

Minutes of Meeting
Working Group: Methodologies to Demonstrate Expected Life of
Lubricants Used in Switching Devices
9:00 AM to 10:30 AM (EDT), June 6, 2023
Meeting

1. Call Working Group (WG) meeting to order Jack Harley
Meeting called to order at 9:00 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 list ran at the end of meeting to establish attendance.

Quorum was met with:

- 7 of 11 Voting Members
- 1 Ex-Officio Members
- 5 Non-Voting Members

3. Approval of Meeting Agenda Jack Harley
Approved by consent.
Noted that Agenda was circulated 3 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:

- Slides shown.
- No issues reported.

Copyright:

- Slides shown.
- No issues reported.

Participant Behavior:

- Slides shown.

5. Approval of previous meeting [Minutes \(2022-10-18.R1\)](#) Doug Edwards

- S23_AdsCom_C37.100.8_Minutes_R03.pdf (provided with Meeting invitation)
- Approved by consent.

6. WG Chair Comments Jack Harley
Thanks for attending on short notice. Let's move ahead with review.

Minutes of Meeting
Working Group: Methodologies to Demonstrate Expected Life of
Lubricants Used in Switching Devices
9:00 AM to 10:30 AM (EDT), June 6, 2023
Meeting

7. C37.100.8/D4 (attached to Meeting Invitation) Jack Harley
Two (2) versions provided via Meeting Invitation and in IMeetCentral.
- Highlighted Changes
 - Clean
- C37.100.8/D5 being created during meeting.
8. Highlights of revisions incorporated into draft Doug Edwards
1. Overview – Added
 - Test standards (ASTM) are developed to test the compounds in the lubricants and not to capture the activation energy.
 - Reliance on equations is not enough. Arrhenius and Booser equations are useful but additional knowledge and considerations are needed.
 - Booser equations helps with temperature ranges and points out issues with Arrhenius method.
 - Most test do not include real-life issues such as moisture and are not in the application environment such as bearings. This effects their life.
 2. Normative references – Added
No issues identified.
Will maintain as document is revised.
 6. Requirements by type of equipment
General introduction sentence – Added
No issues identified.
- 6.1 Testing requirements section was included. Kept this structure of description and tests in this section, not a separate Section 7 just for Tests.
- 6.1. b) Revised sentence to clarify the lubricant is to be aged with the mechanism, not separately.

Minutes of Meeting
Working Group: Methodologies to Demonstrate Expected Life of
Lubricants Used in Switching Devices
9:00 AM to 10:30 AM (EDT), June 6, 2023
Meeting

6.2 Added section per input from Task Force for “Devices which mechanically operate but which are not dependent on speed.

- Added similar wording from 6.1.b) that lubricant is aged on the device.
- 25% is an initial proposal.
- Highlight – use of averaging three (3) peak values, e.g. torque.
- Will consider survey manufacturers for their measured increased forces or torques with aged lubricants to establish a pass/fail criteria.

7. Deleted previous D3 section for Test.

Bibliography – Added

Will maintain as document is revised.

9. Task Force Report

6.1 Devices which mechanically operate and performance is speed depending
Scheduled currently for July 10th.

Clint Carne

6.2 Devices which mechanically operate but which are not dependent on speed
Was presented during WG meeting.
See summary notes above.

Darryl Moser

8.2 Arrhenius model
Pending scheduling.

Terry Hunt

Others

Paul Shiller: Booser Equation section.

Noting: Booser points out “Best Practice” is extrapolation off of actual equipment test results.

Jack Harley

10. Next meetings

Doodle Poll will be conducted.
Target next meeting in August 2023.

Jack Harley

11. Adjourn

Adjourned at 9:40 AM (EDT).

Jack Harley

Minutes of Meeting

Working Group: Methodologies to Demonstrate Expected Life of Lubricants Used in Switching Devices

9:00 AM to 10:30 AM (EDT), June 6, 2023

Meeting

Attendance

Participant Type	LastName, FirstName	Company	6/6/2023
Voting Member (Chair)	Harley, John	FirstPower Group LLC	VM (Chair)
Voting member (Secretary)	Edwards, Doug	Siemens Industry, Inc.	VM (Chair)
Voting Member	Burse, Ted	Powell Industries, Inc	
Voting Member	Carne, Clint	Schneider Electric	
Voting Member	Christian, Michael	ABB	
Voting Member	Hunt, Terry	Westinghouse	
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.	VM (ExO)
Voting Member (Ex-Officio)	Swing, Donnie	Powell	
Voting Member (Ex-Officio)	Webb, John	ABB	
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	
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.	NVM
Non-Voting Member	Hensberger, Jeremy	MEPPI	
Non-Voting Member	Hetzer, Matthew	PEPCO	
Non-Voting Member	Hohnstadt, Benjamin	DTE	

Minutes of Meeting
Working Group: Methodologies to Demonstrate Expected Life of
Lubricants Used in Switching Devices
9:00 AM to 10:30 AM (EDT), June 6, 2023
Meeting

Participant Type	LastName, FirstName	Company	6/6/2023
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	
Non-Voting Member	Jingsong He	China Southern Power Grid	
Non-Voting Member	Keels, Thomas	kEElectric Engineering	NVM
Non-Voting Member	Krause, Dwight	Black & Veatch	
Non-Voting Member	Lanning, Scott	S&C Electric	
Non-Voting Member	Livshitz, Albert	Qualus Power Services	
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	
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	
Non-Voting Member	Reid, Laura	Hubbell Power Systems	
Non-Voting Member	Riffe, Dave	Westinghouse Electric Company	
Non-Voting Member	Rowe, Ryan	TCI	
Non-Voting Member	Salinas, Alex	Doble/Vanguard	
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	
Non-Voting Member	Voyles, Adam	Ameren	
Non-Voting Member	Ward, Jeffrey	Doble Engineering Company	

Minutes of Meeting
Working Group: Methodologies to Demonstrate Expected Life of
Lubricants Used in Switching Devices
9:00 AM to 10:30 AM (EDT), June 6, 2023
Meeting

Participant Type	LastName, FirstName	Company	6/6/2023
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	
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