



Dawn Michele Bellis
Secretary, Standards Council

26 August 2022*

To: Interested Parties

Subject:

Standards Council Decision (Final):	D#22-3
Standards Council Agenda Item:	SC#22-8-5-w-1
Date of Decision:	12 August 2022
NFPA 70®, <i>National Electrical Code</i> ®, 2023 Edition	

Dear Interested Parties:

At its meeting of August 10-12, 2022, the Standards Council considered an appeal on the above referenced matter. The Council's Final decision is now available and is attached herewith.

Sincerely,

A handwritten signature in black ink, reading "Dawn Michele Bellis", is positioned below the word "Sincerely,".

Dawn Michele Bellis
Secretary, NFPA Standards Council

cc: S. Everett, S. Gallagher, C. Duffy, J. Sargent
Members, NEC Code-Making Panel 17 (NEC-P17)
Members, NEC Correlating Committee (NEC-AAC)
Members, NFPA Standards Council (AAD-AAA)
Individuals Providing Appeal Commentary

*NOTE: Participants in NFPA's standards development process should know that limited review of this decision may be sought from the NFPA Board of Directors. For the rules describing the available review and the method for petitioning the Board for review, please consult section 1-7 of the Regulations Governing the Development of NFPA Standards and the NFPA Regulations Governing Petitions to the Board of Directors from Decisions of the Standards Council. Notice of the intent to file such a petition must be submitted to the Clerk of the Board of Directors within 15 calendar days of the publication date of this Decision.



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SUMMARY OF ACTION (for convenience only; not part of official decision): The Standards Council voted to deny the appeal to overturn the ballot results of Code-Making Panel 17 and Accept Public Comment No. 2058.

DECISION:

At its meeting of August 10-12, 2022, the Standards Council considered an appeal from Frederic Hartwell, of Hartwell Electrical Services, Inc. The appeal requests that the Standards Council overturn the ballot results of Code-Making Panel 17 (Panel 17) and Accept Public Comment No. 2058 for the 2023 Edition of NFPA 70®, *National Electrical Code*® (NEC®). Specifically, the appeal requests revision of section 680.26(B).

As background, Mr. Hartwell submitted Public Comment No. 2058 to limit the copper ring bonding means to above ground pools and require a structural or copper bonding grid for all other permanently installed swimming pools. Panel 17 disagreed, rejected the Public Comment, thereby unanimously agreeing to maintain the alternate means at Second Draft. A Notice of Intent to Make a Motion was filed by Mr. Hartwell to Accept Public Comment No. 2058 and was certified by the Motions Committee, then presented for debate during the NFPA Technical Meeting as CAM 70-117. CAM 70-117 achieved the necessary simple majority support of the voting Association Members during the NFPA Technical Meeting. When CAM 70-117 was balloted, it passed the Correlating Committee on correlation but failed to achieve the necessary support of CMP 17. The results of the balloting yielded a recommendation to return to previous edition text. Mr. Hartwell filed an appeal urging the Council to uphold the appeal to Accept Public Comment No. 2058 despite the ballot results.

On appeal, the Council accords great respect and deference to the NFPA standards development process. In conducting its review, the Council will overturn the results of that process only where a clear and substantial basis for doing so is demonstrated.

There have been several cycles of technical debate over the minimum standard for reducing voltage gradients around the perimeter of a pool, which date back to the 2008 edition of the NEC. In 2011, Fire Protection Research Foundation (FPRF) conducted research to document the then-current knowledge on this subject and to identify gaps in knowledge.¹ FPRF's report pointed out the lack of available data and outlined next steps that could meaningfully develop the research based on the knowledge gaps. The record does not reflect further study based on the specific gaps identified in the FPRF report, but there has been at least one subsequent report in 2018 by the Electric Power Research Institute (EPRI).

¹ During the hearing, the appellant called this report into question because the first draft had differences in conclusions from what appeared in the final report. The appellant confirmed, however, that the data in the report remained unchanged from the draft version to the final report. Draft reports are often different from a final report, so the Council finds no other legitimate basis to question the independence or validity of the report given that the data was reported out consistently.

During the 2023 NEC revision cycle, Panel 17 maintained the means for reducing voltage gradients in a pool area within the text, as it had done for several previous editions. Appellant, among others, renewed arguments for eliminating the copper ring installation alternative and requiring the use of a copper grid. In support of this argument, the record included anecdotes of shock in pool areas, but none of these examples documented the connection to this particular technical issue. There were also references to tests that have been performed in Texas, Indiana and Florida, without any citation to the studies, reports, or substantive reporting on the data from such studies included with proposals this cycle. The Panel's response during the revision cycle generally echoed a conclusion found in the 2011 FPRF report, which was that there continued to be no evidence of actual occurrences observed in the field where the "single conductor" bonding option failed to provide adequate protection.

However, after Panel 17 was balloted on the second draft, additional data has been brought forward and new tests have been performed that the Standards Council finds warrant review. During the 2022 Technical Meeting and at the hearing on this appeal, the Appellant referenced a 2021 U.S. Coast Guard Report that the Appellant claimed had examples of shock injuries and deaths due to the lack of adequate protection in a pool area. During the hearing, Appellant also cited a new test was performed by EPRI the week before, with a report that will be forthcoming and instructive on this technical debate. In addition, a Tentative Interim Amendment was proposed to require use of a copper grid, which included as substantiation new case studies on two examples of homeowners experiencing uncomfortable shock sensations around their pools. The homeowners had used the single wire bonding option in the perimeter of their pools when constructed and after changing to a copper grid installation, the owners reported the issue had resolved. These are the first two examples on the record that were the subject of a study and report by EPRI.

The body of additional and/or new information requires timely analysis, but given its highly technical nature, it must be evaluated by interested parties with technical expertise. The Council directs a balanced Task Group to review the new and/or additional new data cited by the Appellant: namely, the the 2021 U.S. Coast Guard Report referenced during the hearing, the results of the most recent EPRI report, the case studies brought forward in a the recent (and related) TIA No. 1661 and any other new and existing reports referenced on this topic. Council directs the Task Group to report the following by November 30, 2022 (in advance of the Council's December 2022 meeting): (1) its findings based on this data; (2) its recommendations, if any, as to the minimum safety standard within the NEC for reducing voltage gradient in the perimeter of a pool; (3) if a change to Article 680 is recommended, whether TIA No. 1661 would address the Task Group's findings; and (4) any other findings or actions that the Task Group deems necessary based on its analysis.

In a separate appeal on TIA No. 1661 (which proposes an amendment identical to that which is proposed by the Appellant), Council voted to defer action pending the report from this Task Group (See D#22-13).

The Council has reviewed the entire record concerning this matter and has considered all the arguments put forth in this appeal. In the view of the Council, this appeal does not present any clear and substantial basis upon which to overturn the results yielded by the NFPA standards development process. Accordingly, the Council has voted to deny the appeal. The effect of this action is that the NFPA 70, *National Electrical Code* will not include the text of Public Comment No. 2058.

Council Members John Kovacik and Rodger Reiswig recused themselves from the deliberations and vote on this appeal.

Council Members Michael Johnston and Jack Poole were not in attendance during the August 2022 meeting and therefore did not participate in the deliberations and vote on the appeal.