

IEEE C37.20.1 Working Group Meeting Minutes

IEEE Standard for Metal-Enclosed Low-Voltage (1000 Vac and below, 3200 Vdc and below) Power Circuit Breaker Switchgear

Meeting Date: Oct 12, 2021

Meeting Time: 1:30 pm - 3:15 pm (CDT)

Location: Microsoft Teams On-line Meeting

Attendance

Members: 17, Guests: 14, quorum met

Attendance is recorded at the end of the meeting minutes.

A. Call to Order

The meeting was called to order by WG Chair at 1:34pm (CDT) on Oct 12, 2021.

B. Introductions

Participants introduced as recorded below.

C. Approval of Agenda

R1 of agenda was shared. Motion to approve by T. Hawkins, 2nd by D. Moser. Approved by unanimous consent.

D. Approval of Meeting Minutes

Link: <https://www.evh.ieee.org/soc/pes/switchgear/minutes/Minutes.html>

Minutes (link above) from Spring 2021 posted on-line.

Motion by P. Barnhart to accept minutes; 2nd: T. Hawkins. Approved by unanimous consent.

E. Rules and Guidelines for conducting Working Group Meetings

Verbal call for Essential Patents – None Identified

F. IEEE SA Copyright Policy

Link and Slides for SA Copyright Policy shared

G. Working Group P&P's

Link for Working Group P&P's shared

H. PAR Status

Reiterated PAR approval by SA Standards Board on 03-Dec-2020 & expires 31-Dec-2024.

I. IEEE iMeet Center Workspace

Working Group workspace location and files shared (<https://ieee-sa.imeetcentral.com/c37201/home>).

All working group members should register for access.

WG Members not signed up for iMeet: D. Burns/G. Haynes/A. Leifson/B. Tatum

J. Ad hoc Reports

a. Continuous Current Testing Improvements (C37.20.1/C37.13):

M. Lafond reported ad hoc met several times on-line. Adhoc created a comparison of continuous current testing requirements across a multitude of standards (IEEE/IEC/UL/NEMA/etc.). No strong recommendations to date. Ad hoc will continue its work. The comparison was shared and will be distributed with the meeting minutes.

Action: WG Chair will continue to provide updates.

b. C37.13.1 Neutral Testing Requirements:

T. Hawkins reported and shared a recommendation to include definite-purpose switching devices to be included in the definition of metal-enclosed low-voltage power circuit breaker switchgear. A copy of the report is attached to the meeting minutes. WG accepted recommendation by unanimous consent. WG Chair disbanded Ad hoc.

Topic of establishing an alternate neutral bus test method for solidly grounded systems was discussed. A new Ad hoc formed led by T. Hawkins including R. Rakus, K. Flowers, P. Sullivan, D. Tiwari, and E. Wilkie.

Action: Ad hoc to report on recommendation by Spring 2022 meeting.

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c. Shorting Bar Placement for 6.2.5 vs. 6.2.5.1.4:

M. Lafond (on behalf of T. Burse) shared the recommendation made by the Ad hoc team. A copy of the report is attached to the meeting minutes.

Motion by P. Sullivan to accept recommendation with revision to remove “a short-circuit” descriptor from the term current; 2nd: P. Barnhart. Motion approved

K. Review Draft Document

WG Chair shared draft 2 for open discussion. A blank comment form for collection of comments was circulated before the meeting. Draft 2a and comment form have been uploaded to the Draft folder of iMeetCentral workspace. Major topics of the draft discussed during the meeting included:

- C37.20.2 WG currently investigating some revised language to modify continuous current testing and adopt a new test method to measure the difference in temperature on the incoming and outgoing conductors. WG Chair recommended to wait till this language is finalized by C37.20.2 for possible inclusion into this WG scope.
- Noted that Table 7 column titles need formatting changes – to be updated in the next draft.
- Discussion of how cables used in C37.20.1 were not required for short-circuit withstand testing but in other low voltage products such as switchboard it is required. Ad hoc was formed to investigate use of cables for short-circuit withstand testing led by T. Hawkins and including E. Wilkie, D. Moser, and R. Creach.

Action: Ad hoc to report on recommendation by Spring 2022 meeting.

