Chair: Paul Found **Secretary**: Karla Trost

Meeting Minutes

1. Call to Order Paul

The meeting was called to order at 1:00 PM EDT.

2. Call for Patents/Copyrights Paul

IEEE Patent and Copyright slides were shown. No issues were raised to the chair.

3. Introduction of Members and Guests

Self-introductions with affiliations were made.

4. Attendance and Quorum Check Karla

12 of 16 members and 21 guests were in attendance for the first session.
12 of 16 members and 22 guests were in attendance for the second session.
Quorum requires 8 members, quorum was achieved.
One previous member requested re-instatement, this was granted.

5. Approval of Agenda Paul

B. Kirkpatrick motioned and F. Soulard seconded to approve Revision 3 of the agenda.
The agenda was approved by consensus.

6. Approval of Previous Meeting Minutes

Meeting minutes were emailed out directly after each meeting. No comments/ revisions have been received. If no comments or revisions are raised prior to or during the meeting, the minutes will be marked as approved.

October 25, 2022
November 10, 2022
November 16, 2022

No comments were received and the minutes were approved as published.

7. Actions

Update on ad-hoc group steps taken.
Update on WG voting to re-circulate

11 Members submitted a vote. There was unanimous approval to proceed with the 2nd Re-circulation ballot.

Recirculation Ballot #2 opened on March 20 and closed March 30, 2023.

8. New Items:

a) Review ballot 3 (re-circulation 2) approval and comment status.

(I) General:

(a) 90% Return rate with an 87% approval rating. It resulted in 33 comments (13 editorial, 7 general, and 13 technical.)

(b) The chair and secretary performed an initial review. They propose to:

1. Accept 7 comments, Resolve 10 as Revised. There are 16 marked for working group review. A copy of the comments with the proposal were provided to the working group members before the meeting.

(II) R2-11 (Subclause 2, Line 80): The commenter has requested the WG review that a dated reference is needed.

(a) The previous draft had an older year reference (which has been replaced) and the figure which was in the older reference is not in the current draft (2019). Therefore, the figure # was removed and the year was removed in D3.4.

(b) One member shared a preference for dated references.

(c) It was pointed out that this is the only undated reference.

(d) Based on feedback, the date will be added.

(III) R2-21 (Subclause 3, Line 121): The commenter suggested that the term IED be used instead of MBC.

(a) The chair identified that this comment was on a portion of the draft that had not been changed since the prior ballot which means it was out of scope.

(b) The secretary shared that in reviewing previous minutes it had been the desire of the working group to define the control as more than the microprocessor device and as the entire assembly.

(c) This comment will be rejected.

(IV) R2-3 (Subclause 6.2.4, Line 236): The commenter suggested the addition of "or discharged".

(a) The WG did not have any additional comments. **This comment will be accepted.**

(V) R2-22 and R2-14 (Subclause 6.3.2, Line 339): One commenter suggested deletion of 343-345 due to overlap with 6.2.4. The other commenter suggested some new language to provide clarity.

(a) There was some discussion on the "environmental conditions" and what was meant.

(b) There was discussion on what be left out by restricting by LCD/LED or "display".

(c) Suggestion to use "for view on the front panel interface shall be visible". General agreement.

(d) A secondary suggestion was to combine the two sentences so that the "front panel's interface shall be visible in all lighting levels and all environmental conditions described in this standard".

(i) It was pointed out that this proposal would require all displays to work at all temperatures.
(ii) A user (in a cold temperature zone) mentioned that it is acceptable for their operators to not use the LCD in cold temperatures.
(iii) The sentences will not be combined.

(e) There was general agreement that the revision of the 2nd paragraph (R2-22) is better than the deletion of R2-14.
(i) A concern was raised that the addition to the last sentence (even in sleep mode) was in conflict to many devices in the market.
1. Question to the users – is the statement true? Are there status indications that should always be displayed in sleep mode?
a. One user felt it was intuitive to the operator to wake up the control.
b. Another said that is part of the training to wake up the control.
2. It was pointed out that some types of display will be burned out from excessive hours of illumination.
(ii) The phrase "shall wake up upon any access from a sleep mode" lacks clarity.
1. After discussion, it was decided to keep the commenters 1st sentence (When accessing … contact in the enclosure) and then use the previous draft "When the control design includes…. MBC front panel."
(iii) Comment R2-14 will be rejected and R2-22 will be resolved as revise.

