

IEEE Power & Energy Society  
Switchgear Committee  
C37.20.7 Working Group Report  
23-September-2014

The working group met on Tuesday, September 23, 2014, at 8:00AM.

Agenda:

The agenda was previously distributed. Agenda accepted without objection.

Patents:

Those registered at the Switchgear Committee meeting in San Antonio had to acknowledge the IEEE-SA rules on Patents, and therefore, review in this meeting is not required. Nevertheless, the chair displayed the Patents slides and reminded attendees of their obligations. The participants were reminded that anti-competitive issues are never allowed for discussions.

General:

The PAR for this project was approved by the IEEE-SA Standards Board on November 9, 2011, and is valid through 2015.

Members introduced themselves, identified their company and their affiliation. Total attendance was 62 persons. Attendance included 21 working group members (of 30, with 2 absent and 7 excused, plus 41 guests. Attendance is as shown below:

Members / Affiliation	Members / Affiliation	Guests / Affiliation	Guests / Affiliation
C. Ball (E) – S&C	D. Lemmerman (P) – Exelon/PECO	D. Beseda (P) – S&C	P. Medina (P) - Siemens
P. Barnhart (P) - UL	F. Mayle (P) - Technibus	M. Bryant (P) - GE	S. Meiners (P) - GE
J. Baskin (P) – Federal Pacific	D. Mazumdar (P) - AZZ	J. Campbell (P) – Powell	P. Milovec (P) - IEM
R. Boyce (A) – Eaton	D. Mohla (E) – DCM Electrical Consulting	C. Canne (P) – Schneider	R. Morris (A) - Eaton
J. Bowen (P) - Aramco	A. Morse (P) - Eaton	S. Cary (P) - Eaton	D. Moser (P) – ABB
E. Byron (P) - Schneider	T. Olsen (P) - Siemens	R. Cohn (P) – Powercon	R. Pawar (P) - ABB
J. Earl (P) - ABB	M Orosz (P) - Schneider	D. Dunne (P) - Schneider	A. Petersen (P) - ABB
D. Edwards (E) - Siemens	A. Patel (P) - GE	D. Elliott (P) – ABB	R. Puckett (E) – retired
M. Flack (A) – Southern Nuclear	C. Schneider (P) - Schneider	S. Flores (P) - Schneider	S. Reddy (E) – Powell
K. Flowers (P) - Siemens	J. Smith (P) - retired	P. Gingrich (P) - AZZ	T. Rohrer (P) - Exiscan
D. Gohil (P) – AZZ	P. Sullivan (P) - DuPont	J. Hanson (P) – Schneider	R. Rohr (P) - Powell
H. Josten (P) - Siemens	C. Taylor (E) - Eaton	R. Hartzel (P) - Eaton	A. Rowell (P) - Eaton
A. Jur (E) – Eaton	M. Valdes (P) - GE	T. Hawkins (P) – Siemens	T. Schiazza (P) - Schneider
C. Kennedy (E) - Schneider	M. Wactor (P) – Powell	J. Hidaka (P) – UL	M. Seabrook (P) – GE
M. Lafond (P) - GE	R. Warren (E) – DNV-GL	D. Hrcir (P) – Eaton	E. Spiewak (P) – IEEE-SA
		D. Jackson (P) – ABB	R. Tanner (P) – Schneider
		R. Jones (P) – Eaton	T. Tobin (P) – S&C
		J. Joseph (P) - Toshiba	R. Trussler (P) - Schneider
		W. Jung (P) – Siemens	E. Yee (P) - Eaton
		J. Kaminski (P) - Siemens	L. Yonce (E) – Eaton
		J. Lord (P) - Siemens	M. Williford (P) - Schneider
		J. McClelland (P) – Technibus	T. Woodyard (P) - Siemens
		C. McCollum (P) – ABB	

The minutes from the Spring 2014 meeting were approved. A. Morse (Allan) moved to approve and J. Earl seconded. Motion passed unanimously.

Chair Comments:

Objective is to get through the issues on the agenda, and then move to ballot.

Wire size for arc initiation:

The latest material of wire size for arc initiation has been input and is thought to be correct. The chair of this task force was not present, and is asked to validate that the draft is correct. Others are invited to review and comment if necessary. The task force on wire size for LV tests consisted of:

R. Morris (chair), H. Josten, C. Schneider, A. Jur, D. Hrnecir, D. Dunne, M. Crooks, M. Valdes.

Review of D7:

- Definitions, insulation solid: D7 contains two sub-definitions, one for MV and another for LV. The definitions contain requirements, not appropriate for a definition. Further, the distinction between the two types seems inappropriate. Proposal from T. Olsen discussed. This will be put in D8 and comments are invited.
- Fault-free zone: Suggestion of adding definition of a fault-free zone, and modifying the document to recognize the effect of fault-free zones on testing. J. Bowen will provide suggested text by October 7.
- Arc energy: Discussion about possibly changing criterion of test current / voltage to a criterion of arc energy. Should energy be a function of I-squared or I? Should it be a function of current and applied voltage or arc voltage? Can the laboratories provide data (consistently) on energy? Task force: M. Wactor, T. Olsen.
- Frequency: The limit of 8% frequency reduction in clause 5.2.5 was discussed, as the laboratories probably cannot meet the 8% limit for higher currents. The thinking is that the limit of frequency decay is not important and that this limit can be eliminated. The chair will create revised for the next draft.
- Calculation of alternative durations: Move last paragraph of 5.2.6.1 to be the last paragraph of 1.2.4.
- Discussion of the concept of the arc persisting until a protective device operates. The chair will refine the wording.
- Indicators vs burn indicators: The document will be checked to be sure that all instances of indicators are changed to burn indicators.
- Clause E.5.2.1: Discussion of added test in D7 on shared exhaust passages.
- Clause H.3.3: Discussion of preferred minimum duration of 0.1 s for LV MCCs. After discussion, text will remain as is in the next draft.
- Arc initiation: The original task forces for each specific product are requested to consider the question of the arc initiation wire used. Comments required from the task forces by the end of October.
- Metal-enclosed bus: This annex is problematic. Is it reasonable as in D7? With all of the mounting variations of metal-enclosed bus, is the present D7 version adequate?
- Olsen comments: Mostly editorial, the chair will incorporate appropriate revisions.
- GIS: E. Byron proposes an annex for conducting internal arcing tests for MVGIS (C37.20.9) and therefore we would need a PAR revision to extend up to 52kV and incorporating gas insulation. The PC37.20.9 working group is requested to provide a proposed annex.
- Outdoor circuit breakers: HVCB wishes to have test procedures for arcing tests on outdoor HV circuit breakers. This would also require a PAR revision. The HVCB subcommittee is requested to provide a proposed annex.

Moved by E. Byron and seconded by J. Bowen to extend the scope to include MVGIS equipment (PC37.20.9), including those having solid dielectrics, and to raise the upper limit of voltage to 52kV. Motion passed. Submittal of a revision to the PAR scope will be delayed until after we have received a proposed annex from the C37.20.9 working group.

There is also discussion of extending to include internal arcing tests of outdoor HV circuit breakers, and this is another reason to delay submittal of a revision to the PAR.

It is expect that the next draft will be sent out for comments within about six weeks, with comments four weeks later. The original intent was to begin balloting after the Fall meeting, but the uncertainties relative to MVGIS and outdoor HV circuit breakers will likely delay the start of balloting somewhat. We want to submit for the start of balloting by February 1.

The meeting adjourned at 12:05PM.  
Report submitted by:

M. Wactor, WG Chair