

**Chair:** Paul Found

**Secretary:** Karla Trost

## Meeting Minutes

- 1. Call to Order** Paul Found  
The meeting was called to order at 1:30PM CDT.
- 2. WebEx information and 6.3.2 Call for Patents and Copyright** Paul Found  
IEEE Patent and Copyright information was provided, and slides were shown during the meeting.
- 3. Introduction of Members and Guests**  
Self-introductions with affiliations were made via chat.
- 4. Attendance and Quorum Check** Karla Trost  
Of 21 members, 18 members (and 14 guests) were present for the first session and 18 members (13 guests) for the second session; Quorum was achieved.
- 5. Approval of Agenda** Paul Found  
C. Riley made a motion to approve.  
F. Soulard seconded.  
The agenda was approved as presented.
- 6. Approval of Previous Minutes** Paul Found  
A revision was made to add clarity to the removal of MIL-810G from the standard document.  
  
C. Ambrose made a motion to approve the minutes as amended.  
M. Feltis seconded.  
The minutes were approved as amended. Revised minutes will be submitted for posting.
- 7. Review Action Items** Paul Found  
The draft was revised based on the last working group meeting and previous working group comments.  
  
The draft (D2.2) was sent out to the working group for review and comment.

8 Members submitted 193 Comments. (116 were accepted by the Chair/Secretary, 4 have been rejected and the Chair will review with the commenters, 73 comments need to be reviewed by the working group.)

- Line 375: Request to add definitions to clarify Table 1/2/3 –
  - In general, there is agreement to add definitions. Recommendation is to put the proposed definitions in for the ballot.
- Line 401: Definition of Submersible Switchgear – request to revise for clarity –
  - It was mentioned that we should use the same definitions for Submersible, Prolonged, and Temporary as C37.75. **K. Trost** has an action item for 37.75 to revise and is willing to provide that information to 37.68.
  - It was recommended that RODE create a single TF to create these definitions.
- Line 407: Recommendation to delete “interrupting current” from the Switching Surge definition.
  - Discussion took place on when switching surges occur.
  - Review of the definitions in the online dictionary. The one from IEEE 3003.1-2019 would be the preferred definition. (**A. Moran** to respond to the WG with the correct method to reference to the preferred definition.)

From A. Moran via email: If it is a specific definition typically it is aligned with a specific standard that defines it, so that is how they should choose which one to reference. For instance BIL is defined in IEEE Std 48, IEEE C57.12.80, IEEE Std 1594, etc. So lets say they only one to use definition that is in IEEE Std C57.12.80 then they should specifically reference the terms something like this.

Basic lighting impulse insulation level (BIL) is defined in IEEE Std C57.12.80 (if the technology they are referring to in there standard is specific to the definition in that particular standard.

If they want the user to see multiple definitions then they could either refer then to the multiple standards by identifying that it is defined in the standards. Or lets say in their opinion all definitions are applicable I'd suggest they just refer the refer the reader the IEEE Standards Dictionary Online.

- Line 415: Recommendation to delete the 2<sup>nd</sup> sentence in the Wet Vault definition –
  - One member commented that Wet Vaults were treated separately (in terms of restriction) than Dry Vaults and the phrase should remain. (It was noted by another attender that some Dry Vaults are confined spaces as well.)
  - Agreement was reached to accept the comment and delete the 2<sup>nd</sup> sentence.
- Line 426: In Table 1, commenter recommends that 6.4 should be N for Polemount Integrated.
  - Discussion on if there are existing products that are considered “integrated” but that have permanent cables.
  - Decision to accept the comment and change to N and to modify title of 6.4 to “Requirements for **Communication** and Control Cables”

- Line 429: In Table 2, commenter recommends changing 7.4 to Y for Polemount Integrated.
  - None of the examples shown have rechargeable batteries, one does have a replaceable battery.
    - It was noted that although today's products do not have batteries, future units could.
  - Discussion that the item noted above would mean that 7.4.4 is not applicable, but 7.4.1-7.4.3 could be applicable.
    - We could use a footnote on the "Y" to state that some subclauses may not be applicable depending on the design.
  - The working group accepted the comment.
- Line 430: Should Motor testing be required for integrated polemount design?
  - Are there examples of integrated polemount designs with motors? The working group was not familiar with any designs that are in existence.
  - The table will not be changed.
- Line 445: Request to change the identification/labeling requirement to "should".
  - A second commenter recommended identification only. And another commenter recommended deleting lines 445-453.
  - Discussion on the feasibility of labeling of Pins and Sockets as well as the applications where there is only one connector.
  - It was mentioned that there are applications where a single connector is used multiple times. In these applications, the connectors need to be labeled.
  - The working group chose to simplify this requirement to be the labeling of the connector (only – no pin/socket identification) when the application requires the repeat use of a specific connector design. (One attendee recommended the terminology of "uniquely identified.")
- Line 461: Commenter recommending that the labeling be removed (463-469 but keep line 464 and 466/467)
  - Some discussion on how onerous this requirement would be given the fact that these controls are within "a secured environment and only trained personnel" would be accessing the interior of the control.
  - It was noted that if the person accessing the control does not know if the voltages inside of the cabinet are >50V, OSHA requires the use of gloves rated for 50V.
    - It was recommended to use "Shall" instead of "Should" for this requirement with an informative note for why the requirement is listed.
  - The working group decided to change the "shall" to a "should" which would apply to the labeling and to the sectionalizing device. (The informative note will be drafted for the next revision.)

