C37.23 Metal-Enclosed Bus Working Group
Meeting Minutes (by Mark Roberson, Secretary)
10/14/24 (Monday), 10:15 AM CST
Omni Resort, Oklahoma City, OK

1. Call to Order

The meeting was called to order by Jared Hines, Chair at 10:15 AM (CST)

2. Introductions and Attendance

Jared Hines introduced himself as the Chair and Mark Roberson as the Secretary for this Working Group (WG) and welcomed all members and guests. There were **28** total attendees (see end of this document for list) that were present. Each attendee confirmed their participation via verbal response as well as entering their name and affiliation on the attendance sheet:

- 28 total people attended.
- 8 of 14 (57.1%) WG members participated, thus quorum was met.
- 20 guests participated.

3. Previous Meeting (Spring 2024) Minutes

Jared presented the meeting minutes from the previous meeting held on April 1, 2024. Jeff Ricker moved to approve those minutes by consent with Eddie Wilkie seconding.

4. Meeting Agenda

Jared presented/reviewed the meeting agenda. Ted Burse moved to approve it by consent with Adrian Lopez seconding.

5. IEEE Participant Behavior/Rules and Guidelines for Working Meetings/Working Group Policies and Procedures/Copyright Policy/Patent Policy

Jared presented/reviewed the IEEE Participant Behavior – Individual Method guidelines, which can be found here: Participant-Behavior-Individual-Method.pdf (ieee.org)

In addition, slides were reviewed that cover the IEEE-SA patent policies, which can be found here: Patent Slides for Standards Development Meetings (ieee.org).

Jared asked if there were any patent claims. ***No issues were voiced by the meeting attendees.***

In addition, slides were reviewed that cover the IEEE-SA copyright policies, which can be found here: https://standards.ieee.org/wp-content/uploads/2022/02/ieee-sa-copyright-policy.pdf

Jared then presented/reviewed the IEEE (SA) approved Working Group Policies and Procedures protocol, which can be found here: PE-SWG P&P Sept 2023.pdf | Powered by Box

6. Document Status Report

Jared mentioned that the new C37.23 PAR, which was formally approved by NESCOM on September 23, 2020, originally expired on December 31, 2024. However, since it would be difficult to fully complete the updated standard by that deadline, a request for a PAR extension was approved by IEEE that extends the expiration date to December 31, 2026.

7. Old Business

Jared reiterated that the PAR was extended to 2026 and the balloting needs to begin in 2025.

8. New Business

Mark Roberson noted that he sent with this meeting's notice the following documents:

- Latest C37.23 draft standard (D5)
- Updated C37.23 "Comment Resolution file" file to be returned via email with any comments.

The following new/updated comments (listed by tracking number in the file) were reviewed by the WG:

