

Minutes of Meeting
Working Group: Methodologies to Demonstrate Expected Life of
Lubricants Used in Switching Devices
9:30 AM to 11:00 AM (EDT), August 31, 2023
Meeting

1. Call Working Group (WG) meeting to order Jack Harley
Meeting called to order at 9:33 AM (EDT).

2. Introduction of Participants Doug Edwards
Participants provided self-introductions with affiliations.
Asked all to input name, employer, and affiliation into TEAMS chat.
TEAMS participants attendance report ran at the end of meeting to confirm attendance.

Quorum was met with:

- 10 of 11 Voting Members
- 2 Ex-Officio Members
- 13 Non-Voting Members

3. Approval of Meeting Agenda Jack Harley
Approved by consent. – correcting Minutes to Agenda in Header.
Agenda was circulated 10 days prior to meeting.

4. Policies & calls for (provided prior to meeting) Jack Harley

- [IEEE's Patent Policy](#)
- [IEEE's Copyright Policy](#)
- [IEEE's Participant behavior in IEEE-SA activities' Policy](#)

Patent Policy:

- No issues reported.

Copyright:

- No issues reported.

Participant Behavior:

- Reminder to behave provided.

5. Approval of previous meeting [Minutes – Virt1 \(2023-06-06.R1\)](#) Doug Edwards

- Minutes provided with Meeting invitation.
- Approved by consent.

6. WG Chair Comments Jack Harley
Appreciate work by various Task Forces and their leads.

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7. C37.100.8/D**6a** (attached to Meeting Invitation) Jack Harley
Two (2) versions provided via Meeting Invitation and in [IMeetCentral](#).
- Highlighted Changes
 - Clean

C37.100.8/D**7** being created during meeting.

8. Highlights of revisions incorporated into draft & Task Force Reports
- Section 2: References section updated. Doug Edwards
Couple of references added as detailed in the latest draft – keeping up with the drafts of the document.

- Section 3: Definitions updated Doug Edwards
- Definitions for primary disconnecting devices and stressors had been added.
 - primary disconnecting devices: Removed definition as this is defined in the IEEE Online dictionary.
 - Stressor: Kept definition.

Section 6.1 Devices which mechanically operate and performance is speed depending Clint Carne

6.1.1.1 LV PCB test outline section provided

6.1.1.1.1 Establish baseline – Maximum time of 5 operations

6.1.1.1.2 Performing aging

6.1.1.1.3 Repeat closing & opening operations – Average of 5 operations to be less than the established baseline value.

Discussed modifying the clause title to provide add reference to time, not just speed. The term “time” was to be reviewed against C37.04 for appropriate choice of word.

- opening time: Is term used with reference to C37.010.
- closing time: No specific term is found.

Post meeting – Title is left as “speed or time dependent”.

Re-lubrication: Review needed concerning existing re-lubrication options for mechanisms.

Section 6.2 Devices which mechanically operate but which are not dependent on speed Darryl Moser

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Criteria: Discussed arbitrary value of 25% increase in peak force or torque.

Input is that known criteria for one manufacturer's remote racking systems is +5% tolerance but 5% was considered minimal for evaluation of increases due to lubricant and system degradation.

Action Item : Doug Edwards to contact Remote Racking system manufacturers to see if any data might be shared.

Where/what to test: Added text to consider the peak force or torque at various points of operation.

Section 8.2 Arrhenius model

Terry Hunt

Sub-sections are added.

Reviewed text and structure of what had been added.

Action Items:

Add Introduction paragraph potentially including note that Arrhenius Equation does not account for stressors other than thermal stressors. Also, potentially add text of how to choose the Activation Energy and applying the "worse case" value to aging calculations for the CB.

8.2.4 Discussed current choice of 0.5 eV activation energy. This is considered a conservative value to use. Text could potentially be added based on actual testing of lubricants to establish activation energy for all lubricants used in the CB.

Section 8.3 Booser equation

Paul Shiller

Target meeting and draft text prior to San Diego.

