

## IEEE SWITCHGEAR COMMITTEE CORRESPONDANCE

Minutes: IEEE High-Voltage Fuses Subcommittee  
Place: Kansas City, Mo  
Date: Wednesday, October 17th 2018  
Presiding officer: John Leach – Chair  
Recorder: Jim Wenzel – Vice-Chair/Secretary

### MEMBERS PRESENT

Sterlin Cochran Hubbell Power Systems  
Gary Haynes ABB Inc.  
John Leach Consultant - Hi-Tech Fuses/ABB (Chair)  
Sean Moody Mersen  
Jim Wenzel Eaton  
Randy Ward Alumaform  
Chris Morton PowerTech  
T. E. Royster Dominion Energy

### MEMBERS ABSENT

Jon Spencer Utility Solutions  
Bobby Moorhead Dominion  
Rodolfo Elizondo Peakdemand.com  
Glenn Borchardt S & C Electric Company  
Jonathan Deverick^ Dominion Virginia Power  
Brad Lewis AEP  
Charles Worthington Hubbell Power  
Chris Borck Eaton  
^ correspondence only

### GUESTS

Caryn Riley GT/NEETRAC  
Ivan Jovanovic G&W Electric  
Kelly Cannon Hubbell Power Systems  
Robert Wolf Hubbell Power Systems  
Al Pruitt Durham Company

### HONORARY MEMBERS

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

1. **Call meeting to order** - 1:35 pm
2. **Approval of Agenda** – No Changes requested, agenda accepted.
3. **Member/guest introduction** -
  - a. Randy Ward, Alumaform, Chris Borck, Eaton, and Chris Morton (PowerTech) are now members of the Subcommittee. (Requirements for membership are to attend 4 of 6 meetings)

- b. 8 members, 5 guests

#### **4. Roster check -**

- a. The roster can no longer be circulated for corrections – members must maintain their information in 123Signup (AMS) accessed through the Switchgear Committee web site.

#### **5. Approval of April 25, 2018 minutes – No errors reported, so approved.**

#### **6. Standards status report – (see Annex B)**

- a. C37.40: made obsolete with the latest C37.41 and C37.42, still shown on IEEE site as active. John working with Erin to make the status “superseded”.
- 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, still shown on IEEE site as active. John working with Erin to make the status “superseded”.
- e. C37.45: Published April 2017.
- f. C37.46: made obsolete with the latest C37.41 and C37.42, shown on IEEE site as “superseded”.
- g. C37.47: made obsolete with the latest C37.41 and C37.42, still shown on IEEE site as active. John working with Erin to make the status “superseded”.
- 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 October 17, 2018 at 8 am. There were 12 members, 8 guests.
  2. C37.48 Revisions to Tutorial and Application Guide continued where we are combining C37.48 and C37.48.1. We’ve completed our first review of the draft document.
  3. We are committed to go to ballot by the end of 2019. The new revision has to be finished by the end of 2020. New revision of C37.48 cannot be balloted and published until the new edition of IEC 60282-1 is released, because we reference the new IEC standard revision.
  4. WG anticipates having the draft in IEEE format by the Spring meeting at which point there will be limited work to be done before a ballot can take place. More work is therefore likely to be needed for members at the spring meeting. It was agreed to discuss this during the “new business”.

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

- a. ER&P Committee – J. Leach
  1. IEEE awards for participating in the revision of the C37.41 and C37.42 will be available for WG members at the Spring 2019 meeting.
  2. The issue of errors in editing of standards was raised to the ER&P committee. IEEE will look into these errors.
  3. Chairperson training will be held Spring 2019 on procedural IEEE items.

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

- a. Last meetings held in Bled, Slovenia, May 2018
- b. MT3 (Maintenance Team 3, Current Limiting Fuses)
  - 1. 10 members from 7 countries.
  - 2. CDV for IEC 60282-1 being circulated and results due January 2019. Our WG needs this complete before we can ballot C37.48.
  - 3. Motor circuit fuse standard revision submitted for vote and closes in January, 2019.
- c. WG8 (Working Group 8, Expulsion Fuses with Polymer Insulators)
  - 1. 5 members present from 3 countries (USA, GB, CN)
  - 2. Committee draft circulated March 2018. With 34 comments from (CH, MX, IR).
  - 3. Discussed comments and documented the resolutions. CC circulated June 2018 for 32A/337/CC. CDV submitted September 2018
  - 4. Differences with IEC 60282-4 and C37.1 are in the Mechanical endurance at temperature extremes. IEC allows for minimum temperatures higher than -30°C. Also, the dye penetrant brand is different. IEC does not require interruption at temp extremes but requires dye penetrant test after Series 1.
- d. SC32A
  - 1. 16 delegates from 7 countries
  - 2. Concerns of viability of Main committee TC32.
- e. TC32-CAG(Technical Committee 32 Chairman's Advisory Committee) meeting (on-line) in September.
  - 1. IEC has awarded "shell committee" status to TC32
- f. 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 –**

