

IEEE SWITCHGEAR COMMITTEE CORRESPONDANCE

Minutes: HV Fuses Subcommittee, Officers meeting
Place: Web Meeting
Date: Thursday April 2nd.
Present: Jim Wenzel, Chair
John Leach, Secretary/Vice-Chair. Chair RFS-C37.48 WG
Sterlin Cochran Chair RFS-C37.41 WG

1. Call meeting to order - 11:30 EDS Time
 2. Topics for discussion: Necessity for Fuse meetings during the Switchgear Committee teleconference replacing the Reno meeting May 3rd – 7th.
 3. Discussions: Switchgear management needed to know whether any slots in the schedule were needed for web-based meetings during the planned Teleconference. After discussing the options, the following was decided:
 - a. The working group revising C37.48 did not need to meet as what was anticipated to be the final recirculation of the document was taking place and it was anticipated the submission to RevCom would occur before the May meeting.
 - b. Although a PAR has been granted for the revision of C37.41, it was not felt to be helpful to have a web-based meeting for the launch of a new WG. Instead John Leach offered to produce a draft document (conflation of C37.41 and C37.42) to be circulated to existing WG members and SC members by the end of the Switchgear Teleconference May 8th.
 - c. Since anticipated reports to the SC (WG reports and IEC liaison report) could be produced and circulated to the SC on Wednesday May 6th (the planned date of the SC meeting) and officers were not aware of any “new business”, there would be no need for a web-based meeting.
 4. Conclusions: It was agreed that Jim would communicate that the SC did not need any time slots for meetings to Switchgear Committee
 5. The meeting closed at approximately 12:30 EDS Time
-

Minutes: HV Fuses Subcommittee, Officers meeting
Place: Web Meeting
Date: Tuesday May 5th
Present: Jim Wenzel, Chair
John Leach, Secretary/Vice-Chair. Chair RFS-C37.48 WG
Sterlin Cochran Chair RFS-C37.41 WG

1. 1 Call meeting to order - 2:00pm EDS Time
2. Topics for discussion: communications with members of WG and SC, report to Switchgear Committee.
3. Discussions: As previously agreed and communicated to the members, there will be no fuse related teleconference meetings during the Switchgear Committee teleconference in the week of May 3rd to 8th. John had sent a report, intended for the membership, to Jim and Sterlin for their review. Jim did not believe that there was a scheduled ERP meeting so that the only reports to the Subcommittee would be from the existing WG revising C37.48, the new WG revising C37.41 which has not yet met, and the IEC liaison report. With no new items that they were aware of, the report from John was approved for circulation [reproduced below].
4. The meeting closed at 3:00 pm.

Report to: IEEE High-Voltage Fuses Subcommittee
From: Revision of Fuse Standards Working Group – PC37.48, John Leach
Revision of Fuse Standards WG – PC 37.41, John Leach and Sterlin Cochran
IEC Report, John Leach
Date: Wednesday, May 5th 2020

1. Working Group Reports -

a. Revision of Fuse Standards – PC37.41, John Leach

1. After the Working Group met on October 9th, 2019, most of the comments to the ballot of PC37.48-D4 had a response from the WG. There were a few comments that required input from IEC WG members that developed the original document. These inputs were received and a final comment file was completed.
2. The recirculation was delayed until the referenced IEC fuse standard IEC 60282-1 Ed 8 was approved. This happened in March 2020 and it was published April 14th 2020.
3. The recirculation commenced March 31st and closed April 9th. Of the 5 negative votes, three were reversed but Alan Yerges changes his vote to negative, based on the wording we had used to describe cutout mounted reclosers. Although time was short to submit the project to RevCom to get in the late spring cycle for approval, it was found that a submission could be made, even while a recirculation was taking place. The wording was therefore changed to better match that in IEEE Std C37.60 and a second recirculation started April 15th and closed on the 24th. The RevCom submission was on April 21st (deadline the 23rd, the next would have been mid-August!)
4. The second recirculation still left us with two negatives. Despite several e-mails, nothing was heard from William McBride or Tim Robirds and their negative ballots remained (but since no one supported the few negative comments that we rejected, this will not be a problem).
5. The RevCom approval process is now underway. It is not anticipated that the RFS WG-C37.48 will need to meet again and it is considered disbanded. John (Chair) and Jim Wenzel (Secretary/V-Chair) wish to express their sincere thanks to all of the members who worked on this project (some aspects of which goes back decades) – we have a Tutorial/Guide to be proud of.

b. Revision of Fuse Standards – PC37.41, John Leach and Sterlin Cochran.

