

**Minutes: 3.0 Main Committee Meeting
May 15, 2008
Sheraton Sand Key Hotel**

1) Call to order

Chair: Ken Brown (apologies Frank Waterer)
Secretary: Tony Surtees

The meeting was called to order, introductions in place and sign-in sheet distributed.

2) Approval of agenda

Agenda was posted and approved.

3) Approval of minutes of last meeting

Fall 2007 Meeting Minutes were approved

4) Subcommittee reports

(3.1) Administrative & Standards – F. Waterer

In the absence of the Chair, the secretary presented a brief summary of A&S meeting held with Alain Rotz.

Secretary's Financial Report – A. Surtees (to date):

Income:

Checks deposited (5/12/2008) 2,730
Checks deposited (5/13/2008) 1,410
Checks deposited (5/14/2008) 220
Checks still to deposit 490
Cash Collected 1,330
Total Collections 6,180

Expenses:

Hotel 3,143
Hospitality 727
Total Expenses 3,870

Credit / (Debit) to Wachovia accounts: 2,310

Standards Coordinators

LV – W. Goldbach (absent). Report will be posted once received.
HV – J. Wilson: Jim will provide his report which will be posted.

(3.2) Bibliography – C. Lindquist
Committee did not meet.

(3.3, 3.4, 3.5) High Voltage Surge Protective Devices – S. Hensley (absent), status report presented by Michael Champagne

Good attendance for C62.11 – 16 members, 11 IP (4 became members). The document was published and the working group has started on the next cycle under 4 task forces. Jon Woodworth is running a 5th task force laying out a guide to provide rationale for each test.

Eva's group, 3.4.8 had 14 attendees, good attendance reviewed sections of application guide. New item is review fast transient (nanosecond) rise time issues.

Dave Jackson conducted his meeting via web conference.

WG 3.4.14 Document is in ballot resolution.

A full report will be provided by Steve Hensley.

(3.6) Low Voltage Surge Protective Devices – R. Hill

3.6.1 did not meet.

3.6.3 Mick Maytum reviewed comments received on C62.37.1 concerns relating to technical versus editorial comments referred to Jodi H.

C62.42 approved and in final edits. PAR for next revision in process

3.6.4 Reviewed updates from task force and focused on a decision to re-affirm the document.

C62.72 BRC reviewing comments

C62.62 Continued work on test specification

3.6.10 Patent issue resolved - a letter will be sent to the originator W. Goldbach. Reviewed comment matrix to draft C62.51.

A full report will be provided by Ray Hill.

(3.7) Online Community – M. Maytum

Mick highlighted some of the items he brought up during the meeting with Alain Rotz, including:

- PES front page needs to have more impact
- What PES really does
- Attract stakeholders (student chapters)

A full report will be provided by Mick.

Request that all WG chairs to provide to the Secretary a summary of their WG activities for inclusion in these minutes.

5) Liaison Activities

IEC TC 37: Mike Comber will provide a report to be attached to these minutes.

IEC TC 37B: Mick Maytum will provide a written report.

IEC TC 37A WG3: Joe Koepfinger provided a written report - attached.

IEC TC81 WG3, WG9: Tony Surtees detailed activities re IEC 62305 series on Lightning Protection. New CDs towards Ed2.0 have been circulated. Part 4

“Protection of Electrical and Electronic Equipment within Structures” should be of interest to SPDC. There is a move from US and UK to add some rational to surge ratings in this standard via means of a new informative Annex.
IEC SC77A WG4: Wolfgang Oertel provided a written report - attached.
PES TC Activities – No report.

6) Old business

No actions.

7) New business

Spring 2009 Meeting. The contract has been renewed with the hotel for May 9-15, 2009, with same rate as this meeting (need to increase rooms for some of HV meetings).

8) Review of action item list

Chairs to please provide secretary copy of their reports

9) SPDC Future Meeting Locations and Schedule

The next meeting (Fall Meeting 2008): DoubleTree Cariari, San Jose, Costa Rica, Nov 10-14, 2008. Wolfgang has offered to assist with local arrangements.
Suggestion that members check on vaccination requirements - Typhoid, Hepatitis A&B.

