

Minutes of WG PC37.11  
Revision of Standard for Electrical Control of Circuit Breakers  
Tuesday, April 30<sup>th</sup>, 2019  
14:00 – 15:45  
Hilton Lake Champlain, Burlington, VT

- I Welcome
- II Introductions  
John Webb – Chair, Tony Ricciuti – Secretary  
Initial meeting of WG, membership upon request by those attending; subsequent meetings require attendance of 2 of 4 last meetings.  
41 individuals present, introduced with name and affiliation. 23 requested membership.
- III A call for knowledge of essential patents was made, no respondents.
- IV No previous meeting minutes to approve.
- V Agenda as circulated via 123 list-serv to all HVCB was reviewed, no additions proposed.
- VI Old Business -- None
- VII New Business:
  - a. iMeetCentral / Central Desktop will be used to share documents for collaboration. Interested individuals who may not be able to attend the WG meetings may participate in discussions via iMeetCentral. However, voting membership in WG is regulated by IEEE-SA P&P's.
  - b. Approved PAR reviewed, no changes required at this time.
  - c. Minimum time for signal values: 50 ms in current draft, IEC 62271-1 initially proposed 2 ms. Additional consideration to be given to changes in this value based on relay contact signal timing.
  - d. Impact of IEC 61850: WG did not consider necessary to take up without a specific proposal.
  - e. Revision to ranges for control voltages: Currently covered by tables in C37.04 (taken from C37.06) no specific proposal given. Possibly out of scope, no action.
  - f. Standard Rating for auxiliary switches: Possibly out of scope of PAR, may be more appropriate for C37.04 (as a 'rating'), however it was not taken up by that WG when proposed during the just finished revision. Suggested that as 'Aux Switches' are basic control elements may be appropriate for this standard. Task Force formed by Chair to consider and recommend action, including possibility to add to C37.04 by amendment.
    - i Aux Switch TF: K. Edwards (Chair), D. Sharma, P. Dilillo, J. Webb, T. Irwin.
  - g. Additional details to be provided for items such as X-Y relay and 63glx: Determination of WG was that this level of detail not appropriate for standard as there are many ways to accomplish the requirement of anti-pump besides X-Y relay and 63glx device is not part of the mandatory minimum basic control element for all circuit breakers.
  - h. Figures 1 through 8 do not provide sufficient detail for user to construct a functional CB control scheme: Discussion was that it was out of scope to instruct a user (manufacturer) on how to build a system, the purpose of Figures 1 – 8 are to show the required terminal numbers for the functions and illustrate the broad functional item associated with those

terminals (closing device, tripping device, etc.). WG agreed not to pursue this at this time.

- i. Review of Draft 0.0: With initial announcement of WG formation, chair offered interested individual opportunity to review a preliminary draft of reformatted version of previous edition of C37.11 – 2014. This revision was accompanied by marked version of previous edition showing text which was carried over and certain notes which were not carried over. No comments from individuals who requested a preliminary copy of the draft were received. Entire document was reviewed. In general, the WG wished to have omitted notes returned to the new draft for further consideration in context as shown below:

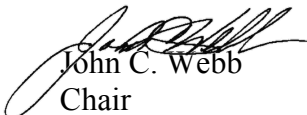
<u>Clause</u>	<u>Comment</u>	<u>Resolution</u>
3 h)	This is a requirement which cannot be proven fulfilled.	Return to draft, with some rewording but likely further revision needed.
5 e)	Requirement for configuration of breaker prior to shipment.	Normally covered by drawing reviews. 2 <sup>nd</sup> paragraph be retained as a Note.
6.3 b) 3)	308 addresses “certain definite purpose circuit breakers” but is “definite purpose” a valid distinction.	Chair to check if definite purpose is in new revision of C37.04.
6.9 c)	Breakers intended for independent pole operation are not covered by C37.04 (or any other IEEE std.) although single pole breakers are permissible.	New wording should be provided to clearly explain the limitations. Chair called for suggestions to be provided from WG.
6.8	Typo. “acta” to be “acts”	

Chair to prepare Draft 1.0 with above changes and upload to iMeetCentral for WG review and internal comments over next 3 months. If no comments received, and no substantive changes recommended from TF’s next step would be to send draft to ballot.

- j. Fiber Optic Controls: Question raised regarding use of fiber optics in control schemes between the [remote] control house (with relays) and the actual circuit breaker in the yard. This is a system that is being employed. Should it be addressed by this standard? Chair appointed a task force to provide a recommendation to WG.
  - i. Fiber Optic TF: D. Sharma (Chair) – looking for additional contributors.

VIII Next Meeting: Working group to meet with Fall ’19 Switchgear Committee meeting, October 5<sup>th</sup> through 11<sup>th</sup> at the Catamaran Hotel in San Diego, CA. Day and time to be determined per master meeting schedule.

