

IEEE Product Safety Engineering Society

IEEE PSES TSTC

Meeting Minutes: May 22, 2013

Members present: Don Gies (Alcatel-Lucent), Paul Ng (GE Energy), Joe Randolph (Randolph Telecom), Dan Roman (Creston Electronics), Jim Wiese (Adtran), Anne Venetta-Richard (Alcatel-Lucent)

Members absent: Al Martin (TE Connectivity), Tim Ardley (Adtran), Philip Havens (Littelfuse), Doug Parker (Adtran), Tom Smith (TJS Technical Services Inc), Steve Zugay (Cree), Peter Lim (Alpha Technology), Gary Schrempp (Dell), Peter Tarver (Enphase Energy), Mick Maytum.

1. Attendance/Introductions

Attendees introduced themselves.

2. Previous meeting minutes

The minutes from the last meeting was approved as submitted

3. New business

None.

4. AC Power Cross Considerations for Non-Telecom Signaling Lines (e.g. Ethernet, Alarms) Run in Outside Plant – Jim Wiese

Joe Randolph had asked Mick Maytum via email about the statistical likelihood of power cross. Mick said it was unlikely.

Joe Randolph had asked Jim Wiese how did GR-1089-CORE come up with the Level 1 power cross table. Jim said that on the last revision, paragraph-based test instructions were tabularized. Other portions were there since the 1990's. Statistical basis is unknown.

Jim Wiese – the $10A^2$ s tests were reduced to $1A^2$ s tests. The reason was that issues which were thought to be power-cross related turned out to be lightning related.

Some say that power crosses are extremely rare.

Joe Randolph – Has been reading that power systems have reclosers that supposedly induce currents in power. He has been reading a book, “Electrical Power Systems Quality,” written by Roger C. Dugan, Mark F. McGranaghan, Surya Sanotso, and H. Wayne Beaty. In the book, it says that power system reclosers were supposedly causing induction on telecom lines.

Jim Wiese – Al Martin and Mick Maytum have written a lot on the subject, but power-cross is the worst case of the worst cases lining up.

Jim Wiese – He has seen 25V-30 Vrms on telecom lines at a welding factory when electric welders were in use. Sometimes, as much as 300 mA induced current measured.

Joe Randolph – Serial cables have grounded shields. During fault conditions, a lot of current is flowing to ground.

Jim Wiese – Reclosers were only responsible for second level protectos.

IEEE Product Safety Engineering Society

Joe Randolph – With reclosers, the higher the current, the faster the reclosers open.

Joe Randolph – Level 1 (GR-1089-CORE) very high currents, running down the cable shields, but this will not occur with an Ethernet.

Jim Wiese – Reasonably possible that Ethernet can come in contact with 120 V ac.

Don Gies – But we do not test for indoor power cross.

Joe Randolph – need much larger exposure for Ethernet induction.

Jim Wiese – Field faults, blackened, bulge Ethernet jackets.

Jim Wiese – Interfaces with gas tube/PTC interfaces blowing up badly. ITU K.44 – New, why this happens – Appendix II.

5. Laboratory Safety –

There was a recent fire at a thermal chamber laboratory where input AC temporary wiring faulted and burned adjacent combustible materials. Six fire trucks from four adjacent towns came to put the fire out. Half of a wooden pallet was burned completely in an indoor location.

At other times, engineers conducting safety testing have brought live conductors with hazardous voltages to exposure in such a way that the technician could inadvertently touch the live conductors when turning off a circuit breaker. At another time, an engineer had tried to tighten something in a 17 kW power/battery cabinet with an uninsulated socket wrench and shorted out the DC secondary buss.

There may very well be a do-as-I-say-but-not-as-I-do mentality in laboratories, much less in the safety test laboratories. Is there an opportunity for the TSTC to create a handbook or guidebook for safety of lab personnel, using some lessons learned, and steering the lab personnel to more robust temporary wiring practices and guarding against access to hazardous voltages and energy?

Joe Randolph – Suggested this was outside the scope of the telecom safety technical committee, and everyone agreed.

