

IEEE Product Safety Engineering Society

IEEE PSES TSTC

Meeting Minutes: 26 September 2012

Members present: Don Gies (Alcatel-Lucent), Peter Lim (Alpha Technology), Al Martin (TE Connectivity), Mick Maytum, Paul Ng (GE Energy), Joe Randolph (Randolph Telecom), Anne Venetta-Richard (Alcatel-Lucent), Peter Tarver (Enphase Energy),

Members absent: Tim Ardley (Adtran), Philip Havens (Littelfuse), Doug Parker (Adtran), Dan Roman (Dialogic), Gary Schrempp (Dell), Tom Smith (TJS Technical Services Inc), Steve Zugay (Cree), Jim Wiese (Adtran).

1. Attendance/Introductions

Attendees introduced themselves.

2. Previous meeting minutes (Attached)

The minutes from the last 2 meetings were approved as submitted

3. New business

Falling Remote Radio Heads – See attached photo of truck hit by remote radio head that fell during installation on a cell tower. The falling mass consisted of a Listed RRH with mounting brackets attached. Lifting details are not specified in GR-487-CORE for cabinets under 200 lbs. IEC 60950-1 only considers handle for carrying product that is under investigation. What should be done?

Don described the incident. Installers tried to install a radio head, using a handle on the unit to lift it. The handle passed UL requirements, but was not tested for a load consisting of the unit plus attached mounting brackets. Telcordia only requires lifting detail if the unit weighs more than 200 pounds. Code says “don’t stand underneath a suspended object”, so why was the truck in the picture under the unit being installed? Need lifting details for smaller equipment. The existing section of the GR-487-CORE was sent out. It only applies to units weighing over 200 pounds. Don suggested adding text for units weighing less than 200 pounds – everything that is going to be hoisted should be tested, especially if cable is going to be attached before the unit is lifted. All attachments, such as mounting brackets and cabling, should be accounted for. Anything that is to be hoisted should have lifting details.

Peter Lim suggested adding a safety risk assessment, including defining a keep-out zone. Should remove the specification of minimum weight.

Don suggested that dynamic forces such as centrifugal force due to swinging should be accounted for. Installers should be told everything – don’t leave anything for them to figure out for themselves.

Joe: Either specify a lower weight, or remove the lower weight specification.

Don: Should test at some multiple of the unit weight – maybe 4x. Don will make a proposal to the GR-487-CORE TTF.

IEEE Product Safety Engineering Society

4. Revision to IEC 60950-22, Clause 11, Battery Cabinet Ventilation

a. A vendor of a telecommunication cabinet with lead-acid batteries had recently suffered an explosion in a service provider's network.

"We had an issue happen in Socal that a battery backup venting wasn't installed correctly and had an explosion."

The latest proposal submitted by this committee to the ANSI/US TAG for TC108 is attached.

b. Telcordia is interested in adding the provisions of our proposal to the next addition of GR-487-CORE.

Don sent them the latest proposal submitted by this committee to the ANSI/US TAG for TC108. Telcordia specifies a maximum rate of hydrogen evolution in the cabinet, such that the hydrogen concentration in the cabinet is less than 1%.

Peter Tarver has done a test on a cabinet with fully-charged and fully-discharged batteries, as this method is thought to be more realistic.

Peter Lim says that they look at data sheet for battery, and inject hydrogen into the cabinet at the rate of evolution specified.

Don: In EN50272-2 there is a calculation of the minimum vent hole size. IEC60950 needs to be more robust in its specification.

Don: How do you know you have enough ventilation if you don't put the batteries in the cabinet? Telcordia standards most applicable to a cabinet with nothing in it. The amount of hydrogen evolution depends on the type of battery used, which is why cabinet should be tested with the batteries in it.

Paul Ng: Need to set up a lowest common denominator. Don's Clause 11 looks like a good start.

Joe: The 60950 proposal comes closer to what needs to be done. Batteries outgas more when they are discharged, and even more when overcharged.

Don: Get exponential increase in hydrogen evolution between 54.5 and 57 volts. Batteries could internally contain the gas, and then release it in a puff.

Paul Ng: Has ice and snow blockage of the vents been considered?

5. ATIS/Telcordia Activity

a. New Telcordia GR-3171-CORE, Generic Requirements for Network Elements Used in Wireless Networks Physical Layer Criteria.

Don could send out the latest draft.

b. New activity? GR-487-CORE re-write

No discussion

IEEE Product Safety Engineering Society

6. IEC 62368-1 – Impact on Telecom Industry.

There have been much discussion from the industry as to whether IEC 62368-1, “Audio, Information and Communication Technology Equipment – Part 1: Safety Requirements,” should be globally adopted as national safety standards, replacing IEC 60950-1 and IEC 60065.

We have heard pros and cons for adoption. The pros tendency is that there are more options available for service-access equipment, whereas the cons tendency is that there are additional tests that will add expense to testing and certification.

With respect to the telecom industry, what are the pros and cons for adopting IEC 62368-1?

No discussion

7. Additional agenda items

Mick has a contribution on MOVs, to be discussed at the next meeting. Don will distribute.

8. Old Business

- a. AC Power Cross Considerations for Non-Telecom Signaling Lines (e.g. Ethernet, Alarms) Run in Outside Plant – J. Wiese, All TSTC. Continuation of discussions.
- b. Smart Grid Issues
- c. 380 V DC power systems
- d. Solar panel integration

Next meeting – Proposed Wednesday, 24 October 2012.

Respectfully submitted,

Al Martin
Secretary

Participant	Employer	Telephone	E-mail	IEEE Member?	PSES Member?	Linkedin Subgroup	Other Committee
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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