- It was expressed that “sectionalizing device” brings to mind a different piece of equipment and that “isolating” or “interrupting” might be better terminology. (“Means of isolation”)

*Break between meetings*

- Line 468: Commenter requested clarification on the warning label.
  - Some discussion was held on why/where the 2<sup>nd</sup> source of energy would come from.
  - The commenter clarified their question – “What should the warning label say?”
  - A user recommended the use of “Caution” instead of “warning”.
    - A member recommended the use of “Safety” labels due to liability.
    - Note that on line 462 – the label would only be able to warn of a hazardous condition.
    - **K. Trost will review the labeling standards and IEEE style guide for the proper terminology.**
- Line 471: A request to add “should” to secure the cable receptacle from the inside of the cabinet.
  - The working group accepted the comment.
- Line 473: The commenter recommended the addition of a statement to prevent water migration through seals.
  - Discussion on if the standard should define how the manufacturer designs the control to prevent accumulation of water.
  - Discussion on if the IP rating accounts for this topic.
  - Discussion on if the intent of this subclause is to prevent water from accumulating in top of the control or to prevent accumulation inside of the control.
  - **A small group to meet separately to revise section 6.2.6 to cover the two types of accumulation and to take into account the comment on gaskets and seals. (Including gaskets not absorbing water.) P. Found, K. Cummings, S. Pell**
- Line 477: This is a hanging paragraph.
  - This issue was confirmed with the IEEE Style Manual. The material in this section will be moved to a “general” subclause number and subsequent numbering will be increased.
- Line 480: The commenter recommended to add a “user configurable” option to the time delay.
  - The working group decided to reject the comment as written.
  - The statement as written is informative (not normative). It was recommended that lines 480-482 be made a note. Lines 485-488 though are related and are normative. These two sections need to be combined and may need to be in a sub-heading. - Agreed

- It was noted that 483 could be in conflict with 485. It was recommended to move 483-484 to after 488 and add, “subsequent commands (unless cancellations) must....” - Agreed
- It was recommended to delete the last portion of lines 481/482 (to visually witness the operation.) - Agreed
- Discussion in this section (480-488) should be all ‘should’ as there are some ‘shall’ statements. The document will be left as currently written.
- Line 485: The commenter recommended removing the lines numbered 485-488.
  - An example application was provided.
  - Some clarity is required to show that this is for a local/manual operation (vs an overcurrent response). It might also help to rephrase to an operation with a built-in time delay.
  - Based on the intent to clarify, the comment was rejected.
- Line 489: The commenter asked if an exception should be given for trip precedence?
  - Discussion on if this comment is specifically referring to an overcurrent condition or any open command? There are times when you can’t immediately open (loss of pressure, load break switch, in the process of closing.)
  - **Recommendation for P. Found contact the commenter for more information.**
- Line 490: The commenter recommends that this statement not apply if the control is integrated to the apparatus.
  - Chair recommended changing line 491/492 to: "When apparatus may be replaced separately from the control, the counter shall be programmable and have a reset to zero." – the working group agreed.
- Line 496: The commenter asked for clarity to be added.
  - Discussion on the intent of the statement:
    - There are multiple applications where this could occur.
    - The clarity required might be different depending on the application.
  - Recommendation to change the wording that connecting the cable shall not result in a position change of the apparatus. -Agreed
- Line 498: The commenter is requesting clarification on if 52b status contacts are required?
  - The intent was to require the control to receive a positive signal because there are devices on the market today that can give a false indication if the cable is damaged or removed, or if damaged motor signals are used to indicate apparatus position.
  - If 37.68 says “shall” that would be requiring apparatus design requirements which this standard cannot do.
  - Discussion on revising this to “should” vs “shall”.