6. Using IEC 62368-1 principles under IEC 60950-1 certifications -

It is clear that safety agencies have not adopted IEC 62368-1 yet or are reluctant to use it for certification at this time.

Nonetheless, could new principles of safeguarding found in IEC 62368-1 be applied in certain applications for IEC-60950-1 submittals?

Don Gies – Would like to use a clause in IEC 62368-1 with regard to remote radio heads, understood to get hot, to be allowed to be used for UL/CSA 60950-1 NRTL submissions. With this, a unit

IEEE Product Safety Engineering Society

know to get hot that is only service or restricted access can have the maintenance manual or warning labels instruct service personnel to allow XXX amount of time for the unit to cool off after de-energization. Under IEC 60950-1, if a metallic unit surface exceeds 90°C, even in restricted access, it must be guarded against unintentional contact. Effectively, this means outer shrouds of plastic or metal, adding complication and expense to the enclosure system. Often, these units are specified for high ambient temperatures, such as 55°C.

7. Additional agenda items

None.

8. Old Business

None.

Next meeting

Next meeting – Proposed Wednesday, 26 June 2013.

Respectfully submitted,

Don Gies

Vice Chairman.

| Participant | Employer | Telephone | E-mail | IEEE Member? | PSES Member? | Linkedin Subgroup | Other Committee |
|----------------------|------------------------|-----------------|-----------------------------|--------------|--------------|-------------------|-----------------|
| Tim Ardley | Adtran | | tim.ardley@adtran.com | | | | |
| Don Gies | Alcatel-Lucent | +1-908-582-5978 | don.gies@alcatel-lucent.com | X | X | X | 8 |
| Phillip Havens | Littelfuse | +1-214-450-9658 | phavens@littelfuse.com | | | X | 2 |
| Peter Lim | Alpha Technologies | +1-604-638-8687 | peter.lim@alpha.ca | | | | |
| Al Martin | Tyco Electronics | +1-650-361-5822 | amartin@tycoelectronics.com | X | | X | 3 |
| Mick Maytum | Retired | +44-1234-838589 | m.j.maytum@ieee.org | | | | 3,5 |
| Paul Ng | Lineage Power | +1-972-244 9492 | paul.s.ng@ge.com | | | | |
| Doug Parker | Adtran | | | | | | |
| Joe Randolph | Randolph Telecom | +1-781-721-2848 | jpr@randolph-telecom.com | X | X | X | |
| Dan Roman | Dialogic | +1-973-967-6485 | dan.roman@ieee.org | X | X | X | |
| Gary Schrempp | Dell | +1-512-724-3757 | gary_schrempp@dell.com | X | X | X | |
| Tom Smith | TJS Technical Services | +1-403-612-6664 | tsmith@tjstechnical.com | | | X | 6 |
| Peter Tarver | Enphase Energy | +1-707-763-4784 | ptarver@enphaseenergy.com | X | X | X | |
| Anne Venetta-Richard | Alcatel-Lucent | | | | | | |
| Jim Wiese | Adtran | +1-256-963-8431 | jim.wiese@adtran.com | | | X | 2,4 |
| Steve Zugay | Cree | +1-919-850-6219 | szugay@bellsouth.net | | | X | |

Guest: Jack Burns, Dell, IEEE PSES, VP Technical Activities

Chair: Peter Tarver

Vice Chair: Don Gies

Secretary: Al Martin

- 1) UL Standards Technical Panel for Subjects 60950-1, -21, -22, -23
- 2) TIA TR 41.7, TR41.7.1
- 3) IEEE Surge Protective Devices Committee
- 4) ATIS Protection Engineers Group
- 5) ITU-T, SG5, WP1
- 6) Canadian National Subcommittee for IEC TC108
- 7) TIA TR 41.7.10 (Smart Grid)
- 8) US TAG to IEC TC 108

Other LinkedIn members:

hifi cha, China (Independent Consumer Electronics Professional)

IEEE Product Safety Engineering Society
Jeff Whitmire (Manager, Regulatory Compliance at Adtran)

Telecommunications Technical Activities Committee Roster