WG Chair requested that the comment form provided by used to collect feedback on draft 2a. Email the Chair and Secretary the comment form.

Action: WG Chair and Secretary will coordinate to submit an online poll with the purpose of scheduling a mid-session on-line meeting for WG members.

L. Adjourn

Meeting adjourned at 3:00 pm (CDT)

Reported by:

Alex Cochran
WG Secretary
October 12, 2021

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Role	First Name	Last Name	Company
Chair	Michael	Lafond	ABB
Secretary	Alex	Lizardo	JST Power
Member	Paul	Barnhart	Underwriters Laboratories
Member	Dave	Burns	Shell Projects & Technology
Member	Clint	Carne	Schneider Electric
Member	Doug	Edwards	Siemens Industry, Inc.
Member	Keith	Flowers	Siemens Industry, Inc.
Member	Sahadev	Gohil	AZZ Switchgear Systems
Member	Lou	Grahor	Eaton Corporation
Member	Tom	Hawkins	Siemens Industry, Inc.
Member	Gary	Haynes	ABB Inc.
Member	Darryl	Moser	ABB
Member	Owen	Parks	ABB
Member	Paul	Rakus	Eaton
Member	Richard	Rohr	Powell Electrical Systems
Member	Paul	Sullivan	DuPont
Member	William	Wilkie	Eaton
Guest	Robert	Burns	Eaton
Guest	Randall	Creach	AZZ Switchgear Systems
Guest	Arkadiusz	Doroz	Eaton
Guest	Louis	Doucet	STACE
Guest	Michael	Flack	Southern Company Services, Inc.
Guest	Ronald	Hartzel	Eaton Corporation
Guest	Daniel	Hook	Western Electrical Services
Guest	Fang	Huang	AEP
Guest	Thomas	Keels	kEElectric Engineering
Guest	John	Kelly	Beureau Of Reclamation
Guest	Dean	Sigmon	Eaton Corporation
Guest	Donald	Swing	Powell Industries
Guest	Dhirendra	Tiwari	ABB
Guest	Danish	Zia	UL LLC

Definite-purpose Testing (Neutral Testing Requirements) Ad-hoc

- 430 **metal-enclosed low-voltage power circuit breaker (LV) switchgear:** Metal-enclosed low-voltage
431 switchgear of multiple or individual enclosures, including the following equipment as required:
- 432 a) Low-voltage power circuit breakers (fused or unfused) in accordance with IEEE Std C37.13 or
433 IEEE Std C37.14
 - 434 b) Bare bus and connections
 - 435 c) Instrument and control power transformers

Commented [MLS]:

Tom Hawkins to craft language related to inclusion of 13.1 definitive purpose devices. Ensure relationship with LV AC PCB

For this, I think it's as simple as **inserting an item** in the list:

- a) Low-voltage power circuit breakers (fused or unfused) in accordance with IEEE Std C37.13 or IEEE Std C37.14
- b) Low-voltage definite-purpose switching devices in accordance with IEEE Std C37.13.1**
- c) Bare bus and connections
- d) Instrument and control power transformers
- e) Instruments, meters, and relays
- f) Control wiring and accessory devices

And adding to the normative references:

IEEE Std C37.13.1™, IEEE Standard for Definite-Purpose Switching Devices for Use in Metal-Enclosed Low-Voltage (600 V AC and Below) Power Circuit Breaker Switchgear

Shorting Bar Placement Adhoc

6.2.5.1.4 Test connections

For LV ac switchgear, the main bus terminals shall be connected to the test circuit power source, and the ~~outgoing terminals shall be connected together at the farthest point from the circuit breaker compartment terminals.~~ The tests shall be made with a short at the following locations:

a) At the opposite end of the main bus from the terminals to cause ~~a short-time~~* current to pass through the main bus and splice.

b) At a location on the section bus (riser) so that ~~a short-time~~* current passes through the greatest possible length of the section bus (riser).

c) At a location on the outgoing cable terminal points so that ~~a short-circuit~~* current passes through the greatest possible length of the section bus (riser) which includes a feeder circuit breaker compartment. See paragraph 6.2.5 for the circuit breaker compartment arrangement.

*WG approved a revision of recommendation to remove the descriptor term for current