

IEEE 802.3 Ethernet Working Group Liaison Communication

Source: IEEE 802.3 Working Group¹

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Subject: Requested Positions for Letter Ballot on NFPA 70 2020

Approval: Agreed to at IEEE 802.3 Plenary meeting, Rosemont, IL, USA, 8th March 2018

¹ This document solely represents the views of the IEEE 802.3 Working Group, and does not necessarily represent a position of the IEEE, the IEEE Standards Association, or IEEE 802.

Dear Ms. Hunter,

The IEEE 802.3 Ethernet Working Group has reviewed the First Revisions for the 2020 NEC®. There are several FRs that are of interest to the members of 802.3. We summarize the FRs and our position on them in the following:

FR7856 – We request that IEEE-SA take a position in support of the FR.

FR7862 – We request that IEEE-SA take a position in support of the FR.

FR 8779 – We request that IEEE-SA take a position in support of the FR. The FR has a grammatical error that implies combed bundles would have less crosstalk (“Combing of the cables can result in less heat dissipation and signal crosstalk between cables”). We suggest a vote of affirmative with a comment: “change to: Combing of the cables can result in less heat dissipation and more signal crosstalk between cables.”

FR 8790 – We request that IEEE-SA take a position in support of the FR. The 802.3WG supports the term nominal current and feels strongly that rated current would be the incorrect term. See our proposed statement for FR 7892 for further detail. We therefore request either a statement in favor of nominal current or a removal of the ER’s proposed statement of support for the term rated current.

FR 8859 – We request that IEEE-SA take a position in support of the FR, specifically a vote of affirmative with a comment. The comment reads as follows: This FR only implements part of Issued TIA 17-11 (balloted as Log 1299). Specifically, it is missing the labelling exception for ports where nominal current is less than 0.3A. Nearly half a billion ports of these power sources have shipped over the past 15 years without any demonstrated record of loss. They provide less than 0.3 amperes nominal current per conductor. Updating the large variety, breadth and number of these types of power sources represents an undue burden on industry. Changing the labeling to align with the ‘nominal current’ specification of 725 removes this burden. We recommend reincorporating the exception in the Second Revision phase.

FR8932 – We request that IEEE-SA take a position in support of the FR.

FR8934 – We request that IEEE-SA take a position in support of the FR.

FR8941 – We request that IEEE-SA take a position in support of the FR, specifically a vote of affirmative with a comment. The comment reads as follows: The FR has several typos and an awkward sentence structure that could lead to confusion. ‘Requirements’ is misspelled in Informational Note 2; ‘The’ and ‘ampacity’ is misspelled in Table 725.144 Informational Note 2. Table Informational Note has this reference: “see TIA-TSB-184-A and Sections 6.4.7 and 6.6.3 and Annex G of ANSI/TIA-568-C.2,” Suggest changing to: “see TIA-TSB-184-A and ANSI/TIA-568-C.2, Sections 6.4.7, 6.6.3, and Annex G,”.

FR7892 – We request that IEEE-SA take a position of reject of the FR with the following statement of rejection:

There are three reasons for rejection:

First: CMP16 changed the term ‘nominal’ to rated. The term ‘nominal’ was chosen specifically because it did not have existing meaning in the NEC or UL standards. The term rated has an existing meaning in UL standards which can be interpreted to limit the current variation to 10%, which is less than what is observed in PoE systems. It also does not include the pair-to-pair balancing that was implied with the term nominal. Further, it is worth noting that on a parallel comment CMP3 retained the term ‘nominal.’

Second: the last sentence of the new informational note is incorrect and not consistent with NEC style (“A large number of such powering cables bundled together can cause

overheating of the wiring if not controlled as described in Table 725.144.”). This sentence points out one way that one can cause problems if they don't follow the code. It is not customary in the rest of the code to list the ramifications of not following the code. Additionally, the proper reference is not Table 725.144 but the whole of 725.144. There are many ways to mitigate the bundle heating in 725.144 and the Table is but one of them.

Third: there was a TIA (Issued TIA 17-12 balloted as Log 1301) that was created by a multi-panel Task Group, chartered by the NFPA Standards Council and the NEC Correlating Committee that resolved many issues. However, during the revision meetings, the text of the TIA was rewritten in this FR and introduced the problems cited above. The FR doesn't include the definition for 'nominal current' contained in the TIA. It's understood that the CMP replaced 'nominal' with 'rated'. No definition of rated current is provided. The use of rated current in this FR is different than the parallel section in 725 where CMP3 specifically chose not to use rated. Using the text of TIA 17-12 will resolve these issues.

FR8757 – We understand the ER on CMP1 opposed this FR and we recommend that he continues to oppose. We request that IEEE-SA take a position of reject of the FR and offer the following statement for inclusion in the statement of rejection:

This is a technical change with no technical justification. The IEEE is opposed to this FR because of implementation problems inadvertently introduced by this FR. This FR would require that all exceptions granted by the standalone nature of Chapter 8 would need discovered and dispersed throughout the document. This is a tremendous amount of work that hasn't been scoped. The PI that led to this FR states: “The task group wishes to revise 90.3 as proposed based upon our ability to ensure there is no negative impact on the telecommunications industry.” Where is the evidence that the TG has the ability to ensure there are no negative impacts on the telecommunications industry? In order to achieve 'no negative impacts', many additional PIs would need submitted and approved. No such PIs have appeared. Additionally, there were no incidents presented to show the necessity of such a wide-sweeping change, and there has been no substantiation provided.

We request that IEEE-SA take the positions prescribed above when the ERs receive the ballots on the 2020 FR. We also request to be notified if SCC18 decides against the positions recommended by IEEE 802.3, along with the reasons for those actions (such as conflicting recommendations from another IEEE Technical Group). We wish to be notified in such a timeframe to allow for 802.3's reconsideration before the letter ballot deadline, in order to provide additional feedback to SCC18.

Sincerely,

David Law

Chair, IEEE 802.3 Ethernet Working Group