

PC37.74 WG Meeting

10/10/11 & 10/12/11 – Nashville, TN

The meeting was called to order by Steve Meiners, Chair, at 8:02 AM

Introductions were made.

Minutes for last meeting were previously submitted for review. The minutes were accepted – motion by Frank Muench, seconded by Tim Royster.

The patent slides were presented and reviewed. There were no questions or comments.

Ballot for Draft 6 closed May 26. Comments have been reviewed. Thanks to Chuck Ball and Scott Reed for help over last few months. The preliminary review was completed, but there are a few highlighted items to consider at this meeting.

Transformer magnetizing current is not consistent with 1247. The standard as writing suggests that we would be closing into 63kA 20 times, which is not considered realistic. Chuck Ball discussed his points and why we should use a lower multiplier value for the switching devices. Ray O’Leary told Chuck that these are representative and that the test was more severe than actual switching. Bill Hurst is working on a revision. Ed Jankowich suggested that we discuss with 1247 and Steve agreed. The “3000 times” is the issue. There is an exemption if load testing has been passed up to 2500 kVA. A follow up with 1247 WG is needed, Steve to coordinate. Need to nail down 3000 vs. 5000 multiplier. 2 tenths of a percent is magnetizing inrush current, so lower values may be valid from that point of view. Nenad suggested contacting the transformer group. Frank DeCesaro will check with the other labs. Jerry Baskin suggested that we might want to take an exception to 1247 until we have a better answer. Steve will check on the PAR, which he thinks goes to the end of next year – December 31, 2012, this was verified by Tim Royster during the meeting.

5.5.3 Note 4 references to IEC 60694. Should refer to IEEE Std 1. Dave Stone will verify this is an active standard. Still valid standard, dated 2000, and will replace IEC 60694 with Std. 1.

Reference to 1247 clause 6 – Design (Type) tests. Suggested that these be taken from C37.60. Jan suggested adding sub-clauses with tolerances. **Jan Z. will submit suggested changes based on C37.60.**

6.4.2 – Ttest sequence harmonization that the numeric sequence in Table 7 need not be followed sequentially. The WG discussed pre-conditioning. S. Meiners moved to defer this issue agreed by WG.

6.6.2 – Frank DeCesaro – Test sequence is not specified for fusing devices. Withdrawn the comment.

6.7.2.1 – Test values exceed the rated values of the rubber goods. Frank suggested that the failure of the interface not be counted as a failure of the DSG. The most common failure is at the interface, not a blow-out of the rubber goods. Change accepted by WG, language will be added that failure of rubber goods is not a failure to DSG.

6.7.4.1 – Craig B - Use “DC” instead of “direct current”. Accepted by WG.

6.7.4.3 – Ted Olsen comment make change to no greater than 11 instead of 10 +/- 1. Will be 11 “or less as mutually agreed to by lab and customer”.

6.7.4.6 – Jim Swank – Alternate methods of preconditioning as defined in 1247 shall not be allowed.

6.7.5.1 – has reference to TRV.

6.7.5.4 – Frank DeCesaro – Where is TRV specified? For Load switching - 1247, Appendix B, table 6, Fig 6 gives TRV for loop switching. Full load is in Table 7. Add note to refer to 1247, Appendix B. This is in the draft, so this change is being rejected, since it is already covered.

There are 12 comments left. Chuck B suggested that Steve take his best shot at the remaining issues. Steve will try to set up a time, and then submit any results to the group.

Meeting was adjourned at 10:50.

Second Session, 10/12/11 Wed, 8 AM in Neeley Room

The meeting was called to order at 8:01 AM by Steve Meiners, Chair of WG.

6.7.5.4 – Frank D – Use language to agree with C37.41. **Frank M. will add to text and work off-line with Steve.**

6.7.5.4 – Frank D – recommend $X/R > 5$, given limits of steps of labs inductors. Between 5 & 7, may be higher by mutual agreement between manufacturer and lab agreed wording will be added.

6.7.5.4 – Frank D – notes are normative, not informative – convert notes to footnotes. Chuck Ball task 2 has cleaned up these discrepancies.

6.7.5.4 – Scott Reed comment was accepted to reword and move sentence.

6.7.5.4 – D Stone – similar to Chuck Ball’s response – OK.

6.7.5.4 – Scott R – unloaded transformer test may be waived if load switching has been passed – add footnote reference to 6.7.5.7.

6.7.6 – Matthew Z – thermal testing of SF6 switches, don’t want to untank due to potential by-products. DC resistance check may be used if values before and after are less than 200% of highest value of previously measured maximum value, similar to .60. 6.4.3, second paragraph needs to be revised. 50% or 100 μ Ohms.

6.7.6 – Ted B – similar to above. **Larry P. will coordinate the three comments and come back with a proposal.**

6.7.6 – Larry P – See above.

6.7.6 – Jim S – See above.

6.7.7 – Dave S – Partial discharge – harmonize with C37.60 draft 8.