Meeting adjourned.
4.10pm



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10 November, 2008

SUBJECT: LAISON AND TAG REPORT TO US TAG for SC 37A and SC 37B
IEEE SPDC A&S
IEEE SPDC 3.6
IEEE SPDC SECRETARY

1 INTRODUCTION

This report covers the time period from the September 2007 to May 2008

2 SC 37A WG 3

2.1 Information from Shanghai meeting of SC 37A

This working group meet on 11-12 November 2007 in Shanghai, CH. The following is a copy of the agenda for his meeting and the topics that were discussed



Microsoft Word
Document

2.2 Status of next revision of 61643-12 Ed 3

At this meeting there was a review of the material that might be included in the for 61643-12 Ed 2. Surge protective devices connected to low-voltage power distribution systems - Selection and application principles. This is to be circulated as an FDIS to the National Committee before the June 2008 meeting. It has been reported that this document was sent to the Central Office in the USA the week of 4 May 2008.

2.3 TOV VALUES

One of the issues discussed was the need to review the values being used for Temporary Overvoltages (TOV). There is a concern by some countries the value they have observed are outside the limits being proposed for the next revision of IEC 61643-12 200x. The Central Office circulated 37A/197/DC which requested the NC to provide information on the TOV values related to low-voltage systems in their nation. The US submitted a copy of table 1 of ANS C84.1 and a copy of table 4-2 Categories and Typical Characteristics of Power System Electromagnetic Phenomena. This is include below in this report.

1 **Table 4-2— Categories and Typical Characteristics of Power System Electromagnetic**
 2 **Phenomena¹**

Categories	Typical Spectral Content	Typical Duration	Typical Voltage Magnitude
1.0 Transients			
1.1 Impulsive			
1.1.1 Nanosecond	5 ns rise	< 50 ns	
1.1.2 Microsecond	1 μs rise	50 ns - 1 ms	
1.1.3 Millisecond	0.1 ms rise	> 1 ms	
1.2 Oscillatory			
1.2.1 Low Frequency	< 5 kHz	.3 - 50 ms	0 - 4 pu ³
1.2.2 Medium Frequency	5 - 500 kHz	20 μs	0 - 8 pu
1.2.3 High Frequency	0.5 - 5 MHz	5 μs	0 - 4 pu
2.0 Short Duration RMS Variations			
2.1 Instantaneous			
2.1.1 Sag		0.5 - 30 cycles	0.1 - 0.9 pu
2.1.2 Swell		0.5 - 30 cycles	1.1 - 1.8 pu
2.2 Momentary			
2.2.1 Interruption		0.5 cycles - 3 s	< 0.1 pu
2.2.2 Sag		30 cycles - 3 s	0.1 - 0.9 pu
2.2.3 Swell		30 cycles - 3 s	1.1 - 1.4 pu
2.3 Temporary			
2.3.1 Interruption		3 s - 1 min	< 0.1 pu
2.3.2 Sag		3 s - 1 min	0.1 - 0.9 pu
2.3.3 Swell		3 s - 1 min	1.1 - 1.2 pu
3.0 Long Duration RMS Variations			
3.1 Interruption, Sustained		> 1 minute	0.0 pu
3.2 Undervoltages		> 1 minute	0.8 - 0.9 pu
3.3 Overvoltages		> 1 minute	1.1 - 1.2 pu
3.4 Current Overload		> 1 minute	
4.0 Unbalance			
4.1 Voltage		steady state	0.5 - 2%
4.2 Current		steady state	1.0 - 30%
5.0 Waveform Distortion			
5.1 DC Offset		steady state	0 - 0.1%
5.2 Harmonics	0 - 9 kHz	steady state	0 - 20%
5.3 Inter-harmonics	0 - 9 kHz	steady state	0 - 2%
5.4 Notching		steady state	
5.5 Noise	broad-band	steady state	0 - 1%
6.0 Voltage Fluctuations	< 25 Hz	intermittent	0.1 - 7% 0.2 - 2 P _{st} ²
7.0 Power Frequency Variations		< 10 s	+/- 0.10 Hz

4 Notes:

- 5 1. These terms and categories apply to power quality measurements and are not to be confused with similar terms
 6 defined in IEEE 1366 [B7] and other reliability related standards, recommended practices, and guides.
 7
 8 2. Flicker severity index P_{st} as defined in IEC 61000-4-15 [B8] and IEEE 1453 [B9].
 9
 10 3. The quantity "pu" refers to *per unit*, which is dimensionless. 1.0 pu corresponds to 100%. The nominal condition
 11 is often considered to be 1 pu.