- Recommendation to delete line 498/499 and rewrite line 499/500 to “Contact position indication should not be driven by the absence of a signal.” – Agreed
- Line 501: One commenter asked if the intent was to only be active locally. A second commenter asked if automatic included overcurrent operation.
  - Discussion on different types of automatic operation.
  - Recommendation to change the language to read, “When...., it shall have the option to include a selector to enable and disable automatic functions as agreed to by the manufacturer and user.”
    - There is some concern about how to implement this consistently and if this should be a user specification item.
  - The group did not come to a final resolution. It was recommended that the Chair contact the user for a recommendation on verbiage.

The Working Group did not complete the review of all comments. A separate meeting will be needed.

## 8. New Items

- Project Milestones
  - Compile initial ballot draft: Complete
  - First WG comments collected – Sept 30, 2020
    - Review WG comments - Oct 2020
    - Webex review WG comments: Nov 30, 2020
  - Second WG internal ballot – April 16, 2021
    - Review WG comments – April 20, 2021 meeting
    - Post Spring WG meeting – May 2021
  - Send draft to Mandatory Editorial Co-ordination (~1 month)
  - Draft for Initial Sponsor Ballot: summer 2021
  - First ballot resolution: Fall 2021
  - Second ballot resolution: Spring 2022
  - Final resolutions: Fall 2022
  - **PAR Expires: Dec 31, 2021** (Rev Com submittal due in October 2021)
- B. Kirkpatrick made a motion to apply for a 2-year PAR extension
  - C. Riley seconded.
  - The motion passed. (15 members were present at the time of the vote. 12 approved, 3 abstained)

## 9. Next meeting(s):

- The next meeting is expected to be a virtual meeting of the working group members to complete the comment resolution.
- A meeting is planned in conjunction with the Fall 2021 Switchgear Committee meeting.

**10. Adjournment.**

The meeting was adjourned at 5:40 PM CDT.

## Annex 1: Attendance

Role	First Name	Last Name	Company	4/21/2021
Chair	Paul	Found	BC Hydro	X
Secretary	Karla	Trost	G&W Electric	X
Member	Peter	Agliata	Hubbell Power Systems	X
Member	Edwin	Almeida	Southern California Edison	
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	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	X
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	X
Member	Caryn	Riley	Georgia Tech/NEETRAC	X
Member	Ian	Rokser	Eaton Corp	X
Member	Francois	Soulard	Hydro-Quebec	X
Member	Nenad	Uzelac	G&W Electric	X
Guest	Thomas	Ballard	Hubbell Power Systems	
Guest	Robert	Behl	ABB	X
Guest	David	Beseda	S&C Electric Co.	
Guest	Antone	Bonner	PAS Consulting	X
Guest	Kelsey	Bush	ABB	X
Guest	Dan	Busilan	Dominion Energy	
Guest	Mohit	Chhabra	S&C Electric Company	
Guest	Randall	Creach	AZZ Switchgear Systems	
Guest	David	Dart	NOJAPower	
Guest	Edgar	Dullni	retired	
Guest	Kenneth	Edwards	Consultant	
Guest	nadia	El khattabi	Hydro-Quebec	
Guest	Michael	Flack	Southern Company Services, Inc.	
Guest	Claude	Florvil	PSEG	X
Guest	Jeffrey	Gieger	Thomas & Betts	X
Guest	Peter	Glaesman	PCORE Electric Company, Inc.	
Guest	Ilya	Glinsky	Southern California Edison	X
Guest	Sahadev	Gohil	AZZ Switchgear Systems	
Guest	Jodi	Haasz	IEEE	



Guest	Robert	Hanna	ABB INC	
Guest	Christian	Heinrich	Siemens AG	
Guest	Harold	Hirz	G&W	X
Guest	Benjamin	Isaak	American Electric Power	X
Guest	John	Kaminski	Siemens	
Guest	John	Kapitula	ABB	X
Guest	Ryan	Kowdley	Pacific Gas & Electric	
Guest	Stefan	Kramer	Siemens AG	X
Guest	James	Lagree	Eaton	
Guest	Robert	Lau	nVent Hoffman	
Guest	Bradley	Lewis	AEP	
Guest	Abraham	Martinez	ABB	X
Guest	Benjamin	Marx	Sargent and Lundy	
Guest	Ashley	Moran	IEEE Standards Association (IEEE-SA)	X
Guest	Christopher	Morton	Powertech Labs Inc.	
Guest	Roberto	Olivares	Siemens	
Guest	Al	Pruitt	The Durham Company	
Guest	Larry	Putman	Powell	
Guest	Vaidyanathan	Ramasethu	G&W Electric	X
Guest	Mark	Roberson	AZZ/Calvert	
Guest	Kevin	Rogers	University of Wisconsin	
Guest	Kevin	Sippel	Eaton Electric	
Guest	Erin	Spiewak	IEEE	
Guest	Srikant	Venkatesh	Schweitzer Engineering Laboratories	X
Guest	William	Walter	We-Energies	X
Guest	John	Webb	ABB	
Guest	Michael	Whitney	S & C Electric Company	
Guest	Robert	Wolf	Hubbell Power Systems, Inc.	