(f) It was noted that the original language incorporated the lamp test and wake-up feature in relation to sleep mode but lamp test is not dependent on sleep mode.
(i) A proposal was made to read **"A lamp test feature shall be provided."**
(ii) The WG was in agreement.

(VI) R2-5 (Subclause 6.4, Line 363): The commenter noted that not all uses of control should have been changed to MBC. **Agreed that this was in error. The chair will review to ensure no other instances of this occurred.**

(VII) R2-15 (Subclause 7.3.1, Line 458): The commenter noted that the change to Table 7 lacks clarity. The proposal is to accept the change on the table to reference "via capacitive coupling clamp". **The WG agreed.**

(VIII) Subclause 7.3.8 – SSAO
(a) R2-7 (Line 539) – The commenter suggested removal of the tolerance.
(i) It was noted that this is for the test, therefore it would be appropriate to include a tolerance. The tolerance allows for some flexibility at the test lab.
(ii) For pad-mounted, vault, and submersible units, the language does not require the manufacturer to make/ supply a cable longer than their maximum allowable.
(iii) It was suggested that **the sentence be modified to call out the manufacturer's maximum of 6m, whichever is less.** The WG agreed.

(b) R2-20 (Line 552) – The commenter recommended a change to the introductory language in the sentence.
(i) It is during the test (b) that the voltage sensor is energized. Removing reference to (b) indicates the voltage sensor test is part of (a). Therefore,

there was a proposal to reject the suggested change. **The WG agreed to reject this comment.**

(c) R2-24 (Line 570) – The commenter suggested a language change to improve clarity.
   (i) It was noted that the figures show the surge being applied to the high voltage terminal. Therefore, if the change is needed for b), should it also be applied to a)?
   (ii) The WG did not feel that the requested language added clarity. **This comment will be rejected.**

Session 1 was paused for a break at 3:43PM EDT.
Session 2 was called to order at 4:15PM EDT.

(d) R2-26 (Line 580) – The commenter suggested adding a requirement to notate the trip point in the test report.
   (i) The WG generally agreed with the addition.
   (ii) It was pointed out that we may need to include language for settings for non-fault interrupting controls. **An Ad hoc group will be formed to review the SSAO clause for additions which may be needed. K. Trost, C. Hastreiter, K. Bush.**

(e) R2-10 (Line 599) and R2-25 (Line 600)
   (i) It was suggested that an Ad hoc review the figures, comments, and test lab inputs. F. DeCesaro, I. Rokser, M. Feltis. (Questions on where the return ground should be placed. This is an open topic for the new version of C37.60.)

(f) R2-1 General comments, some covered via other comments.
   (i) Figure 1 should call out the earth lead as 1.5m not 1,5m.
   (ii) **The figures will need to be fully redrawn. F. DeCesaro volunteered to provide the figures.**
   (iii) A user asked if the CT should be incorporated in the Figures because the CT can be external to the device.
      1. Discussion was held, will refer to the ad hoc. It was noted that the CT is not directly connected to the high voltage line.
   (iv) Are these single phase tests or three phase tests, does it need to be tested 6 times or is it per type of input? Noted that this is not defined. This will be reviewed by the Figure ad hoc.
   (v) Discussion on 546 and 552 and if this should be “Nominal” and a tolerance or leave it with Normal.
      1. It was noted that Nominal is dependent on the user’s system voltage not the design capability of the control.

(IX) R2-16 (Line 613) – The commenter noted that a document, which is a guide, does not have test protocols nor acceptance criteria yet is listed as “applicable.”

(a) In a review, the reference to C62.41.2 is actually the same type of waveform as what is called out within the "surge immunity test" subclause. It was noted that a 2020 draft C62.41.2 was shown as a normative requirement under surges.

