

**PSCCC Meeting Minutes
September 14, 2017
Phoenix, AZ USA**

**PSCC, C0 – Power Line Carrier Subcommittee
Chair: Roger Ray**

No quorum with 5 members present with no guests (shown below). Meeting was chaired by C93.5 working group chair.

After introductions and review of PAR slides and copyright policy, it was determined that we did not have a quorum. No motion was made to approve the minutes. Agreement was made to circulate the minutes after the meeting for approval / disapproval by the subcommittee.

Scheduling Discussion

The group briefly discussed the scheduling options which may or may not be available now that PSCC has more working groups and more of its own structure. After some debate an agreement was reached to stay put – the Thursday afternoon 1-4pm meeting is the preferred meeting time of the group.

C93.3 Line Trap Standard Update

Discussion and congratulations to Bruce Pickett and the working group on the publication of C93.3. Discussion turned to whether or not the standard had actually been released to the public yet. The question was answered when one member produced an official hard copy from his bag.

One member posed the question, when do manufacturers need to start specifying compliance to the NEW standard, rev 2017? Is there a formal notification process for manufacturers who were not directly aware of the work done in the group? This question needs to be answered and action taken by the group accordingly.

Discussion then turned the work of the C93.5 working group.

Standard for Requirements for Power Line Carrier Transmitter/Receiver Equipment used to Transfer Discrete Teleprotection Signals C93.5

Chair: Craig Palmer

Vice Chair: Tony Bell

Secretary: Tony Bell

Output: Standard

Draft: 0.3

Established Date: 22-Sept-2017 (PAR approval date)

Completion Date: 31-Dec-2020

C93.5 TX/RX PLC Standard Update:

The following main issues were discussed:

1. The definition of checkback was discussed – a new addition since the last meeting. A definition for a similar testing scheme was found in the IEEE dictionary but this definition referred to a specific power device which was not a power line carrier terminal. Some language was borrowed from that definition, and then adjusted by the group, and consensus was reached on the definition which is now in the latest draft document.
2. The question was raised: does PSCC have a terminology review group? The equivalent of I2 in PSRC? No conclusion was reached and the question remains an open one.
3. Updates and discussion on work being done at PSRC on IEEE-1613, C37.90, and potentially C37.1.1. These environmental and electrical testing standards are under review and possible re-organization. A need was identified to determine whether or not the content of these standards is

up for debate, or just the structure and organization of the data. The group will confirm. Likely, we will use the current ratings from these standards to be included in C93.5.

4. The group agreed that the communication port requirements of IEEE-1613 should be required for modern power line carrier terminals. A section will be incorporated to specify the requirements, which will only apply to the remote communication ports.
5. The temperature ratings were reviewed. It was noted that the document specifies the equivalent of "Class 2" range from C37.90. Is there a need to change to Class 1 for the new standard? The discussion was tabled pending more manufacturer participation.
6. The group looked at minimum frequency spacing requirements and one member brought up the idea that these might be made more narrow, provided the requirements placed on the hybrids / isolation are made more stringent. Most commercially available skewed and balanced hybrids provide significantly more isolation than is required by those used in the test procedure. If better isolation is standard, and can be used in the test, could the spacing requirements be tightened up? The group did not disagree with the reasoning. The discussion was tabled pending historical queries and more manufacturer discussion.
7. One member noted that, in light of NERC requirements for monitoring a relay communication channel's health, checkback facilities for On-Off units should be required by the document. It should note specifically functions for the test, manual or automated, master and remote alarms, remote initiation by SCADA, facility for multi-terminal tests, etc. It should be included in the production tests. The group reached consensus that this was a good idea.
8. A timeline for completion of the document was discussed. The group agreed that a goal of Jan 2019 submission of the document for review was realistic and would provide enough time for balloting and revision cycles. The goal is to complete the document and submit by Jan 2019 meeting at the latest.
9. Made a note that the WG chair will reach out to Trench and any other manufacturers with a call to participate in at least a few meetings at this stage, before we get to ballot.

Previous Assignments (still outstanding/ongoing)

- ~~Unusual Service Conditions (section 4) – Mark Majka~~
- Security/Dependability (Ratings, testing, etc) – Tony Bell & Craig Palmer
- Ratings – Craig Palmer
- ~~New functionality/Migration from EM relays (Ratings) – Jeff Brown~~
- Testing (Section 6)– Tony Bell & Craig Palmer both to review whole section
- Production Testing - ?
- ~~Manufacturing Requirements – Ian Tualla/Don Lukach (Craig P to get referenced standards)~~
- Annex A – Tony Bell/Craig Palmer
- ~~Definitions – Addis K.~~

The attendee list is below.

Members	
Craig Palmer	Hubbell/RFL
Mark Majka	AEP
Don Lukach	Ameren
Addis Kifle	GTC
Dom Fontana	Eversource