Cochran	Hubbell Power Systems
Gary Haynes	ABB Inc.
John Leach	Consultant (Sec.)
Bobby Moorhead	Dominion
Chris Morton	PowerTech
Jon Spencer	Utility Solutions
Jim Wenzel	Eaton (Chair)
Randy Ward	Alumaform

### MEMBERS ABSENT

Sean Moody	Mersen
Rodolfo Elizondo	Peak Demand
Jonathan Deverick <sup>^</sup>	Dominion Virginia Power
Brad Lewis	AEP
Charles Worthington	Hubbell Power

<sup>^</sup> correspondence only

### GUESTS

Jeramie Cooper	Eaton
Jodi Haasz	IEEE-SA
Pete Marzec	S&C Electric
Ashly Moran	IEEE-SA
Caryn Riley	GT/NEETRAC
Dustin Sullivan	Hubbell Power Systems
Robert Wolf	Hubbell Power Systems
Danish Zia	UL LLC

### HONORARY MEMBERS

John Angelis, L. Ron Beard, Glenn Borchardt, Ray Capra, Steve Hassler, Frank Ladonne, Chris Lettow, Jim Marek, Frank Muench, Don Parker, R. Neville Parry, Herb Pflanz, R (Kris) Ranjan, Tim Royster, John Schaffer, Mark Stavnes, Alan Yerges, Jan Zawadzki.

- 1. Call meeting to order** - 1:36 pm
- 2. Approval of Agenda** – No Changes requested, agenda accepted.
- 3. Member/guest introduction** -
  - a. 9 members, 8 guests

4. **Roster check** – Tim Royster and Glenn Borchardt have resigned from the subcommittee after many years of service, due to impending retirement. John proposed that they be made honorary members and the SC agreed unanimously. John noted that there are no actual consequences from making former members “honorary”, other than their names continue to be carried in the minutes as a mark of respect for their significant service to the subcommittee.
5. **Approval of October 17th 2018 minutes** – There were no corrections to the Fall meeting minutes and they were approved as circulated. However, it was noted that there had been an unnoticed error in the Spring 2018 minutes that had been approved in the fall – the meeting date was reported as “April 25<sup>th</sup> 2017”. This was corrected to “April 25<sup>th</sup> 2018” in December 2018 in the document “S18HVfminREV1”, which appears on the Switchgear committee web site. The resolution of the issue by revised minutes was approved by the SC unanimously.
6. **Standards status report – (see Annex B)**
  - a. C37.40: made obsolete with the latest C37.41 and C37.42, but still shown on IEEE site as active.
  - b. C37.41: published April 2017, Corrigenda issued May 2017.
  - c. C37.42: published May 2017.
  - d. C37.43: made obsolete with the latest C37.41 and C37.42.
  - e. C37.45: Published April 2017.
  - f. C37.46: made obsolete with the latest C37.41 and C37.42.
  - g. C37.47: made obsolete with the latest C37.41 and C37.42.
  - h. C37.48: under revision, to be completed 2020.
  - i. C37.48.1: being incorporated into revision of C37.48.
7. **Working Group Reports -**
  - a. Revision of Fuse Standards – J. Leach
    1. The Working Group met on May 1<sup>st</sup>, 2019 at 8 am. There were 15 of 20 members and 10 guests, one of whom is now eligible for membership.
    2. Tim Royster has resigned (retirement) and Glenn Borchardt will not be able to attend (retirement) but has requested to remain as a corresponding member to continue to address expulsion fuse issues. This was agreed.
    3. The WG discussed revisions to PC37.48, most of them as a result of incorporating comments from the revision of the “color book” (now called the “3000 Series Dot Standards”). The opinion of the Chair of the revision committee, Marcello Valdes, is that with the publishing of C37.48 the color book replacement will be unnecessary, providing all the issues relevant to Industrial and commercial applications are covered. This was why steps were taken to ensure all useful points in the revision document are included in PC37.48.
    4. Additional discussion involved fuses for wind power applications. Additional cautions were added and specific references to transformer KVA values that can be covered by various protection techniques were removed, as it was felt that these were likely to be constantly changing.
    5. It was felt that after all members reviewed the changes the WG would be ready to go to ballot. A motion to request this from the Subcommittee was proposed

by Jim Wenzel and passed unanimously (a quorum was present). While it was noted that references to IEC 60282-1 Ed8 are to a standard yet to be approved, this document has passed the CDV stage and there are no comments related to the areas referenced. It was felt that there should not be a problem referencing the IEC 60282-1 ED 8 draft in a balloted document (essentially, we did the same with C37.41 and C37.42 that had to reference each other as unapproved documents).

6. Since the motion came from the WG, a second was not necessary. The motion to authorize the WG to initiate a ballot of PC37.48 before the Fall meeting was passed unanimously.
7. While we may have a large number of comments to be addressed from the Ballot of PC37.48 at the fall meeting, by Spring we could be out of work. It was agreed to ask the Subcommittee to form a PAR study group to meet at the Fall meetings to investigate applying for a PAR to combine C37.41 and C37.42 as previously agreed to be the subcommittee in its long-range plans. John Leach proposed that a Par Study group be formed, seconded by Sterlin Cochran. This was approved by a unanimous vote. John said that he would not propose himself to lead the study group or a subsequent WG if the PAR is approved, as he felt that it was time for some younger members to lead the effort. However, he noted that he hoped to be able to help for a few more years. Jim Wenzel asked that volunteers make themselves known to him, as he has the duty to appoint a chair, but that we would undergo a democratic appointment process if we had more than one candidate. Jim will seek a Tuesday morning slot for the group.