- **#24 – Section 6.2.5 – should the section end by including a Hi-Pot test Before the final visual inspection (so that nothing is disturbed prior to the Hi-pot)?**
    - WG discussion was to "reject" to maintain alignment with C37.20.2 & 20.3.
- **#30 – Table 1,2 and 3 show different values compared to IEC/IEEE 62271-37-013 Table 1 (can cause confusion). Use IEC/IEEE 62271-37-013 Table 1 instead of Tables 1,2 and 3.**
    - WG discussion was for the person that submitted this comment to send further explanation as this is a major change that needs to be better understood before making a decision on implementation. After receipt of this explanation, this comment will be reviewed at the next WG meeting.
- **#37 – Section 5.4.2 seems to be very similar to 5.4.3 as they both describe the same short circuit withstand tests. Since 5.4.3 describes the peak withstand tests and 5.4.4 describes the short-time withstand tests, should 5.4.2. be more of an section introducing them both instead of just withstand?**
    - After WG review, it was decided that line 604 could be deleted to avoid this confusion. This comment will be added to the comment resolution form and will be reviewed at the next WG meeting.
- **#38 – Isolated Phase Bus (IPB) grounding is differently considered in IEEE Std 665-1995, sub-clause 5.3.4 ("…due to the isolation of the phases, a phase-to-phase fault cannot occur in this arrangement without involving the ground. However, if two simultaneous phase-to-ground faults were to occur in the bus and/or the connected equipment, very large phase-to-phase fault currents could result and flow through the grounding conductors and the ground grid."**
    - WG discussion was to potentially delete on Line 2118 the sentence that starts with "The grounding conductor…". This comment will be added to the comment resolution form and will be reviewed at the next WG meeting.
    - For **Section 6.2.3.5** heading, WG also discussed the possibility of removing the words "(if applicable") since grounding should always be applicable to ME bus. However, there was debate that it would not be applicable to DC bus. Overall, the WG decided not to make this change.
- **#31 – Due to the international relevance of C37.23 and the absence of a corresponding 50 Hz standard, it is recommended to keep both 50Hz and 60Hz ratings in the updated standard.**
    - This comment was previously reviewed by the WG during the Spring 2024 meeting. WG discussion noted during this meeting that since C37.20.9 includes both 50 Hz and 60 Hz frequencies, this comment should be accepted.
- **#33 – Line 411, A cable termination kit is defined for cables rated 2.5 kV and above. Is there any coordination with IEEE Std 48 needed now that we are adding 2.4 kV rating?**
    - WG discussion was that after review, there was no need to change or add coordination.
- **NEW - Since C37.20.9 added a preferred 200 kV BIL rating on GIS equipment (usually outdoor), should a preferred Table 1 option rating be added for 38 kV at 150 and/or 200 kV BIL?**
    - WG reviewed and decided that this comment would be added to the comment resolution form and reviewed via the AdHoc and/or at the next WG meeting,

Ad Hoc Committee: Comment Resolution Ad Hoc

Since there are more comments needing resolution, it was decided to form an Ad Hoc group to meet virtually before the Spring 2025 WG meeting. Jared and/or Mark will send out meeting invitations.

Balloting Proposal

A motion was presented by Jared, which stated that “upon completion of the WG draft, the balloting process would commence”. Ted Burse moved to approve this motion by consent with Eddie Wilkie seconding.

9. Next Meeting

The next WG meeting is currently scheduled to be held during the next PES Switchgear Committee meetings from April 6 – 11, 2025. Further details of this planned meeting can be found here: PES Switchgear Meetings (ieee.org)

10. Adjournment

The meeting ended at 12:00 PM EST.

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Attendee List

Attendees:	Name		Affiliation (if known)	Role
	First	Last		
1	Jared	Hines	(Chair) Eaton	Member
2	Mark	Roberson	(Vice Chair/Secretary) Avail Bus Systems	Member
3	Francis	Beauchemin	Hydro-Quebec	Member
4	Ted	Burse	Powell Industries	Member
5	Randy	Creach	Avail Switchgear Systems	Member
6	Jeffrey	Door	The H-J Family of Companies	Member
7	Adrian	Lopez	Powell Industries	Member
8	Eddie	Wilkie	Eaton	Member
9	Jim	Bredberg	Powell Electrical Systems	Guest
10	Fiori	Coziuc	S & C Electric	Guest
11	Doug	Edwards	Siemens Industry	Guest
12	Keith	Flowers	Siemens Industry	Guest
13	Gary	Haynes	ABB	Guest
14	Branko	Knezevic	Hitachi Energy	Guest
15	Dakota	Leopard	Eaton	Guest
16	Michael	Marynchak	HICO America	Guest
17	Kevin	McGlown	JST Power	Guest
18	Anthony	Natale	HICO America	Guest
19	Mike	Page	Eaton	Guest
20	Mark	Pattison	The H-J Family of Companies	Guest
21	Al	Pruitt	The Durham Co	Guest
22	Jeff	Ricker	Schneider Electric	Guest
23	Art	Runov	S & C Canada	Guest
24	Kathryn	Sakarapanee	Schneider Electric	Guest
25	Jason	Sell	Switchgear Power Systems	Guest
26	Garett	Sims	Eaton	Guest
27	Bryan	Tatum	UL Solutions	Guest
28	Bryan	Tuthill	Volta LLC	Guest