

Meeting Minutes PDCC Ad Hoc

Prepared by: Chad Jones

30 March 2022

12:00 PM ET

12:01PM ET Meeting called to order.

Meeting started by the Ad Hoc Chair, Chad Jones.

12:02PM The Ad Hoc Chair reviewed agenda slides, covered the IEEE patent policy, code of ethics and conduct, participation, and copyright rules (slides 3-7 in the agenda deck).

12:07PM The Chair informs the group that minutes for the previous meeting are posted, asked if anyone that wanted to review the minutes hadn't had the chance to review, and asked if there were any changes to be made to the minutes. None responded. The minutes were approved by unanimous consent. The Chair instructed the webmaster to change the status of the 16 March 2022 minutes to confirmed.

12:08PM The Ad Hoc Chair moved to the main item on the agenda: 11801-1 Amd 1.

Presentation: Expert contribution on Single Pair Cable Heating (ISO/IEC TS 29125), presented by Peter Fischer

[https://www.ieee802.org/3/ad\\_hoc/PDCC/public/Expert%20contribution%20TS%2029125%20Heating%20Single%20Pair%20Cable\\_%20Engels\\_final.pdf](https://www.ieee802.org/3/ad_hoc/PDCC/public/Expert%20contribution%20TS%2029125%20Heating%20Single%20Pair%20Cable_%20Engels_final.pdf)

12:22PM Q&A. The secretary summarizes some of the discussion generated by the presentation:

- 11801 assumes a 10C rise. This contrasts with the practice of the US National Electrical Code in Article 725.144 which assumes a 30C ambient with a temperature rise of (cable temperature rating – ambient) with a derating factor to adjust for the 45C ambient that is specified for 802.3 cabling. This implies that a 90C cable could have a 60C temperature rise under the NEC and it was pointed out that the temperature rise is consciously restricted to prevent wasted power in the cabling.
- There is an understandable desire to reuse existing cable for new applications. A lot of it is the 4P Category cable covered by 11801.
- Expanding the scope to international standards, IEC 60364-7-716 (nearing publication) has a restriction of 0.75A on the very cabling that comprises a large part of the installed base that could be reused. The fear is having 11801 allow this cable to be used in a mixed environment will result in artificial limiting of the allowed current to the lowest common denominator of 0.75A.
- As written, 11801 allows larger gauge conductors to be mixed with smaller gauge, effectively hiding the smaller conductors from view behind cables that are perfectly capable of the 2.0A current desired to enable 100W applications. It was floated that loop resistance could be used to qualify channels before applying the higher current. The Chair pointed out that no IEEE 802.3 PSEs are required to measure loop resistance before applying power, making this a new requirement. Some expressed doubt that

loop resistance was enough of an indication of a channel's ability to carry a specific current. A short section of a small diameter conductor might meet the loop resistance requirements but could exceed the temperature rise restrictions.

- It was stated that IEEE 802.3 requires plug and play solutions. The cable re-use scheme is an engineered solution and therefore doesn't serve 802.3's needs.
- The conclusion to be drawn from slide 9 is that a 4P 23 AWG cable can only carry two SPE 2A circuits if not in conduit. In conduit, the number is zero. This means 4P cable cannot support the desired SPE PoE applications.
- 29125 is being updated and IEEE 802.3 should be requesting sharing of the information. A liaison letter to request is suggested. The Chair will work on a letter, but this is not time sensitive as WG25 does not meet again until September.
- After the discussion, it was asked if there were any conclusions. The Chair summarized what he thought came from the conversation: ideally, 11801 would identify two distinct cable types.
  - 1. A 1P cabling system supporting 2A from end to end that is easy to specify and identify.
  - 2. An engineered system that allows reuse of cable while not restricting #1 and being easily identified by inspectors.

1:53PM The Ad Hoc moved on to closing business. The next scheduled PDCC Ad Hoc meeting is Wednesday 6 April 2022, 1PM ET.

The Chair asked if there was any other business, none responded.

1:56PM ET Having exhausted the agenda, the meeting was adjourned.

Attendance (from Webex):

Name	Employer; Affiliation	Present
Bob Voss	Panduit Corp.; Panduit Corp.	*
Chad Jones	Cisco Systems, Inc.; Cisco Systems, Inc.	*
Dave Hess	Cord Data; Cord Data	*
David Brandt	Rockwell Automation; Rockwell Automation	*
David Law	Hewlett Packard Enterprise; Hewlett Packard Enterprise	*
David Tremblay	Hewlett Packard Enterprise; Hewlett Packard Enterprise	*
Eric Horsma	ADI; ADI	*
Fred Dawson	Chemours Canada Company; Chemours Canada Company	*
Geoff Thompson	Unemployed; Unaffiliated	*
George Zimmerman	CME Consulting; CME Consulting/ADI, APL Group, CommScope, Cisco Systems, Marvell, and SenTekse	*
Gergely Huszak	Kone; Kone	*
James Withey	Fluke Corporation; Fluke Corporation	*
Peter Fischer	BKS Kabel-Service AG; BKS Kabel-Service AG	*
Wayne Larsen	CommScope; CommScope	*