Table 1 – Standard nominal system voltages and voltage ranges (Preferred system voltages in bold-face type)

VOLTAGE CLASS	Nominal System Voltage			Nominal Utilization Voltage (Note h)	Voltage Range A (Note b)			Voltage Range B (Note b)		
	(Note a)				Maximum	Minimum		Maximum	Minimum	
	2-wire	3-wire	4-wire	2-wire 3-wire 4-wire	Utilization and Service Voltage (Note c)	Service Voltage	Utilization Voltage	Utilization and Service Voltage	Service Voltage	Utilization Voltage
Low Voltage (Note 1)	<i>Single-Phase Systems</i>									
	120			115	126	114	110	127	110	106
		120/240		115/230	126/252	114/228	110/220	127/254	110/220	106/212
	<i>Three-Phase Systems</i>									
		208Y/120 (Note d) 240/120	200 230/115 230	218Y/126 252/126 252	197Y/114 228/114 228	191Y/110 220/110 220	220Y/127 254/127 254	191Y/110 (Note 2) 220/110 220	184Y/106 (Note 2) 212/106 212	184Y/106 (Note 2) 212/106 212
	240 480 600 (Note e)	480Y/277	460Y/266 460 575	504Y/291 504 630 (Note e)	456Y/263 456 570	440Y/254 440 550	508Y/293 508 635 (Note e)	440Y/254 440 550	424Y/245 424 530	424Y/245 424 530
Medium Voltage		2400	4160Y/2400		2520	2340	2160	2540	2280	2080
		4160 4800 6900			4370/2520 4370	4050Y/2340 4050	3740Y/2160 3740	4400Y/2540 4400	3950Y/2280 3950	3600Y/2080 3600
			8320Y/4800 12000Y/6930 12470Y/7200 13200Y/7620 13800Y/7970		5040 7240	8730Y/5040 12600Y/7270 13090Y/7560 13860Y/8000 14490Y/8370 14490	4680 6730	8800Y/5080 12700Y/7330 13200Y/7620 13970Y/8070 14520Y/8380 14520	4560 6560	4160 5940
		13800			14490 14490	8110Y/4680 11700Y/6760 12160Y/7020 12870Y/7430 13460Y/7770 13460	4320 6210	8800Y/5080 12700Y/7330 13200Y/7620 13970Y/8070 14520Y/8380 14520	4560 6560	4160 5940
	23000 34500		20780Y/12000 22860Y/13200 24940Y/14400 34500Y/19920		21820Y/12600 24000Y/13860 24150 26190Y/15120 36230Y/20920 36230	20260Y/11700 22290Y/12870 22430 24320Y/14040 33640Y/19420 33640	(Note f) 12420	19740Y/11400 21720Y/12540 21850 23690Y/13680 32780Y/18930 32780	(Note f) 11880 (Note f)	
	46000			48300	Maximum Voltage (Note g) 72000	Note 1: Minimum utilization voltages for 120-600 volt circuits not supplying lighting loads are as follows: Nominal System Range Range Voltage A B 120 108 104	Note 2: Many 220-volt motors were applied on the assumption that the utilization voltage would be less than 187 volts. Caution should be exercised in applying the Range B minimum voltages of table 1 and note (1) to existing 208-volt systems supplying such motors.			
	115000 138000			121000 145000						
		161000			169000					120/240 108/216 104/208

		230000		242000	* 208Y/120 187Y/108
	345000			362000	180Y/104 240/120 216/108
	400000			420000	208/104 240 216 208
	500000			550000	480Y/277 432Y/249 416Y/240
	765000			800000	480 432 416 600 540 520 * -
	1100000			1200000	(Note 2)