Others

5.7 Compatibility: Donnie Swing to provide text prior to San Diego. Concept is for text to be informative only.

5.8 Shelf life: Paul Shiller to provide text prior to San Diego.

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9. Next meetings Jack Harley
 During San Diego Conference
 Current schedule is for meeting on October 10, 2023, 4:15 – 6:00PM
10. Adjourn Jack Harley
 Adjourned at 11:00 AM (EDT).

Reported by,
Doug Edwards, Siemens
Secretary, C37.100.8 WG
E: doug.edwards@ieee.org

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Attendance

Participant Type	LastName, FirstName	Company	8/31/2023
Voting Member (Chair)	Harley, John	FirstPower Group LLC	VM (Chair)
Voting member (Secretary)	Edwards, Doug	Siemens Industry, Inc.	VM (Secretary)
Voting Member	Burse, Ted	Powell Industries, Inc	VM
Voting Member	Carne, Clint	Schneider Electric	VM
Voting Member	Christian, Michael	ABB	
Voting Member	Hunt, Terry	Westinghouse	VM
Voting Member	Leccia, Brad	Eaton	VM
Voting Member	Ricciuti, Anthony	Eaton Corporation	VM
Voting Member	Shiller, Paul	FirstPower Group LLC	VM
Voting Member	Thomas, Christo	Schneider Electric	VM
Voting Member	Wolfe, Dan	MEPPI	VM
Voting Member (Ex-Officio)	Flowers, Keith	Siemens Industry, Inc.	
Voting Member (Ex-Officio)	Swing, Donnie	Avail	VM (ExO)
Voting Member (Ex-Officio)	Webb, John	ABB	VM (ExO)
Non-Voting Member	Alexander, Brian	S&C Electric Canada	
Non-Voting Member	Allingham, Edward	Hydro One	
Non-Voting Member	Anderson, Tim	Aluma-Form	
Non-Voting Member	Andreyo, Joe	Southern States	
Non-Voting Member	Barfield III, Walter	Electric Power Research Institute	
Non-Voting Member	Blake, Randy	Hubbell	
Non-Voting Member	Blake, Randy	Schneider Electric	
Non-Voting Member	Boyce, Russell	Eaton	
Non-Voting Member	Bray, Elizabeth	Southern Company	
Non-Voting Member	Brunke, John	Power Engineers	
Non-Voting Member	Di Lillo, Patrick	Consolidated Edison Co. of NY, Inc.	
Non-Voting Member	Duo Qiu	XJ Group Corporation	
Non-Voting Member	Dwyer, Bernie	PECO	
Non-Voting Member	Eftink, Emily	Burns & McDonnell	
Non-Voting Member	Esco, Tanner	Eaton Corporation	
Non-Voting Member	French, Christopher	Eaton Corporation	
Non-Voting Member	Gill, Juan	Southern States	
Non-Voting Member	Glinsky, Ilya	Southern California Edison (SCE)	
Non-Voting Member	Grahor, Lou	Eaton Corporation	NVM
Non-Voting Member	Grein, Paul	Group CBS	
Non-Voting Member	Hall, John	Tennessee Valley Authority	NVM
Non-Voting Member	Hartzel, Ronald	Eaton Corporation	
Non-Voting Member	Hawkins, Tom	Siemens Industry, Inc.	
Non-Voting Member	Hensberger, Jeremy	MEPPI	
Non-Voting Member	Hetzer, Matthew	PEPCO	
Non-Voting Member	Hohnstadt, Benjamin	DTE	

