

Chair: Paul Found

Secretary: Karla Trost

Minutes taken by: Ian Rokser

Meeting Minutes

1. Call to Order

Karla

The meeting was called to order at 2PM.

2. Call for Patents/Copyrights

Karla

IEEE Patent and Copyright slides were shown.

3. Introduction of Members and Guests

Self-introductions with affiliations were made.

4. Attendance and Quorum Check

Karla

22 members. Quorum requires 11.

The first session had 13 members in attendance, the second session had 12 members. Quorum was achieved.

There were 17 guests.

5. Approval of Agenda

Karla

F. DeCesaro made a motion to accept the agenda, M. Feltis seconded. There was no opposition and the motion passed.

6. Approval of Previous Minutes

Karla

<https://www.ewh.ieee.org/soc/pes/switchgear/minutes/2021-2/F21RODEa4REV0.pdf>

C. Hastreiter made a motion to accept the minutes, C. Ambrose seconded. There was no opposition and the motion passed.

7. Review Action Items

Karla

- **M. Feltis** to review the IEC vs IEEE standards and provide a proposal for document language. P. Paradis (H-Q) is willing to assist in the review. **Completed**
- **C. Hastreiter, K. Trost, and P. Found** to review Clause 7 (Design Tests) for items (including this one) which should be moved to Clause 6 (Design Requirements). **Completed**

- Decision – keep the current wording for the Production Testing and develop language for a Design Test. **P. Found to discuss with commenter and K. Trost. Completed**
- Line 544 – **K. Trost to change language to “external cables and/or connectors” Completed**

8. New Items

- Share the results of First Ballot (Draft 3.1 February 2022)
 - Received >75% approval
 - Received 511 comments
 - 248 editorial
 - 71 general
 - 192 tech. Several of these were editorial in nature.
 - Good distribution among ballot group
 - Chair and secretary reviewed the comments
 - J. Mizener moved to "allow the 98 comments as indicated to be resolved by the chair and secretary" - Seconded by F. DeCesaro. There was no opposition and the motion passed.
- Comment Resolution from First Ballot
 - i-319, i-320, i-321: Changes to scope would require a PAR revision.
 - i-319: WG agrees to reject comment - the PAR is approved with the scope as written
 - i-320, i-321: WG agrees to remove the word "basic" from the scope. Rejecting rest of this comment - WG considers these elements to fall within "design, requirements, testing"
 - i-331: WG agreed to revise title, lines 1 and 315 - "Standard for Design, Test, . . ."
 - i-332: WG agrees to reject the comment. WG considers requirements for shipping and storage to fall under "application"
 - i-351: Suggestion - "The standard provides requirements that are intended to mitigate the effects . . ." - WG accepted
 - i-327: Change "This standard does not invalidate any tests performed" to "This standard complements and is in addition to tests required" . Change "IEEE C37.90" to "the IEEE C37.90 series of standards"
 - WG's intent is that our requirements don't replace/take away the need to test per the C37.90 series
 - i-159: Proposal to revise this sentence to "Lastly, this standard does not cover the design of the control enclosure." And add reference to IEEE C37.75 in section 6.2.
 - Another option: Delete the sentence
 - Another option: Add C37.75 directly into the last sentence of the scope
 - Can we reference C37.75 if it is released after C37.68?
 - **Ad hoc to resolve comments I-159, I-328, I-346: P. Agliata, C. Ambrose.**
 - Consideration for ad hoc: May 6 deadline for June review, then no more meetings until summer. If we need a PAR modification, try for the May 6 deadline.
 - Target by May WG virtual meetings
 - Discussed that WG can afford to wait until Sept/Oct
 - i-328: Ad hoc to cover i-159 and i-328 and i-346
 - i-442: Proposal to hold until ad hoc completes work. WG agrees

Subclause 1.2 Purpose

- i-329: WG accepts the comment
- i-443: WG rejects the comment, we see the existing wording as clear
- i-444: WG rejects the comment, we see the existing wording as clear
- i-445: WG revises the comment, remove "pole" from line 344.
- i-446: WG revises the comment: "applications are often subjected to high winds, . . ."
- i-447: WG rejects the comment, we see the existing wording as clear
- i-200: WG rejects the comment, we see the existing wording as clear
- i-330: WG revises the comment to read "This standard offers design, testing and application measures that are appropriate for the conditions present where these microprocessor-based control are installed."