## **Annex 2: Chat Attendance and Affiliations**

[Yesterday 1:24 PM] Trost, Karla L  
Karla Trost, G&W Electric

[Yesterday 1:25 PM] Cummings, Katherine M.  
Kate Cummings, G&W Electric

[Yesterday 1:25 PM] Frank DeCesaro (Guest)  
Frank DeCesaro, DeCesaro Consulting Services, LLC - Member

[Yesterday 1:25 PM] Chris Ambrose  
Chris Ambrose - Federal Pacific

[Yesterday 1:29 PM] Bob Behl  
Bob Behl - ABB

[Yesterday 1:29 PM] Hirz, Harold  
Harry Hirz - G&W Electric

[Yesterday 1:30 PM] John Kapitula (Guest)  
John Kapitula, ABB

[Yesterday 1:30 PM] Hastreiter, Christopher  
Chris Hastreiter, Eaton

[Yesterday 1:30 PM] Srikant Venkatesh (Guest)  
Srikant Venkatesh, Schweitzer ENgineering

[Yesterday 1:30 PM] Ramasethu, Vaidyanathan  
Vaidy Ramasethu, G&W Electric

[Yesterday 1:30 PM] Brendan Kirkpatrick (Guest)  
Brendan Kirkpatrick, So Cal Edison, Costa Mesa CA

[Yesterday 1:31 PM] Agliata, Peter (Guest)  
Peter Agliata - S&C Electric Company

[Yesterday 1:32 PM] Mizener, Jeff (RC-US SI EP R&PM AE) (Guest)  
Jeff Mizener, Siemens Industry, Grand Prairie, TX

[Yesterday 1:32 PM] Riley, Caryn (Guest)  
Caryn Riley, Georgia Tech/NEETRAC, Forest Park, GA

[Yesterday 1:33 PM] Soulard, Francois (Guest)  
Francois Soulard, Hydro-Quebec, Montreal Canada

[Yesterday 1:33 PM] "Benson Lo - Toronto Hydro (Guest)"  
Benson Lo, Toronto Hydro, Toronto, Ontario, Canada

[Yesterday 1:34 PM] Rokser, Ian W

Ian Rokser, Eaton, South Milwaukee WI

[Yesterday 1:34 PM] "Doin Martin (Guest)"  
Don Martin - G&W Electric

[Yesterday 1:34 PM] "Bill Walter (Guest)"  
Bill Walter, We-Energies, Milwaukee

[Yesterday 1:34 PM] Jeffrey S. Gieger (Guest)  
Jeff Gieger ABB/Elastimold

[Yesterday 1:34 PM] Abraham Martinez  
Abraham Martinez - ABB, San Luis Potosi, Mexico

[Yesterday 1:39 PM] Johnson, Travis N (Guest)  
Travis Johnson - Xcel Energy - Denver, CO

[Yesterday 3:42 PM] Uzelac, Nenad  
Nenad Uzelac, G&W Electric

[Yesterday 3:45 PM] Antone Bonner (Guest)  
Antone Bonner - retired Oconomowoc, WI

[Yesterday 3:45 PM] Cummings, Katherine M.  
Kate Cummings, G&W Electric

[Yesterday 3:45 PM] Pell, Stephen (RC-AU SI DS OMVS) (Guest)  
Steve Pell, Siemens

[Yesterday 3:46 PM] "Claude Florvil (Guest)"  
Claude Florvil, PSE&G

[Yesterday 3:46 PM] Ben Isaak (Guest)  
Ben Isaak, AEP

[Yesterday 3:46 PM] Frank DeCesaro (Guest)  
Frank DeCesaro, DeCesaro Consulting Services, LLC Member

[Yesterday 3:46 PM] Hastreiter, Christopher  
Chris Hastreiter, Eaton

[Yesterday 3:46 PM] Soulard, Francois (Guest)  
Francois Soulard, Hydro-Quebec, Montreal Canada

[Yesterday 3:47 PM] Mark Feltis (Guest)  
Mark Feltis, Schweitzer Engineering Labs

[Yesterday 3:47 PM] Johnson, Travis N (Guest)  
Travis Johnson - Xcel Energy - Denver, CO