1. Based on directions from the PAR study group, Sterlin Cochran submitted a PAR for the revision of C37.41. This will be primarily by incorporating the content of specification document C37.42. The PAR was submitted January 3rd, 2020. NesCom requested a minor change in the PAR, based on an objection that the scope should not contain the line “The manufacturer and the user should agree on any specifications or tests performed for such devices”. Note, in IEC a scope cannot give permission for something, so this probably falls into the same category. The PAR was approved on March 4th 2020 and expires December 2024. A copy of the corrected PAR is to be found in Annex B.

2. John Leach (Secretary and Vice-Chair) agreed to produce a first draft of the combination of the two documents. It was anticipated that it would be ready before the May meeting in Reno. However, with the meeting cancelled, instead the plan is to circulate the document to potential members of the WG (i.e. members of the PC37.48 Working Group by Friday May 8th to give everyone the opportunity to study the document before the fall meetings (which we hope **will** take place). The merging of the two standards is proving to be harder than might at first be thought; the structure of the two documents (coming as they do from an IEEE/IEC background and a NEMA background) are not quite the same. It is anticipated that there will be opportunity for considerable discussion as to the best way to do this; the first draft will probably need some significant modification as to style.

2. IEC Report – J. Leach – (full report Annex A)

- a. Since the October 2019 report there have been no meetings. In addition, the Plenary meeting planned for September in Paris has been postponed due to COVID 19 concerns.
- b. The major revision of the current-limiting fuse standard IEC 60282-1 was approved and published April 14th 2020.
- c. The new standard IEC 60282-4, Additional testing requirements for high-voltage expulsion fuses utilizing polymeric insulators was approved and published on April 16th 2020.
- d. Next meetings: it is now anticipated that MT3 and MT6 will meet in Paris, France at a plenary meeting of TC32, SC32A and, hopefully, SC32B and SC32C. The dates are January 11th – 15th 2021.

3. Future meetings

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

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

Fall 2021 (October 10th – 14th) Peppermill Resort, Reno, NV

Annex A

SC32A - U.S.A. Technical Advisory Group

Dr. John G. Leach, Technical Advisor ♦ j.g.leach@ieee.org ♦ 828-256-3744

IEC Report 2020-1 October 2019 to May 2020

From: Dr. John G. Leach, Technical Advisor TC32 and SC32A, May 5th 2020

Summary

Since the October 2019 report there have been no SC32A maintenance team meetings, but an on-line CAG (Chairman's advisory Group for TC32) on May 5th. The FDIS documents for IEC 60181-1 Ed8 and the new IEC 60282-4 were circulated and approved unanimously. Both documents have been published (April 14th and 16th respectively). A planned Plenary meeting in Paris, with TC, SC, MT and CAG meetings has been cancelled due to COVID 19 concerns. The General meeting in Stockholm (October – to which we were not invited) has also been cancelled, and replaced by a shorter, management only, meeting in November in Switzerland. Preliminary plans for the replacement TC/SC/MT meetings in Paris are for January 11th -15th 2021.

MT3 – “current-limiting fuses”

IEC 60282-1 Ed 8: The editing check produces a few minor questions in November. Our SC secretary, Raphael Buisson, received a sports injury and was off work for several weeks. Consequently, I queried the MT on some issues (there were 36 questions from the editor, many involving references). Raphael returned and was able to submit our responses on December 2nd, and the FDIS was circulated January 24th 2020, closing March 6th. The FDIS received no comments and passed with 100% approval. The new edition was published on April 14th, 2020.

WG8 – “Polymeric cutout standard”

IEC 60282-4. The editing check produces a few minor questions in November. Our SC secretary, Raphael Buisson, received a sports injury and was off work for several weeks. Consequently, Sterlin Cochran and I reviewed the comments (there were 14 questions from the editor) and made recommendations to Raphael. He returned to work and was able to submit our responses on November 29th, and the FDIS was circulated January 24th 2020, closing March 6th. The FDIS received eight comments and passed with 100% approval. While we responded to the comments, no changes to an FDIS are possible. The new edition was published on April 16th, 2020.

MT6 – “Tutorial and Application Guide”

A formal project for the revision of IEC TR 62655 has not yet been started. It was planned that this would occur at the Plenary meeting in Paris in September 2020. If a January meeting can take place instead, a future work plan will be instituted at that time.