#### **8. Report of liaison to other committees -**

##### **a. ER&P Committee – J. Wenzel**

1. There is, as usual, a push for more papers as Switchgear committee publish a small number of papers for its size.
2. ER&P are looking for a chairperson to head up a new “Fellows” committee. They do not need to be a fellow but rather to learn the steps necessary to push members forward into the fellow’s process as we do not have a significant number for the Committee size.
3. The proposal by NEMA to revise C84.1 (standard voltages) to increase the tolerance from +5% to +10% is causing significant concern. It was noted that for some standard voltages, +5% lies within our standard fuse test voltages, but if the tolerance was increased to 10%, they would not. This would require existing fuses to either be replaced or re-tested (and they may not be capable of the higher voltage). The cost to utilities and fuse manufacturers would be considerable. In some cases, a suitable fuse may not even be available (it might have to be a higher voltage rating which may not fit in existing equipment). Switchgear Committee will be producing a position statement and members are urged to look out for this in the next few weeks and respond accordingly.

#### **9. IEC Report – J. Leach – (full report Annex A)**

- a. No meetings held since October.
- b. MT3 (Maintenance Team 3, Current Limiting Fuses)
  1. CDVs issued for IEC 60644 and 60282-1 and comments received.

2. Revision of 60644 to go to “International Standard” stage, skipping “Final Draft International Standard stage. The other documents for 60282-1 (comment circulation and disposition) are still being processed.
- c. WG8 (Working Group 8, Expulsion Fuses with Polymer Insulators)
  1. CDV issued and comments received.
  2. Comment circulation and disposition still being processed.
- d. Next meetings MT6 in France, June 2019. MT3 and MT6 will meet in Greece Sept 2019 (ICEFA 2019). SC32A will meet in Sweden in 2020.

**10. Unfinished business – none**

**11. New business - none**

**12. Future meetings -**

Fall 2019 (Oct 6<sup>th</sup> – 10<sup>th</sup>) Catamaran Resort, San Diego, CA

Spring 2020 (May 4<sup>th</sup> – 8<sup>th</sup>) Peppermill Resort, Reno, NV

Fall 2020 (Oct 4<sup>th</sup> – 8<sup>th</sup>) Sheraton Sundance Square, Fort Worth, TX

Spring 2021 (April 18<sup>th</sup> – 23<sup>rd</sup>) Hilton Charlotte University Place, Charlotte, NC

**13. Adjournment - 2:45 pm**

Annex A

**SC32A - U.S.A. T<sub>echnical</sub> A<sub>dvisory</sub> G<sub>roup</sub>**

Dr. John G. Leach, Technical Advisor ♦ [j.g.leach@ieee.org](mailto:j.g.leach@ieee.org) ♦ 828-256-3744 ♦ Fax 828-322-2376

---

### **IEC Report 2019-1 October 2018 to April 2019**

**From:** Dr. John G. Leach, Technical Advisor TC32 and SC32A, April 26<sup>th</sup> 2019

#### **Summary**

Since the October 2018 report there have been no Sc32A or maintenance team meetings. The CDV for the new IEC 60282-4 was circulated on October 26. The results of the circulation of this document plus those for the CDV for IEC 60644 and 60282-1 have been received and comments passed to the Secretary of SC32A.

#### **Meetings:**

No meetings have occurred since October 2018, but a meeting of MT6 (IEC TR 62655, Tutorial and guide) is planned for Lyon, France on June 6th and 7th, 2019.

#### **MT3 – “current-limiting fuses”**

Two CDV documents were circulated in October 2018 and the results received in January.

**IEC 60644/AMD1 ED2:** 32A/340/CDV closed on 2019-01-04. The result of voting showed 14 P members voting (of 16 members) with 100% in favor of circulation as an FDIS (final draft international standard). Two members sent comments (Mexico and Iran). However,

the chair and Secretary agreed that none of the comments warranted any changes to the document, so since the document had been approved it was agreed to move directly to the IS (international standard) stage, without further vote. The circulation of comments has been issued, and the document will be moved to IS the week of April 29<sup>th</sup>.

IEC 60282-1 Ed 8: 32A/341/CDV closed on 2019-01-11. The result of voting showed 13 P members voting with 100% in favor of circulation as an FDIS. Spain, Mexico, France and Germany made 59 comments. I have recommended to the secretary that most of the comments be rejected with a small number accepted. He has not yet responded (the “observations of the secretariat” have to be filled out before the comments are circulated). I expect that some issues may have to be discussed at the MT6 meeting in France before an FDIS can be issued.

IEC 60282-4 (polymer insulator document): 32A/342/CDV closed on 2019-01-18. The result of voting had 10 members voting with 8 in favor and two against circulation (Poland and Spain) as an FDIS. There were 6 abstentions, but the was approval. Spain, Poland, Iran, Germany, and China all sent 57 comments. Many of the Spanish comments can be accepted to remove their negative vote (most are non-technical). Poland also voted negative, but their comments were quite trivial and easily accepted. I have recommended to the secretary responses to most comments, and additional input from the WG chair was needed, but the secretary has not yet responded (the “observations of the secretariat” have to be filled out before the comments are circulated).

**Date and place of next meetings:** Our next MT6 (application guide) meeting is planned for France June 6<sup>th</sup> and 7<sup>th</sup>, 2019 and we will also probably meet in conjunction with the next ICEFA (fuse conference) In September 2019. I have requested that SC32A meet with TC32 at the 2020 IEC General Meeting (Sweden).

John Leach, 4/26/19