Clause 3 Definitions

- i-261: WG rejects the comment - there is no proposed change to consider
- i-6: T. Burse confirmed that lines 423-424, though part of the template, may be changed by the WG
- Comment from T. Burse re: definition of relay: This is not a definition; it is a special term. Better to pull the actual definition in; this way it does get uploaded to IEEE Online Dictionary

The meeting paused for the break. Session 2 of 2 - Tuesday, 4/12/22, resumed at 4:15 pm

- i-6 continued:
 - Comment that there is precedent for this comment, see IEEE C37.17.
 - **Ad hoc to address this comment: Frank DeCesaro, Jeff Mizener, Karla Trost**
 - **Ad hoc should also reference IEEE C37.100.5 "IEEE Standard for Definitions of High-Voltage Circuit Breakers Above 1000 Vac and 3200 Vdc, and Reclosers and Other Distribution Equipment from 1000 Vac to 38 000 Vac"**
- i-263: WG revises the comment, agreed to remove "or Battery Management System" from the definition
- i-264: see i-263
- i-7: see i-263
- i-448: WG accepts the comment
- i-265: IEEE C37.100 has 8 different definitions of "Control." It is not a commonly understood definition
 - WG consensus is that our existing definition is clear and conveys our intent.
 - Also, utilities call it a "control" so this is the right term to define.
 - WG rejects this comment for these reasons
- i-57: WG revises this comment: changing "enclosure environmental management systems," see i-265
- i-8:
 - Lots of discussion. Yes, this group previously decided and continues to understand that by specifying microprocessor-based controls, we are covering less than the whole scope of controls. The proposed clarification would be helpful. WG accepts the comment pending discussion of following comments.

- WG revises the comment: "A device which interfaces with the distribution voltage switchgear, operating devices, sensors, and local or remote users for manually or automatically initiating"
- i-82: Unnumbered comment on line 428, row 76: WG revises this comment: "A device which interfaces between the medium voltage distribution switchgear" . . . "A control includes a microprocessor-based relay, mounted inside an enclosure which may be separate from or integral to the switchgear and providing environmental protection, and internal consolidation of wiring. It may contain one or more connectors, any" . . . "and communication components to operate the connected switchgear."
- i-449: WG accepts the comment
- i-201: WG revised, see i-266
- i-266: WG accepts the comment. We will remove the definition and address the two places where the term is used:
 - 6.5.3: WG revised - "a control powered by current"
 - 7.4.3: WG revised - "Current Powered MBCs"
- i-58: WG revised, see i-266
- Unnumbered comment, row 81: WG rejected
- i-161: WG accepts the comment
- i-267: WG rejects the comment, see i-161
- i-268: Definition for "External Connector." WG rejects this comment as we do believe this definition is necessary.
- i-398: WG revises, see Unnumbered, row 86
- Unnumbered, row 86: WG accepts
- i-269: Discussion - do we need this definition? State of charge should be dissociated from "healthy." Other battery technologies may be healthy at lower charge.
 - WG agreed to revise document to remove reference to healthy batteries and remove the definition. WG agreed to add information to 7.4.4: "a battery charged within the manufacturer's specifications."
- i-9: WG revised, see i-269

9. Next meeting(s): We will use the three additional times - May 11, 17, 19

10. Adjournment

F. DeCesaro made a motion to adjourn, seconded by T. Johnson. With no opposition, the meeting was adjourned at 5:48 P.M.

Annex 1: Attendance

| Role | First Name | Last Name | Company | 4/12/2022 |
|-----------|-------------|-------------|--|-----------|
| Chair | Paul | Found | BC Hydro | Excused |
| Member | Peter | Agliata | Hubbell Power Systems | X |
| Member | Edwin | Almeida | Southern California Edison | Excused |
| Member | Chris | Ambrose | Federal Pacific (Div. of Electro-Mechanical Corp.) | X |
| Member | Katherine | Cummings | G&W Electric | X |
| Member | Frank | DeCesaro | DeCesaro Consulting Services | X |
| Member | Anil | Dhawan | ComEd | Excused |
| 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 | Excused |
| Member | Benson | Lo | Toronto Hydro | Excused |
| Member | Donald | Martin | G&W Electric Co. | X |
| Member | Peter | Meyer | S&C Electric Company | X |
| Member | Jacob | Midkiff | Dominion Energy | |
| Member | Jeff | Mizener | Siemens Industry, Inc. | X |
| Member | Stephen | Pell | Siemens | |
| Member | Caryn | Riley | Georgia Tech/NEETRAC | X |
| Member | Ian | Rokser | Eaton Corp | X |
| Member | Francois | Soulard | Hydro-Quebec | Excused |
| Member | Nenad | Uzelac | G&W Electric | X |
| Secretary | Karla | Trost | G&W Electric | X |
| Guest | Juliene | Britt | Hubbell Power Systems | X |
| Guest | Ngoc | Bui | SDGE | X |
| Guest | Ted | Burse | Powell Industries | X |
| Guest | Mohit | Chhabra | S&C Electric Company | X |
| Guest | Brennen | Fleming | Hubbell | X |
| Guest | Jeff | Gieger | ABB/Elastimold | X |
| Guest | Brian | Gurziny | Powell Industries | X |
| Guest | Harold | Hirz | G&W | X |
| Guest | Jackie | Kandel | Powell Industries | X |
| Guest | John | Kapitula | ABB | X |
| Guest | Oswaldo | Kaschny | Siemens | X |
| Guest | Colby | Lovins | Federal Pacific | X |
| Guest | Roberto | Olivares | Siemens | X |
| Guest | Jennifer | Santulli | IEEE SA | X |
| Guest | Todd | Sauve | Rockwell Automation | X |
| Guest | Joe | Stemmerich | Trayer Engineering Corp | X |
| Guest | Francois | Trichon | Schneider Electric | X |