- a. none

## **11. New business -**

- a. Need direction for Revision of Fuse Standards WG as to what to do next
  - 1. The proposal from the RFS WG (PC37.48) is to adopt the previously expressed desire of the SC and combine C37.41 and C37.42 into one comprehensive document. This will require a PAR, that includes document title and scope. The SC therefore has to either create a PAR Study Group, or task an existing WG to examine the proposal, and produce a draft PAR, for consideration by the Subcommittee.
  - 2. If the subcommittee accepts the draft PAR, the SC Chair appoints a WG Chair and the PAR must be submitted within 6 months of the decision to initiate the project (Switchgear P&P) or the PAR must be submitted within six months of the first meeting of the WG or PAR Study Group (Standards Board Operations Manual). These requirements appear to be in conflict so clarification will be sought.

3. Motioned by Jim Wenzel and seconded by Tim Royster that the Revision of Fuse Standards WG meet in May 2019 and assess combining C37.41 and C37.42 and report back to SC in Fall 2019. Approved as motioned unanimously. *[Note that this will allow a PAR to be submitted within 6 months of the meeting of the WG!]*
- b. Commutating Fuses: application information & guidelines will be added to the C37.48 new revision by G&W. To be reviewed Spring 2019 or sooner as available from G&W.
- c. “Smart” Fuses or Overcurrent Devices and/or other Overcurrent Devices could be added to the Revision of Fuse Standards Working Group activities. Our goal should be to make our standards as strong as they need to be to sufficiently prove fuse devices work as needed.
- d. Interchangeability for cutout components could be examined when combining C37.41 & C37.42. There was also some discussion regarding load-break cutouts and potential component damage should a device be closed in on a fault.

## 12. Future meetings -

Spring 2019 (April 28<sup>th</sup> – May 1<sup>st</sup>) Hilton, Burlington, VT

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 - 3:15 pm

### Annex A

# SC32A - U.S.A. Technical Advisory Group

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 2018-2 April 2018 to October 2018**

From: Dr. John G. Leach, Technical Advisor TC32 and SC32A, October 14<sup>th</sup> 2018

### **Summary**

Since the April 2018 report there have been SC32A meetings; meetings of the Main Committee, its Working Group 8 and its Maintenance Team 3. Several documents have been circulated, although the most significant documents (CDVs for the revision of IEC 60282-1 and new IEC 60282-4) are in translation, waiting to be circulated during October.

### **Meetings:**

#### **WG8 – “Polymer cutouts”**

The meeting was in Bled, Slovenia, on Tuesday 29<sup>th</sup> May 2018. Members present were: Sterlin Cochran (US) (Convenor WG8), Harold Handcock (GB), John Leach (US) (Chair SC32A) and Weijian Shi (CN) were present, with Trevor Blackburn (AU) absent. There were three observers, Jin Tai Hong (CN), Yuan Chao (CN) and Viktor Martinčič (SI) (Chair TC32) (part time).

Sterlin explained that problems associated with getting copyright permission from IEEE for subsequent revisions of the document meant that the CD draft was not completed until the end of 2017, and circulated for comment on March 3rd 2018 (32A/333/CD). A reduced circulation time of 8 weeks enabled comments to be obtained before the meeting (2018-04-27). There were 34 comments from China, Mexico and Iran. The meeting therefore generated the “observations” column of the CC and modified the draft to create a CDV document. The WG decided that since the changes proposed were either non-technical (restructuring) or following IEC 62217 (*Polymeric HV insulators for indoor and outdoor use – general definitions, test methods, and acceptance criteria*), the document could move to the enquiry stage (CDV) as soon as possible, and we could remain on track with our proposed schedule. It was decided at the SC32A meeting, 2018-05-31, that a CDV would be submitted to Central Office by 2018-08-31 although it was found that, after this, a further 6-8 weeks are needed for translation into French before the document can be circulated. The CC (32A/337/CC) was circulated on 2018-06-15, the scheduled date for the CDV (32A/324/CDV) is October 26<sup>th</sup>, with a closing date of 2019-01-18.