NOTES

- (a) Three-phase three-wire systems are systems in which only the three-phase conductors are carried out from the source for connection of loads. The source may be derived from any type of three-phase transformer connection, grounded or ungrounded. Three-phase four-wire systems are systems in which a grounded neutral conductor is also carried out from the source for connection of loads. Four-wire systems in table 1 are designated by the phase-to-phase voltage, followed by the letter Y (except for the 240/120-volt delta system), a slant line, and the phase-to-neutral voltage. Single-phase services and loads may be supplied from either single-phase or three-phase systems. The principal transformer connections that are used to supply single-phase and three-phase systems are illustrated in Annex A.
- (b) The voltage ranges in this table are illustrated in Annex B.
- (c) For 120-600-volt nominal systems, voltages in this column are maximum service voltages. Maximum utilization voltages would not be expected to exceed 125 volts for the nominal system voltage of 120, nor appropriate multiples thereof for other nominal system voltages through 600 volts.
- (d) A modification of this three-phase, four-wire system is available as a 120/208Y-volt service for single-phase, three-wire, open-wye applications.
- (e) Certain kinds of control and protective equipment presently available have a maximum voltage limit of 600 volts; the manufacturer or power supplier or both should be consulted to assure proper application.
- (f) Utilization equipment does not generally operate directly at these voltages. For equipment supplied through transformers, refer to limits for nominal system voltage of transformer output.
- (g) For these systems, Range A and Range B limits are not shown because, where they are used as service voltages, the operating voltage level on the user's system is normally adjusted by means of voltage regulators or load tap-changers to suit their requirements.
- (h) Nominal utilization voltages are for low-voltage motors and control.

By H. Wolfgang Oertel

An IEC SC37A WG4 meeting was held in Brisbane AU on 09, 10 & 11-04-2008 on the kind invitation of Richard Harris from FULTEC. It was attended by DE (Phoenix Contact: Hausmann; Deutsche Telekom: Ackermann*), US (Bourns: Oertel*), JP (Sankosha: Yamada, Furuta, SDN: Arai, Kaito, Yamada); AU (Telstra: Day*; FULTEC: Harris*; Huang); UK (Bourns LTD: Maytum* excused)

**ITU-T K series, Study Group 5-members*

The next meeting of WG4 is planned before or after and in connection with the SC37-plenary meeting on 14th and 16th October 2008 in Vienna.

The next meeting after that will be in April/May 2009 in the US., probably in the vicinity of Minneapolis to give our former convener Stan Bonnensen a chance to participate.

1. IEC 61643-21 (Low voltage surge protective devices - Part 21: Surge protective devices connected to telecommunications and signalling networks - **Performance requirements and testing methods**)

IEC SC37AWG4 has prepared an amendment 1 of IEC 61643-21 that was published with voting date 03/2008). A positive vote is expected. The possibly negative vote of US focused on SPD-definition was noted but will not lead to re-discussing it within WG4 at the moment.

Note:

The amendment just got approval from the IEC in Geneva (see attached Notice)

2. IEC 61643-22 (Low-voltage Surge Protective Devices - Part 22: Surge protective devices connected to telecommunications and signalling networks – **Selection and application principles**)

A new chapter of IEC 61643-22 dealing with the need of EMC requirements for SPD will be prepared. The EMC-Directive of the EU gives some indication how benign parts of the telecommunications network should be treated.

As a basis for the discussion of the voltages and currents in use, ISO/IEC JTC 1/SC 25 (N 1397 NWIP on ISO/IEC TR 29125: IT - Telecommunications cabling guidelines for remote powering of data terminal equipment) and a contribution from Maytum on Power Over Ethernet (POE) was briefly introduced.

A new chapter dealing with multiservice protective devices (MSPD) has to be worked out, based on ETSI EN 302099 (Powering of equipment in access network) und TR 102 121(Guidance for power distribution to telecommunication and datacom equipment). WG4 will propose to the SC37-plenary 10/2008 that this has be on the work list of WG4

because of the strong liaison with the ITU-T SG5, IEC SC37A WG5 will be invited to participate. **ITU-T SG5 is asked to liaise on this subject.**

All chapters of IEC 61643-22 will be revisited by addressed members of WG4.

A short presentation on the evolution of the telecommunications network from PSTN to an IP-based one was given by Ackermann.

3. Information on ongoing work in Study Group 5

The main results of the SG5-meetings 11/2007 and 02/2008 with connections to IEC SC37AWG4 were presented; e.g. start of the study period 2008-2012 with the questions under study; restructuring plans within ITU-T; work plan under Q13. In addition, an overview of the agreed revisions and new K-Recommendations was given.