CAG web meeting, May 5th 2020. The seven members of the CAG met in a Microsoft Teams meeting (7:00 Eastern DS time). Membership is now set to be the Chair and Secretary of the TC and its three sub-committees. Topics of discussion included:

Cancelling the planned Plenary meetings for September in Paris. France is still requiring 14 days isolation for anyone coming to France. With no guarantee restrictions will be eased by September, it was decided to postpone the meeting. Members were requested to notify their committee members as soon as possible – an official announcement will be forthcoming. The possibility of holding our main meetings by web conferencing was discussed, but for various reasons (including the impracticality of long meetings involving very early mornings or very late nights for members scattered around the world) it was decided that this was not a good idea.

Possible future meeting dates. The 2021 general meeting is in October in Dubai. This posed a problem for several members, including proximity to other meetings (IEC and IEEE), and it being too long since previous meetings. It was therefore decided to meet as early in 2021 as possible. The date January 11-15 was therefore chosen as being suitable for those present. There may be some issues with room availability at AFNOR (host) so the schedule may not be identical to that for the September meeting.

MT2: revision of IEC/TR/60943 Guidance concerning the permissible temperature rise for parts of electrical equipment, in particular for terminals. No work on a revision has been done so it is proposed to reaffirm it for a further 5 years.

MT3: Review of IEV (International Electrotechnical Vocabulary), Revision of IEC 60050-441. Michael Altenhuber has been trying to get information from CO, with little success. SC32B and SC32C have been working on their own drafts.

WG1: New standard for HV fuses / DC and /or special Application. It is anticipated a preliminary document will be circulated soon.

AHG1: Differentiate SC32C – SC32B scopes. John Leach's name was on the list of members by mistake. A web meeting is planned for June 8th.

AHG2: Clarified SC32A – SC32B scopes for HV fuses. This will mainly be taken care of in WG1, but a web meeting is planned for June 3rd. John Leach's name was added to this group.

New projects: **Future standard or technical specification for Product data and properties for information exchange of/for fuses, and Environmental Issues for/of fuses.** Michael Altenhuber has joined TC121/WG 1 as they are producing similar documents. We will have access to their first drafts as a basis for our documents.

Plea for additional members: Michael asked that SC Chairs request that their members consider joining these new projects.

It was agreed that the CAG would continue to meet by web meeting twice a year, the next meeting being set for October 12th 2020.

Date and place of next meetings: January 11th – 15th 2021 in Paris. To be confirmed by official IEC circular.

John Leach, 05/05/20

Annex B



PC37.41

Submitter Email: scochran@oakandshieldllc.com
Type of Project: Revision to IEEE Standard C37.41-2016
Project Request Type: Initiation / Revision
PAR Request Date: 03 Jan 2020
PAR Approval Date: 04 Mar 2020
PAR Expiration Date: 31 Dec 2024
PAR Status: Active
Root Project: C37.41-2016

1.1 Project Number: PC37.41
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2.1 Project Title: Standard for Design Tests and Specifications for High-Voltage (> 1000 V) Fuses and Accessories

Change To Title: ~~IEEE Standard~~ for Design Tests and Specifications for High-Voltage (> 1000 V) Fuses and Accessories

3.1 Working Group: HVF - IEEE Standard for Design Tests and Specifications for High-Voltage (> 1000 V) Fuses and Accessories(PE/SWG/HVF-WG_C37.41)

3.1.1 Contact Information for Working Group Chair:

Name: Sterlin Cochran
Email Address: scochran@oakandshieldllc.com

3.1.2 Contact Information for Working Group Vice Chair:
None

3.2 Society and Committee: IEEE Power and Energy Society/Switchgear(PE/SWG)

3.2.1 Contact Information for Standards Committee Chair:

Name: Keith Flowers
Email Address: keith.flowers@ieee.org

3.2.2 Contact Information for Standards Committee Vice Chair:

Name: Douglas J Edwards
Email Address: doug.edwards@ieee.org

3.2.3 Contact Information for Standards Representative:

Name: Michael Wactor
Email Address: mwactor@ieee.org

4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE SA for Initial Standards Committee Ballot:
Dec 2022