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

The meeting was in Bled, Slovenia, on Wednesday 30<sup>th</sup> May 2018. Members present were: Thomas Adler (FR), Yutaka Goda (JP), Ulrich Haas (DE), Harold Handcock (GB), Pierre Lavaud (FR), John Leach (US) (Convenor IEC SC32A MT3, Chair SC32A), Viktor Martinčič (SI), (Chair TC32), Juan-Carlos Perez-Quesada (ES) (Convenor IEC SC32A MT4), Thomas Schaefer (DE), Jens Weber (DE). Absent were: John Ainsworth (AU), Glenn Borchardt (US), Rafal Buczko (PL), Daniel Fernández Hevia (ES), Stephane Melquiond (FR), Joze Pihler (SI), Roger Weihrauch Teuscher (MX), and Mariusz Wilniewicz (PL). Guests were: Yuan Chao (CN), Sterlin Cochran (US) (Convenor SC32A WG8), Shi Weijan (CN)(Member SC32A WG8), and Jin Taihong (CN).

IEC 60282-1 Ed 8: John reported that 30 comments were received in response to the second CD for the revision of the current-limiting fuse standard, and the CC had been circulated on 2018-01-16 with some items to be discussed by the MT. These were discussed and observations made for a revised CC (32A/331A/CC) which was circulated on 2018-08-17 (additional discussions after the meeting, by e-mail, were necessary). The changes generated by the comments to the CD were deemed sufficiently minor to enable the document to proceed to the enquiry stage and the CDV (32A/341/CDV) was processed by the CO on August 30<sup>th</sup>, and should be circulated 2018-10-19.

IEC 60644/AMD1 ED2: With no comments to the CD for the amendment to the motor circuit fuse standard, this has progressed to having the CDV processed by CO on August 20<sup>th</sup>, with the CDV (32A/340/CDV) due to be circulated on 2018-10-12.

### **SC32A**

The meeting was in Bled, Slovenia, on Thursday 31<sup>st</sup> May 2018. John Leach (US) was the Chair and Raphael Buisson (FR) was the Secretary. Delegates were: China: Xuxiong HUANG, Taihong JIN, Quanan LI (HoD), Weijian SHI, Mei SUN, Na XING, and Bin ZHENG; France: Thomas ADLER and Pierre LAVAUD (HoD); Germany: Heinz-Ulrich HAAS (HoD), Thomas SCHAEFER, and Jens WEBER; Japan: Yutaka GODA (HoD), Spain: Juan-Carlos PEREZ QUESADA; UK: Harold HANDCOCK (HoD), USA: Sterlin COCHRAN (HoD). Guests were: Slovenia: Ana KRASOVEC VRHOVEC and Viktor MARTINCIC; Germany: Michael ALTENHUBER; China: Xuan CHAO.

John and Raphael presented Chair’s and Secretary’s reports detailing activities of the committee in the last two years. There was no representative of the IEC Central Office present but Michael Altenhuber (Secretary of SC32B and representing the secretary of TC32) pointed out that TC32 is under concern by the SMB because of the low activity. SMB would like TC32 to be reorganized.

Steps being taken to remedy this situation were discussed. John reported on activities in MT3 while Sterlin Cochran reported on activities in WG8. Decisions were made on document circulation dates as well as the stability dates of standards. It was noted that Didier Fulchiron (former secretary of the SC) had been our liaison with TC17 will stop his professional activity at the end of the year and needs to be replaced. Germany NC requested SC32A to send a questionnaire to NCs for the necessity of initiating a new project on distribution transformer protection fuses. Germany NC will prepare a questionnaire, send it to SC32A secretary for distribution to NCs.

SC32A got an invitation from Chinese NC to participate to IEC general meeting in Shanghai in 2019. However, it was felt that this date may be too early to organize a plenary meeting, and 2020 seems to be a better date. SC32A will request Swedish NC to get an invitation for the IEC general meeting that should be held in Sweden in 2020.

### **TC32 CAG**

An on-line meeting of the Chairman's Advisory Group of TC 32 was held on September 25<sup>th</sup> 2018, which John "attended". At this meeting we learned that the subcommittee has been granted "shell" status, which is a parent committee mainly doing management of subcommittees and having a few or no standards under its direct responsibility. When screening the TC/SC statistics, the central office does not report back to the SMB these committees even if they fall into the criteria defined for "inactive" TCs. Despite this "reprieve" for the TC, we are still anticipating having some active MTs and WGs working on tasks of common interest.

**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. Will request to have SC32A meeting plus MTs at 2020 IEC General Meeting (Sweden).

John Leach, 10/14/18