Attachments: (1) Meeting Agenda / Discussion Slides  
(2) Membership and Attendance list



John C. Webb  
Chair

Role	First Name	Last Name	Company	04/30/19
Chair	John	Webb	ABB	X
Secretary	Anthony	Ricciuti	Eaton Corporation	X
Member	Arben	Bufi	Hitachi T&D Solutions, Inc.	X
Member	Ted	Burse	Powell Industries, Inc	X
Member	Michael	Crawford	Mitsubishi Electric	X
Member	Patrick	Di Lillo	Consolidated Edison Co. of NY, Inc.	X
Member	Doug	Edwards	Siemens Industry, Inc.	X
Member	Ken	Edwards	FirstEnergy Corp.	X
Member	Sergio	Flores	Schneider Electric Inc. USA	X
Member	Raymond	Frazier	Ameren	X
Member	Jennifer	Hunter	MEPPI	X
Member	Todd	Irwin	GE Grid Solutions	X
Member	Christopher	Jarnigan	Southern Company Services	X
Member	Benjamin	Marx	Sargent and Lundy	X
Member	Stephanie	Montoya	Southern California Edison	X
Member	John	Phouminh	PEPCO HOLDINGS, INC.	X
Member	Bobby	Rich	Dominion Virginia Power	X
Member	Leonel	Santos	Schneider Electric	X
Member	Carl	Schneider	Schneider Electric	X
Member	Carl	Schuetz	American Transmission Company (A	X
Member	Devki	Sharma	Entergy	X
Member	Don	Steigerwalt	Duke Energy	X
Member	Wei	Zhang	Hitachi T&D Solutions, Inc.	X
Guest	Herman	Bannink	KEMA Netherlands	X
Guest	Paul	Barnhart	Underwriters Laboratories	X
Guest	Mohit	Chhabra, Ph.D.	S&C Electric	X
Guest	Lucas	Collette	Duquesne Light	X
Guest	Bernie	Dwyer	PECO	X
Guest	Emily	Eftink	Burns & McDonnell	X
Guest	Joseph	Jasinski	ITC Holdings Corp.	X
Guest	Scott	Lanning	S&C Electric	X
Guest	Vincent	Marshall	Southern Company Services	X
Guest	Douglas	Mason	ComEd	X
Guest	Steven	May	Southern Company	X
Guest	Thomas	Pellerito	DTE Energy	X
Guest	Andrew	Peterson	ABB	X
Guest	Mark	Peterson	Xcel Energy	X
Guest	Dave	Riffe	Westinghouse Electric Company	X
Guest	Francois	Trichon	Schneider Electric	X
Guest	William	Weishuhn	ABB	X
Guest	Jim	Zhong	American Transmission Company	X

# Working Group C37.11 Standard Requirements for Electrical Control of AC HVCBs

Hilton Lake Champlain, Burlington VT

30 Apr, 2019: 2:00- 3:45 pm

# Agenda

- Intro. of Attendees, Membership requirements
- Call for knowledge of essential Patents
- Review of PAR
- Review of new items for consideration
- Review of Draft Document
- Adjourn

**Chair: John Webb**

**Secretary: Tony Ricciuti**

- First Meeting: Membership open to all attendees upon request
- Subsequent Meetings: Attend 2 of 4 meetings and request membership
- Workspace in iMeetCentral (Central Desktop) created.
- Intend to use for document storage, distribution and discussion of working drafts.
- Interested individuals who may not be able to attend meetings will be added to iMeetCentral, for discussion, but voting must follow the IEEE-SA WG and P&P rules.
- Meeting Announcements, Agendas etc. also by 123 list-serve

Expected Initial Sponsor Ballot: 10/2020

Submission to RevCom: 10/2022

**5.2 Scope:** This standard establishes basic requirements for the control schemes of electrically controlled ac high-voltage circuit breakers rated above 1000 V.

This standard is applicable to any type of power-operated mechanism and for both ac and dc control power. Only the basic control elements of the circuit breaker, including reclosing where required, are included in this standard. This standard does not include devices or circuits for protective relaying, special interlocking, etc., since these are dependent upon the specific application of a particular circuit breaker.

**5.4 Purpose:** The purpose of this standard is to establish basic requirements for ac high-voltage power circuit breaker control schemes so that users and manufacturers can affect engineering and production economies by reducing the multiplicity of special control schemes that are specified in the absence of standards.

**5.5 Need for the Project:**

1. Update the format of the document to IEEE Standard Template & Formatting
2. Update References to Normative Documents & Bibliography
3. Incorporate other changes due to advances in the art.

# Items for Consideration

- Minimum time for valid signal 2 ms or 50 ms?
  - Some text added to Draft 0.0 to address this
  - Latest CD from -100 removes the requirement
- Impact of IEC 61850 on switching equipment
- Revision to ranges of Control Voltages
  - These are currently in C37.04 (from C37.06)
  - Rationale for historical ranges and still needed?
- Standard ratings for auxiliary switches
- Review of Draft 0.0



# Items for Consideration

- Later Comments
  - Description of X-Y relay Scheme & 63glx
    - Do we go into such detail?
  - Figures 1 through 8 are Correct but Antiquated
    - If users construct from these users will be confused
    - Are we constructing detailed or concept requirements
- Review of Draft 0.0