

MOM - Charlotte- April 26, 2017

C37.10.1 Working Group

Dave Mitchell Chair, George Becker acting Co-Chair, John Eastman- Secretary

Attending 16 members and 33 guest

Problems with 123 Signup. Pat DeLillo has problems. Payment receipt problems.
Neil Hutchins suggests checking the email profile.

Dave Mitchell will now use group emails instead of 123.

Accept minutes of Pittsburgh- seconded- accepted.

Went to ballot, 126 balloters, 160 comments, breakdown on slide 50 tech, 77 editorial, 33 general

Tentative dates, 2 week recirculation in July, August comments.

Review of Technical Comments:

Comment Reference standard 141-1993, suggested- ought to be included- rejected
It is for industrial circuits, -not applicable.

Comment Line 568 Comment No score defined under score 2.

We did not want to set up a scoring method. These were examples of how someone can set up their own failure modes tool, subjectively create their own score. It is all subjective, depends on circumstances.

What are the possible causes? What can be done?

Pat Dilillo- agreed. Just to make you think about options and cost justification. Only a guide.

Commenter wants reference for 5.1.

W5.1 -7.1 match documents. Define the values of the requested score.

Comment Table 3, line 4. Periodic insulation testing. Megger test on control cables 600 volt controls.

Neil Hutchins says test done every 12 years. Accepted

Comment Table 5 line 1, dielectric withstand, of oil?

Oil dielectric is an option to monitor. ASTM Standard. Dielectric test.

Should we reject the comment? Off line test.

On-line dielectric test is not available. Was oil dielectric the cause of a interruption failure?

Pat Dillillo discuss on-line vs off-line

Carl Shultz- Dielectric withstand, Europeans interpret differently

Add "withstand"

Comment- Disturbance Recorder- erosion of contacts. Monitor all poles.

Disturbance- need current imbalance.

Info can be had from protection circuits

Revise- focus on the controls (protection) and the monitoring they do. Could be "current imbalance detection".

Vibration, dampening, Can it detect an uncommanded close? Will detecting vibration help prevent this?

Establish a baseline of normal vibration.

Revise text in monitor options.

Comment

Line 4, feasible to monitor movement of release mechanism?

Worn close latch?

Measuring coil current vs: time of movement of close

10 minute discussion.

Comment 20 Table 11, on-line travel transducer

Propose off-line testing

Comment Moisture, condensation

Change to wording- moisture condensation in GAS, not sf6 specifically, there are other types of gasses.

Condensation on insulation is the culprit.

Comment

Particles in GIS gas. Monitor by partial discharge, Could be acoustic, which is SOTA.

Revise text in "monitor options"

Comment

This text on Table 19, monitor stored energy. No offer of substitute. Comment says it is too vague.

Monitoring for too much stored energy. Safety issue.

Reject- required more detail

Comment

Wishes of body? 6 technical left. Do we want a resolutions group?

Manage the rest of the work through recirculation within participants of resolution group.

14 day recirculation.

Todd proposed, Neil seconded it to have a resolution group.

Carl Shultz, Vernon Toups, Todd Irwin, and Dave Mitchell will serve as the resolution group.

Get comments back and redo.

Attendance:

Chair	Dave	Mitchell	Dominion
Member	Devki	Sharma	Consultant
Member	Anne	Bosma	ABB AB
Member	Chih	Chow	PEPCO
Member	Hua Ying	Liu	Southern California Edison
Member	Arben	Bufi	Hitachi T&D Solutions, Inc.
Member	George	Becker	POWER Engineers
Member	Anthony	Ricciuti	Eaton Corporation
Member	Thomas	Pellerito	DTE Energy
Member	Patrick	Di Lillo	Consolidated Edison Co. of NY, Inc.
Member	Todd	Irwin	GE Grid Solutions
Member	Michael	Skidmore	AEP
Member	Vernon	Toups	Siemens
Member	Carl	Schuetz	American Transmission Company (ATC)
Member	Roy	Hutchins	Southern Company Services
Member	John	Eastman	INCON
Guest	Anne	Bosma	ABB AB
Guest	Richard	York	Mitsubishi Electric Power Products Inc.
Guest	Edgar	Dullni	ABB
Guest	Alan	Peterson	Utility Service Corporation
Guest	Vincent	Marshall	Southern Company Services
Guest	Sushil	Shinde	ABB Inc.
Guest	Brad	Leccia	Eaton
Guest	Robert	Foster	Megger
Guest	John	Hall	Tennessee Valley Authority
Guest	Tom	Mulcahy	Dominion Virginia Power
Guest	Vincent	Chiodo	HICO
Guest	Raymond	Frazier	Ameren
Guest	Roy	Ayers	Nashville Electric Service
Guest	Michael	Christian	ABB
Guest	James	Lagree	Eaton
Guest	Dragan	Tabakovic	Meramec Instrument Transformer Co.
Guest	Wei	Zhang	Hitachi HVB, Inc.
Guest	Jon	Schumann	American Transmission Company
Guest	Daniel	Schiffbauer	Toshiba International Corporation
Guest	Jeffrey	Brogdon	Georgia Transmission
Guest	Jason	Cunningham	Hitachi HVB, Inc.
Guest	Amir	Khosravi	BC Hydro
Guest	Howard	Fennell	Nashville Electric Service
Guest	Scott	Lanning	S&C Electric
Guest	Koustubh	Ashtekar	Eaton Corporation
Guest	John	Phouminh	PEPCO HOLDINGS, INC.
Guest	Brian	ONeil	CE Power Engineered Services
Guest	Bobby	Rich	Dominion Virginia Power
Guest	Jeffrey	Ward	Doble Engineering Company
Guest	Jennifer	Hunter	MEPPI
Guest	SangTae	Kim	HICO/HYOSUNG

Guest	Jonathan	Cheatham	GE
Guest	Marcus	Bonner	GE