(b) There is a recommendation to remove the reference to C62.41.2 and remove the reference to SPD. **The WG agreed to remove this paragraph and accompanying references.**

(X) R2-31 (Line 742) – Table 3 notes Routine Test Requirements and that site-ready testing is required. Line 742 indicates it is optional.

(a) Should we modify the table to indicate "as required" or leave it as is.

(b) It could be that the X is taken as "required" as in other standards. Maybe we should change the table to make it clear that it is "applicable".

(c) Suggestion to add a legend to each table: "X" means Subclause applies.

(i) WG agreed to this change.

(XI) The Chair proposed that the WG approve the 7 accept (editorial) comments, and 10 (editorial and technical) revised resolutions provided prior to the meeting.

(a) Exception: R2-29 The commenter is recommending a change which may result in a change from *should* to *shall.* A WG member proposed that the legend change would resolve the comment. The WG was in agreement.

(i) This can be the resolution to R2-28 and R2-30.

(b) It was noted that when the draft is updated, it will be available to the WG prior to proceeding to the next ballot.

b) The plan is to incorporate these resolutions and the ad hoc work into a new draft. It will be published electronically with a request for consensus from the working group.

9. Adjournment – The meeting was adjourned at 5:45PM.

Annex 1: Attendance

Role	First Name	Last Name	Company	4/18/23
Chair	Paul	Found	BC Hydro	X
Member	Peter	Agliata	Hubbell Power Systems	
Member	Edwin	Almeida	Southern California Edison	X
Member	Katherine	Cummings	G&W Electric	Excused
Member	Frank	DeCesaro	DeCesaro Consulting Services	X
Member	Mark	Feltis	Schweitzer Engineering Laboratories, Inc	X
Member	Christopher	Hastreiter	Eaton	X
Member	Travis	Johnson	Xcel Energy	X
Member	Brendan	Kirkpatrick	Southern California Edison	X
Member	Benson	Lo	Toronto Hydro	
Member	Jeff	Mizener	Siemens Industry, Inc.	X
Member	Caryn	Riley	Georgia Tech/NEETRAC	Session 2
Member	Ian	Rokser	Eaton Corp	X
Member	Francois	Soulard	Hydro-Quebec	X
Member	Nenad	Uzelac	G&W Electric	Session 1
Secretary	Karla	Trost	G&W Electric	X
Guest	Ganesh	Balasubrahanian	Eaton	X
Guest	Jacob	Blake	Hubbell	X
Guest	Chris	Borck	Eaton	X
Guest	Kelsey	Bush	ABB	X
Guest	Sudarshan	Byreddy	Burns & McDonnell	X
Guest	Stacey	Davies	Siemens	X
Guest	Anil	Dhawan	Allegis	X
Guest	Maxwell	Eastman	Black & Vetch	X
Guest	Joseph	Fitzgerald	Eaton	X
Guest	Kaylor	Garcia	Utility Solutions Inc	X
Guest	Brian	Gerzeny	Powell Industries	X
Guest	Jeff	Gieger	ABB/Elastimold	X
Guest	Douglas	Hill	S & C Electric	X

Guest	Harold	Hirz	G&W	X
Guest	Jackie	Kandel	Powell Industries	X
Guest	John	Kapitula	ABB	X
Guest	Bob	Lau	nVent Hoffman	X
Guest	Colby	Lovins	Federal Pacific	X
Guest	Ken	McKenney	UL Solutions	X
Guest	Raj	Nayar	Siemens	X
Guest	Roberto	Olivares	Siemens	X
Guest	Stephen	Pell	Siemens	X
Guest	Jennifer	Santulli	IEEE SA	X
Guest	Rob	Scheutz	Eaton	X
Guest	Oleksandr	Sergeyenko	Tavrida Electric NA	X
Guest	Christopher	Slattery	First Energy	X
Guest	Joe	Stemmerich	Trayer Engineering Corp	X
Guest	Eric	Vazquez	PG&E	X