

Minutes of Meeting

Working Group C37.012 Application of Capacitance Current Switching for AC HV CB>1000 V

Location: Webex (Virtual Meeting)

Date: Monday April 19th, 2021 (3:45-5:30 PM CDT)

Participants: 28 Total in Attendance (11 Members –100% of total, 17 Guests)

Call to Order

Chair called the meeting to order.

Introduction of Members and Guests

Chair kicked off the meeting with a brief discussion on the purpose of a revision for C37.012. Introductions and attendance gathered through Webex chat.

Call for Patents

Patent and copyright policy presented. No Patent claims identified.

Status of C37.012

The WG chair gave a presentation with the following key points:

Current Status

- Draft on the share site for review
- PAR general revision expires 2024
- Existing C37.012-2014 life ends 2024

Future of C37.012

- Have a ballotable document by September 2021
- Form a comment resolution group at the Reno Meeting
- Go to ballot within a week following the October meeting scheduled for Reno, NV
- MER coincident with Ballot invitation
- Ballot hits “the street” December 1 2021
- Ballot closes Jan 15 2022
- CRG meets to asses comments Jan 25, 2021
- CRG develops comment responses Feb 15 2022
- Recirc 1 Ballot Feb 20, 2022
- Recirc 1 evaluated by CRG March 25 2022
- CRG develops responses April 2, 2022
- Recirc 2 (15 day) closes April 19, 2022
- Final WG discussion Spring 22 meeting
- Submit to REVCOM 15 days after Spring 22 meeting

New Business

Work completed to date on draft

- Roll in the C37.012a changes: Completed

Discussion on items to be addressed in revision

- Reorganize sections to make more coherent: Volunteer - Luke Collette
 - Comments made that organization does need some work.
 - Question: Is the document to be reorganized C37.012 or the proposed new common document (C37.100.2.2). Response: Idea is to have this done for C37.012.
- Add a new section "Definitions"

Assignments and volunteers for working group

The following volunteers spoke up:

Marcus Young – volunteered to do "Definitions" section.

John Webb – also volunteered to do "Definitions" section.

- Comments made that C37.99 and 1036 may have good information that can be used for C37.012. Either pulled in or referenced.

Kirk Smith –volunteered to move explanations and extraneous material to Annexes. Chair explained the intent. For example, Clause 10.4 – Switching lines under faulted conditions. Discusses the 2.4 p.u. factor and provide an explanation of where it came from. For instance, tests that are optional b/c of rareness of condition, explanation of multipliers that are within the document (e.g., where 1.4 comes from for ungrounded capacitor banks), etc.

Craig Polchinski – volunteered to be a contributor under a lead. Chair suggested switching through transformers task.

Carl Schuetz – Volunteered for editorial of anything.

Jim van de Ligt – Volunteered to be a contributor.

Curtiss Frazier – Volunteered to be a contributor for the stuff at the end and Section 10.

Andrew Chovanec – Volunteered for technical of capacitor bank section or overhead line section.

Dave Caverly – Volunteered for editorial of capacitor bank section.

No volunteer for technical of insulated cables – Roy and Luke to cover

Andrew Peterson – Volunteer for editorial of insulated cables.

Jan Weisker – Volunteer for technical of overhead lines.

Hua Liu – Volunteer for editorial of overhead lines

Comment about adding C37.99 to references along with any other appropriate addition.

The following is the planned schedule for the work:

- Reorg done by 6/10/21.
- General, cap bank, UG, and OH to begin 6/11/21.
- All tasks completed by 8/15/21.

A suggestion was made for a status meeting – early June (14th) – with all those who volunteered to better define the work.

The following is a summary table of the proposed tasks and volunteers for each.

Task	Technical Lead	Editorial Lead	Contributors
Reorganization	Luke Collette	---	---
Definitions	John Webb	Marcus Young	---
Capacitor bank switching	Andrew Chovanec	Dave Caverly	---
Insulated cables	Roy Alexander/ Luke Collette	Andrew Peterson	---
Overhead lines	Jan Weisker	Hua Liu	Jim van de Ligt
Switching through transformers	Luke Collette	---	Craig Polchinski
Explanations and extraneous material	Kirk Smith/ Roy Alexander	---	---
Esoteric stuff	Roy Alexander/ Luke Collette	Carl Schuetz	Curtiss Frazier

Adjournment

Meeting adjourned by the chair at 5:04 PM (CDT).