6.7.7.1 – Chuck B – partial discharge – will return to issue – wants number changed to 100 pC as used by Canada. Will keep text, but change to 100 pC. **Dave will send language of streamlined note to Steve.**

Leave the clause and title, but remove PD design test requirements for design test. Add an explanation as to the reason. Can take the note on PD from C37.60 (6.106.1). Motion made by Dave / Don second. Passed – unanimous.

9.12 – Paul B – text is garbled – need to massage the language. Eliminate everything after 2nd sentence.

9.12 – Ted Olsen – similar

9.2 – Dave S – dependent manual operation – Change 2nd paragraph by adding as 1st sentence the following: "Dependent manual operation of gang operated switches is not permitted."

Also change the title of 9.2 to Independent manual operation of Gang Operated Switches.

Plan going forward – have a revised draft (draft 7) to the WG by the end of November. Response requested by the middle of December from WG. If no response this will be taken as your acceptance.

Dave moved that Steve and Chuck be authorized to make needed revisions. Accepted.

Meeting was adjourned at 9:54.

Attendance for both meetings is given below.

Total attendance - 26

Members – 18, Guest 8

Role	Participation Status	First Name	Last Name	Company	10/10&12/2011
Guest	Active	Robert	Smith	Eaton Corporation	X
Member	Active	Walt	Von Miller	Delta Technology Consulting, Inc.	
Member	Active	Frank	DeCesaro	Cooper Power Systems	X
Member	Active	Edward	Jankowich	Jankowich Consulting LLC	X
Member	Active	Donald	Martin	G&W Electric Co.	X
Member	Active	David	Stone	DTS Technical Services	X
Guest	Active	Ted	Burse	Powell Industries, Inc	
Member	Active	James	Swank	Cooper Power Systems	X
Member	Active	Timothy	Royster	Dominion Virginia Power	X
Member	Active	Frank	Muench	Cooper Power Systems	X
Guest	Active	Frank	Lambert	Georgia Tech / NEETRAC	
Guest	Active	Francois	Soulard	Hydro-Quebec	X

Member	Active	Jan	Zawadzki	Powertech	X
Guest	Active	Peter	Glaesman	Reuel, Inc.	X
Guest	Active	Paul	Barnhart	Underwriters Laboratories	
Member	Active	Larry	Davis	Reuel Inc	
Member	Active	Craig	Befus	BC Hydro	X
Member	Active	Raymond	Capra	Consultant	
Guest	Active	Marcel	Fortin	BPR Energy Inc	
Member	Active	Charles	Ball	S&C Electric Company	X
Member	Active	Chris	Ambrose	Federal Pacific (Div. of Electro-Mechanical Corp.)	X
Member	Active	Jeffrey	Gieger	Thomas & Betts	X
Member	Active	Tim	Taylor	Thomas & Betts	X
Guest	Active	Larry	Putman	Powell Electrical Systems Inc.	X
Chair	Active	Steven	Meiners	GE	
Member	Active	Nenad	Uzelac	G&W Electric	X
Guest	Active	Dan	Gardner	Thomas & Betts	
Guest	Active	Connie	Taylor	Pacific Gas & Electric Co.	
Guest	Active	Tyrone	Meeks	S&C Electric Company	
Member	Active	George	House	Yaskawa Electric America	
Member	Active	William	Walter	We-Energies	X
Guest	Active	Gerard	Schoonenberg	Eaton	
Member	Active	Scott	Reed	S&C Electric Company	X
Guest	Active	Harold	Hirz	Thomas and Betts	
Guest	Active	Lawrence	Farr	Eaton Electrical	
Guest	Active	Edgar	Dullni	ABB	
Guest	Active	Herman	Bannink	KEMA Netherlands	
Guest	Active	Antone	Bonner	Cooper Power Systems	
Member	Active	Jerry	Baskin	Federal Pacific	X
Guest	Active	Mari	Estep	NV Energy	
Guest	Active	Mark	Feltis	Schweitzer Engineering Laboratories, Inc	
Guest	Active	Dudley	Marshall	Hubbell Power Systems	
Guest	Terminated	Karl	Pilz	Siemens Energy Inc.	
Guest	Active	Chris	Lettow	S&C Electric Company	X
Guest	Active	Sachin	Puranik	Hubbell Power Systems	
Guest	Active	Daniel	Landreman	Cooper Power Systems	
Chair	Active	Steven	Meiners	GE	X
Guest	Active	Reid	Herzog	OG&E	X
Guest	Active	Andrew	Swisher	Southern California Edison	
Guest	Active	Herbert	Martinez	Southern California Edison	
Guest	Active	Jason	Stevens	Reuel Inc	
Guest	Active	Ruben	Del Valle Jr.	NV Energy	
Guest	Active	Kenneth	Lee	Thomas & Betts Corporation	
Guest	Active	Tom	Hawkins	Siemens	
Guest	Active	Robert	Traska	Trinetics/Maysteel	X
Guest	Active	Douglas	Fitchett	American Electric Power Co	X