4.3 Projected Completion Date for Submittal to RevCom: Oct 2023

5.1 Approximate number of people expected to be actively involved in the development of this project: 16

5.2 Scope of proposed standard: This standard establishes design tests and specifications for high-voltage (above 1000 V) fuses and accessories for use on alternating current (ac) electrical distribution systems. Devices with rated maximum voltages to 170 kV are covered. The devices to which this standard applies are as follows: a) Expulsion fuses (including fuse cutouts); b) Current-limiting fuses; c) Items a) and b) used in fuse-enclosure packages; d) Fuse supports of the type intended for use with fuses and fuse disconnecting switches; e) Disconnecting devices (fuse disconnecting switches, disconnecting switches, and disconnecting cutouts) created by the use of a removable fuse unit or switch blade in a fuse support; f) Expulsion, current-limiting, and combination types of external capacitor fuses used with a capacitor unit, a group of units, or capacitor banks; g) Backup current-limiting fuses ("motor-starter fuses") used in conjunction with high-voltage motor starters; h) Fuse links when used exclusively with expulsion fuses and fuse disconnecting switches; i) Items a) through f) having integral load-break means; j) accessories including mounting brackets and switch sticks (switch hooks). This standard may also be used as a basis for testing other devices that are similar to the devices listed in the scope. In addition, the parts relating to expulsion fuses may, where applicable, be used for non-expulsion fuses in which the interruption process waits for a natural current zero to clear the circuit.

Change to scope of proposed standard: ~~This standard specifies design test tests requirements and specifications~~ This standard establishes design test tests requirements and specifications for high-voltage (above 1000 V) fuses and accessories for use on alternating current (ac).

electrical distribution systems. Devices with rated maximum voltages to 170 kV are covered. The devices to which this standard applies are as follows:

a) Expulsion fuses (including fuse cutouts); b) Current-limiting fuses; c) Items a) and b) used in fuse-enclosure packages; d) Fuse supports of the type intended for use with fuses and fuse disconnecting switches; e) Disconnecting devices (fuse disconnecting switches, disconnecting switches, and disconnecting cutouts) created by the use of a removable fuse unit or switch blade in a fuse support; f) Expulsion, current-limiting, and combination types of external capacitor fuses used with a capacitor unit, a group of units, or capacitor banks; g) Backup current-limiting fuses (^h motor-starter fuses^h) used in conjunction with high-voltage motor starters; h) Fuse links when used exclusively with expulsion fuses and fuse disconnecting switches; i) Items a) through f) having integral load-break means; j) accessories including mounting brackets and switch sticks (switch hooks). This standard may also be used as a basis for testing other devices that are similar to the devices listed in the scope. In addition, the parts relating to expulsion fuses may, where applicable, be used for non-expulsion fuses in which the interruption process waits for a natural current zero to clear the circuit. ~~The manufacturer and the user should agree on any specifications or tests performed for such devices.~~

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

5.4 Purpose: This standard contains the specifications and minimum testing requirements for fuses and related devices. Such standardization is needed to help ensure uniform minimum product testing for, and consistent development and application of, devices within the document scope. Test areas covered are based on historical experience.

Change To Purpose: This standard ~~specifies~~ contains the specifications and minimum testing requirements for fuses and related devices. Such standardization is needed to help ensure uniform minimum product testing for and consistent development and application of devices within the document scope. Test areas covered are based on historical experience.

5.5 Need for the Project: It is proposed that existing information in IEEE Std C37.41(TM):2016 "IEEE Standard Design Tests for High-Voltage (> 1000 V) Fuses and Accessories" and IEEE Std C37.41(TM)-2016/Cor 1-2017 be combined with that in IEEE Std C37.42(TM)-2016 "IEEE Standard Specifications for High-Voltage (> 1000 V) Fuses and Accessories" in a single document C37.41 to increase "user friendliness". All of the information necessary to conduct testing will be contained in the same document and C37.42-2016 will become obsolete. The revision will incorporate the latest thinking in fuse testing requirements together with coordination with IEC fuse testing requirements. Target users are those manufacturing, using, or testing the products covered by the standard.

5.6 Stakeholders for the Standard: Electrical Utilities, industrial power users, and original equipment manufacturers catering to these markets.

6.1 Intellectual Property

6.1.1 Is the Standards Committee aware of any copyright permissions needed for this project?

No

6.1.2 Is the Standards Committee aware of possible registration activity related to this project?

No

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

7.2 Is it the intent to develop this document jointly with another organization? No

8.1 Additional Explanatory Notes :