

## IEEE Product Safety Engineering Society

Minutes of the IEEE PSES TSTC teleconference held Wednesday, February 24, 2016 at 11:00 AM EST, for one hour.

### 1. Attendance/Introductions

Members present: Don Gies (Alcatel-Lucent), Al Martin (retired), Maytum (MJMaytum), Philip Havens (Littelfuse), Joe Randolph (Randolph Telecom), Dan Roman (Colgate Palmolive)

Members absent: Peter Lim (Alpha Technology), Paul Ng (GE Energy), Gary Schrempp (Dell), Tom Smith (TJS Technical Services Inc), Svetlana Ulemek (Burndy), Steve Zugay (Cree), Anne Venetta-Richard (Alcatel-Lucent), Jim Wiese (Adtran),

Interested parties (not present)

Tim Ardley (Adtran), Doug Parker (Adtran), Peter Tarver (Enphase Energy)

### 2. Meeting arrangements

**Note that the bridge number has changed.**

**New Bridge No.:**

(Toll Free-USA): +1 866 606 3804

(Toll Free -UK): 0800 026 0282

(Direct Dial USA) +1 404 891 5272

(Direct Dial – London) +44 20 7660 2135

**Participant Passcode:** 589 138 2663

For this meeting, we will attempt to share desktops using Lync/Skype for Business. If you haven't used this software, I recommend that you play with it to get it right. Usually, the web-based app seems to work the best.

**SKYPE/Lync Simulcast: Click on the link below to view presentation in your browser or Skype App. Good luck!!!!**

**Join Skype Meeting**

<https://meet.lync.com/alugroup-alcatel-lucent/don.gies/4PCVH1HA>

[First Skype Meeting?](#)

### 3. Previous meeting minutes (attached)

The minutes of the January meeting were reviewed and approved.

Joe: Are the minutes posted to a web-site?

Don: The minutes are not posted to a web-site.

Joe: I found minutes from a group that was looking into static discharge on a website. It would be nice to post ours.

Dan: We can find a place for the minutes.

Don: If there is a place to park the minutes, I have copies of all the old ones.

Dan: I will look into finding a place for the minutes. We had a website, but I think it was deleted for lack of use. The minutes should be in .pdf form. We probably want to upload the minutes only – no attached files.

Joe: I didn't intend that we should spend a lot of time on this.

Don: It's good to have a record.

#### **4. New business?**

##### **a. RFI feeds**

Don: We want to know why remote feeds 60950-21 need to pass TNV voltages. When it's not in fault condition have hazard voltage, when have fault have TNV voltage. Doesn't make sense.

Mick: Why can't standard address GFI?

Don: The standard is only for DC power.

Mick: I'll look into your statement about the single fault.

Don: Joe can you look into it?

Joe: What do you want me to look at?

Don: IEC 69506-21 and IEC 62368-3

Joe: Same concept as GFI. I think the circuit is looking for an unbalance, in which case it shuts down the circuit. Jim is much more up to speed on this. The standard was written around the ring-trip requirement.

Mick: The scope of the document is equipment, but they are putting a system requirement, which is out of scope. The equipment manufacturer should state how much capacitance can be added in addition to the equipment capacitance.

Joe: It's the responsibility of the installer to make sure the equipment is compatible with the circuit.

Don: Reviewed IEC 62368-3 requirements for RFT-V circuits. Under single fault must fail safe.

Joe: I'll take a look. There is a set of conditions under which the equipment can be used. A central office engineer knows the length of a line is, so could calculate the capacitance – it doesn't need to be measured.

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Don: Mick if you have a comment for the British committee, share it with me, and I'll also submit it to the American committee. Make sure the safety statements make sense. Requirements should be on the equipment only. I will forward the latest draft to the TSTC.

Don: Any issues with the USB connection? The amount of power sent down the connection may be an issue. The NEC may have an issue.

Philip: USB-B says 20 V and 5 amps. USB-C can be up to 20A. I don't know if the NEC has reviewed this.

Don: UL is well represented on the NEC, so they should have addressed this. I compared the power levels to Class 2. It appears that the limits haven't been exceeded.

Joe: UL60950 talks about voltage, but not current. But I think there's a clause that specifies the amount of watts. It translates into a safety requirement.

Don: UL60950 clause 2.5 specifies power. Table 11 of NEC class 2 or class 3 shows limits if you have an inherently limited supply.

Joe: Whoever proposed 20 V, 5 A may have been thinking about the 100 VA limit. The science behind it: If you're under the specified limits it's not possible to start a fire.

Don: The IT guys are working on this. UL also looking at this. I haven't seen any major concerns raised. Consumers may buy the cheapest cable, which may not be listed. The consumer product safety commission polices this.

### b. GR-487-CORE, Issue 5 TTF started

Don: GR487-CORE rewrite: Getting to the point where we will have a CR that if have a system that has batteries and power supply you can have the air mix (harmonization with the IEC). The wireless side has equipment that needs cooling. Now there are cabinets with filters that let air through but not water. A new IEC requires a safe distance between an arcing part and the terminal of the battery. A service provider is updating the table of safe distances.

## 5. Protection of DC feeds to radio equipment at the top of towers

- a. What protection is typically installed on equipment that will be located at the top of towers, and is any consideration given to the height of the tower?

Philip: Are we going to say anything about the height of the tower?

Al: We're talking about this is the IEEE PES SPDC WG3.6.7. Al to send out copy of the clause discussing the practical application.

- b. What lightning waveshape is considered when designing protection for equipment to be located at tower tops?
- c. Is there any information about the failure of installed protection to protect equipment located at tower tops?

**5. Additional agenda items**

None

**6. Old Business**

None

**Next meeting**

Proposed Wednesday, 23 March 2016.

Respectfully submitted  
Al Martin, Secretary