Reported by:
Luke Collette

**IEEE PES Switchgear Committee
HVCB C37.012 - Meeting Roster**

Place/Date of Meeting: Virtual / April 19th 2021

Ref. No.	First Name	Last Name	Company Name	Role	4/19/2021 Attendance
1	Roy	Alexander	RWA Engineering	Chair	X
2	Chris	Ambrose	Federal Pacific (Div. of Electro-Mechanical Corp.)	Guest	
3	Roy	Ayers	Nashville Electric Service	Guest	
4	Steven	Brown	Allen & Hoshall	Guest	
5	David	Caverly	Trench Ltd.	Member	X
6	Andrew	Chovanec	GE Power	Member	X
7	Lucas	Collette	Duquesne Light	Secretary	X
8	Jason	Cunningham	Southern States, LLC	Guest	X
9	Patrick	Di Lillo	Consolidated Edison Co. of NY, Inc.	Guest	
10	Raymond	Frazier	Ameren	Guest	X
11	John	Hall	Tennessee Valley Authority	Guest	X
12	Jeremy	Hensberger	Mitsubishi Electric Power Products Inc.	Guest	X
13	Roy	Hutchins	Southern Company Services	Guest	
14	Christopher	Jarnigan	Southern Company Services	Guest	X
15	Thomas	Keels	DiGioia Gray & Associates	Guest	X
16	Wangpei	Li	Eaton	Guest	
17	Yingjie	Ling	GE	Member	X
18	Hua Ying	Liu	Southern California Edison	Member	X
19	Steven	May	Southern Company	Guest	X
20	Jeffrey	Nelson	Tennessee Valley Authority	Guest	
21	Andrew	Peterson	ABB	Guest	X
22	Craig	Polchinski	MEPPI	Member	X
23	Carl	Schuetz	American Transmission Company (ATC)	Guest	X
24	Robert	Smith	Retired	Member	X
25	Donald	Swing	Powell Industries	Guest	
26	John	Webb	ABB	Member	X
27	Marcus	Young	Mitsubishi Electric Power Products, Inc.	Member	X
28	Wei	Zhang	Hitachi T&D Solutions, Inc.	Member	X
29	Devki	Sharma	Entergy	Guest	X
30	Carl	Kurinko	Hitachi-ABB Power Grids	Guest	X
31	Arben	Bufi	Meiden America Switchgear, Inc.	Guest	X
32	Jan	Weisker	Siemens Energy	Guest	X
33	Jim	van de Ligt	Spark Power Corp.	Guest	X
34	Michael	Boulus	PSE&G	Guest	X
35	Scott	Lanning	S&C Electric	Guest	X
36	Oleksandr	Sergeyenko	Tavrida Electric North America	Guest	X

WG C37.012

C37.012 Agenda

- Call to Order
- Introduction of Members and Guests
- Call for Patents
- Copyright slides
- a. If anyone is aware of any Patent Claims that might be Essential Patent Claims please make that known to the Working Group at this time.
- Status and future of C37.012
- New Business
 - Work completed to date on draft
 - Discussion on items to be addressed in revision
 - Assignments and volunteers for working group
- Adjournment

Status

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Future RWA vision

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Future continued

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After REVCOM approval of C37.012m-2022

- Initiate a new project C37.100.2.2 Application guide for capacitive current switching for devices >1000V
- Document to use C37.012 – 2000 as a starting point then expand scope to include all capacitive current switching devices (ADSCOM document) to include controlled switching, closing resistors/inductors. And a device type selection guide.

Future continued

- New document C37.100.2.1 Test code for Capacitive switching transient mitigation techniques. (controlled switching, closing resistors /inductors) I developed a proposal for this in 1995 that was rejected because “It would shake the whole tower”
- The time has come for the tower to be shaken
- Credit where credit is due –Denis Dufournet was the only one who took my proposal seriously and gave thoughtful comments.

To the task at hand

- Luke Collette has revised C37.012 to include the changes made in C37.012a on the share site.
- Luke has volunteered to reorganize the sections to make it a little more coherent
- We will add a new section “Definitions” (3.0 and following)
- - like what does back to back mean

Reorg continued

- Portions of section 9 can be moved under
- General
- Capacitor Bank
- Insulated cable (underground cable
- Overhead line
- The more esoteric stuff and switching through transformers can remain in section 9 (renumbered)

Each task will have two parts

- Technical aspects
- Editorial aspects
- Each task needs at least two volunteers a technical lead and an editorial lead
- “worker bees” can be assigned to each task and each lead is free to do virtual meetings to get the task complete. I you need a Cisco Webex Account
- Contact Ashley Moran a.f.moran@ieee.org

Technical lead

- Make sure it makes sense
- Responsible for the mathematical correctness
- Is the “science” right

Editorial lead

- Gramatical correctness
- Check references , equation numbers etc all correct.
- Language flow makes sense, understandable to a BSEE, BSET, 2 yr electrical technologist.

Tight time table

- All tasks to be completed by 8/15/21
- You will have to arrange task meetings
- The reorg task needs to be done by June 10
- Definitions section can begin immediately
- Through transformer and esoteric sections can begin immediately
- General, cap bank, UG cable, OH Line to begin June 11 2021

Time to step up and volunteer

- All WG members expected to work on and contribute to at least one of these tasks.
- All other attendees will be designated as “guest”

Comments/discussion