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Non-Voting Member	Hook, Dan	Group CBS	
Non-Voting Member	Hoss, Danny	Southern States	
Non-Voting Member	Hutchins, Roy	Southern Company Services	
Non-Voting Member	Irwin, Todd	GE Grid Solutions	
Non-Voting Member	Jala, Roopendra Hemanth	S&C Electric Company	
Non-Voting Member	Jarnigan, Christopher	Southern Company Services	NVM
Non-Voting Member	Jingsong He	China Southern Power Grid	
Non-Voting Member	Keels, Thomas	kEElectric Engineering	
Non-Voting Member	Krause, Dwight	Black & Veatch	
Non-Voting Member	Lanning, Scott	S&C Electric	
Non-Voting Member	Livshitz, Albert	Qualus Power Services	NVM
Non-Voting Member	Lopez, Adrian	Powell Industries	
Non-Voting Member	Marzec, Peter	S&C Electric Co.	
Non-Voting Member	May, Steven	Southern Company	NVM
Non-Voting Member	Meyer, Peter	S&C Electric Company	
Non-Voting Member	Monroe, Andrew	Southern Company	
Non-Voting Member	Moser, Darryl	ABB	NVM
Non-Voting Member	Nenning, Andrew	Omicron Electronics	
Non-Voting Member	Orosz, Miklos	CBT&S LLC	
Non-Voting Member	Owens, John	3M	
Non-Voting Member	Owens, Mary	Eaton	
Non-Voting Member	Parks, Owen	ABB	NVM
Non-Voting Member	Peterson, Alan	Utility Service Corporation	
Non-Voting Member	Peterson, Andrew	ABB	
Non-Voting Member	Pruitt, Al	The Durham Company	
Non-Voting Member	Rakus, Paul	Eaton	NVM
Non-Voting Member	Reid, Laura	Hubbell Power Systems	NVM
Non-Voting Member	Riffe, Dave	Westinghouse Electric Company	
Non-Voting Member	Rowe, Ryan	TCI	
Non-Voting Member	Salinas, Alex	Doble/Vanguard	NVM
Non-Voting Member	Sax, Ben	Nashville Electric Service	
Non-Voting Member	Sigmon, Hall	Siemens	
Non-Voting Member	Sigmon, Hall	Siemens	
Non-Voting Member	Sippel, Kevin	Eaton Electric	
Non-Voting Member	Slattery, Chris	FirstEnergy	
Non-Voting Member	Solanki, Lokeshkumar	ABB	
Non-Voting Member	Spencer, Jon	Utility Solutions	
Non-Voting Member	Stemmerich, Joe	Trayer Engineering Corp.	
Non-Voting Member	Sullivan, Paul	DuPont	NVM
Non-Voting Member	Voyles, Adam	Ameren	
Non-Voting Member	Ward, Jeffrey	Doble Engineering Company	NVM

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Non-Voting Member	Ward, Randy	Aluma-Form	
Non-Voting Member	Wear, Jonathan	JST Power Equipment, Inc.	
Non-Voting Member	Weeks, Casey	Siemens Energy	
Non-Voting Member	Weishuhn, William	ABB	NVM
Non-Voting Member	Weisker, Jan	Siemens Energy	
Non-Voting Member	Wen, Jerry	BC Hydro	
Non-Voting Member	Worthington, Charles	Hubbell Power Systems	
Non-Voting Member	Yarbrough, Elijah (Matt)	Hubbell Power Systems	
Non-Voting Member	Yu, Li	Eaton	
Non-Voting Member	Zaharko, Sam	MEPPI	
Non-Voting Member	Zehnder, Lukas	Hitachi	
Non-Voting Member	Zhang Shuai	China Southern Power Grid	
Non-Voting Member	Zhang, Wei	Hitachi	
Non-Voting Member	Zia, Danish	UL LLC	
Non-Voting Member (IEEE Staff)	Jingjing Huang	IEEE (Staff)	
Non-Voting Member (IEEE Staff)	Santulli, Jenn	IEEE (Staff)	

Key: Participant Types

Participant Type	Abbreviation (in order of sorting)
Voting Member (Chair)	VM (Chair)
Voting member (Secretary)	VM (Secretary)
Voting Member (Ex-Officio)	VM (ExO)
Voting Member	VM
Non-Voting Member	NVM
Non-Voting Member (IEEE)	NVM (IEEE)
Non-Member (Not shown)	NM