

Minutes of the IEEE PSES TSTC teleconference held Wednesday, October 5, 2016 at 11:00 AM EST, for one hour.

1. Attendance/Introductions

Members present: Don Gies (Nokia Bell Labs), Al Martin (retired), Mick Maytum (MJMaytum), Paul Ng (GE Energy), Joe Randolph (Randolph Telecom), Jim Wiese (Adtran).

Members absent: Ernie Gallo (Ericsson – Telcordia), Peter Lim (Alpha Technology), Philip Havens (Littelfuse), Dan Roman (Colgate-Palmolive), Gary Schrempp (Dell), Tom Smith (TJS Technical Services Inc), Svetlana Ulemek (Burndy), Anne Venetta-Richard (Nokia).

Interested parties (not present)

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

2. Meeting arrangements

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3. Previous meeting minutes

The minutes of the July meeting were reviewed and approved.

4. New business

a. ATIS Face-to-Face Meeting, Vancouver

(I came in late here)

Jim: ATIS trying to get the 100 W limit back. NEC article 840 has no power limitation on powering. But safety standards limit power to 60 W. If 60 W power limit is exceeded, go to the NEC 840 table which doesn't have a power limit.

Don: NEC 725: Safe to use communications cable. The requirements of parts 1 and 3 shall apply to class 2 and 3. Power shall not exceed current limit of connector.

Jim: Randy Ivans did a big study on cable heating, which is where the table came from. ATIS is trying to keep the table out of article 840.

Joe: How are updates to the NEC handled by the local authority?

Jim: Electrical inspectors trying to take control over POE installations.

Joe: How is the new change to 840 handled?

Jim: Don't know how the electrical inspectors will handle the change.

Jim: Trying to get back to the 1.3 A default limit.

Jim: How will electrical inspectors know what the power output is? It doesn't say anywhere on the equipment.

Don: They probably won't know.

Don: Still have to meet the requirements to not burn up the cable.

Paul: From Thomas Burke: Article 121 - Output voltage and current needs to be marked.

Joe: What does Burke say?

Paul: He said, "here's the table, based on Randy Ivans' study".

Paul: Everything based on the local code

Joe: Suppose the local authority hasn't yet adopted the latest version of the code?

Paul: They can use whatever version of the code they want to.

Joe: There will probably be many places where the latest version of the code hasn't been adopted

Don: NEMA has a site where you can see what version of the code has been adopted where.

Don: Bottom line is did you burn the cable?

Jim: The issue is limiting the current. With the new article 840 720 watts can now be delivered over the network. There has been a 100 W limit for years.

Jim: Issue about how the table applies to cables other than those covered in Randy Ivans' study.

Jim: Working up a proposal for the next NEC cycle.

b. US TAG to IEC TC108 –Cupertino, CA

Don: I had one proposal on battery ventilation that got in.

Paul: Proposal for the transformer got in. But not much else happened. Focusing on the 3rd edition. Main concern is with the cable stuff. Issue: Cable power is not covered adequately. An ad hoc will be started to look into it.

Don: Our development groups trying to put together proposals for NiCad batteries.

Paul: Is NiCd safer?

Don: They gas more readily than lead-acid.

Paul: Industry wants to be conservative.

c. TC108 Meeting – Frankfurt, Germany

Don: No one wants to buy the batteries to test. The standard says that for NiCd batteries, consult the manufacturer to see if it's OK to use these in the cabinet. If gassing rates are known, then if volts per cell is above the boost charge, The gassing rate can be calculated.

Joe: I'm surprised that NiCd is being used, due to Cd being phased out.

Don: Interest in NiCd is from US service providers. There's a calculation for air flow which can be modified the equation to include new terms (e.g. safety factor). Looking for minimum ventilation for cell count. If gassing rates are known, then these can be used to calculate the ventilation.

Paul: is there any opposing interest?

Don: I don't think so. Not much telecom input at TC108, so don't get challenges.

Don: At San Diego meeting, an ad hoc was formed to investigate the fire requirements. Server manufacturers concerned that new requirements would be more onerous than previous, and possibly cause them to become non-compliant. Tests were done at CSA, with the result that a flame test at side openings is needed. The main proposal was to introduce the 5 degree rule from UL60950 into the standard. What's in there now came from the standard on consumer products. Another proposal: Eliminate the side openings test because it's very hard to do the test.

Paul: Merging 2 standards. Question is what is safe. Consumer guys want to look at where risk is highest, not just server farms.

Don: The proposal will probably be an alternate requirement. If the tear-drop test can't be done, then go to the 5 degree requirement.

Jim: I'm now on the US TAG. -3 is in such a state of chaos that no new proposals will be accepted until the new draft comes out.

5. IEEE PSES Chapters Meeting –Don Gies

Don: A chapters meeting was convened with other IEEE PSES chapters and technical committees invited. It looks like TSTC is one of the only TCs with activity, and others were surprised to hear that we have influenced standards. We're the success story. Attendance in some committees has dropped off.

6. TC108 Proposal on Alternate Battery Tests - Don Gies

A proposal from Björn Flach (Ericsson) – Sweden, to add alternate battery ventilation tests to IEC 62368-1 was discussed. One of them is the Telcordia GR-487-CORE hydrogen evolution test. IEC hasn't considered NiCd. Björn is interested in the US way of testing battery cabinets. He wanted to incorporate the Telcordia hydrogen evolution test. If the 487 requirements are met, then don't need to test.

Also, Don Gies has been trying to evaluate compliance of battery cabinets containing valve-regulated NiCd batteries. There is a note in IEC 60950-22, Ed. 2.0, Section 11 to "consult the manufacturer" when you have NiCd batteries, as the IEC standards are not as well developed as for lead-acid batteries.

7. TC108 Fire Enclosure Ad-Hoc Proposal – Don Gies

The proposal from the fire enclosure ad hoc for IEC 62368-1 was discussed. After concerns were voiced from data-processing equipment manufacturers that existing fire-enclosure construction from IEC 60950-1 might not comply with IEC 62368-1, an ad hoc committee was formed at the San Diego TC108 to explore alternative fire enclosure safeguards. The 5-degree projection bottom opening requirement from IEC 60950-1, the elimination of the moving-air fire

enclosure considerations, and compliance by tests have been proposed. Also, several enclosure flame tests were performed at CSA –Vancouver.

8. Additional agenda items

Joe: For next meeting, I'd like to consider regulations from the DOE. What they are talking about is wall warts, but the definition scoops up many other devices.

9. Old Business

None

Next meeting

Proposed Wednesday, 2 November 2016.

Respectfully submitted
Al Martin, Secretary