

INDIANA ELECTRICAL CODE UPDATE COMMITTEE

MEETING MINUTES

Meeting Details

Date: June 29, 2022

Time: 9:00 AM

Location: Government Center South, Conference Room 29

Member Attendance

Name	Present		Means of Participation
	Yes	No	
Michael Popich	<input checked="" type="checkbox"/>	<input type="checkbox"/>	In Person
Paul Meyers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	In Person
John Luppacchino	<input checked="" type="checkbox"/>	<input type="checkbox"/>	In Person
Tim McClintock	<input checked="" type="checkbox"/>	<input type="checkbox"/>	In Person
John A. Jackson III	<input checked="" type="checkbox"/>	<input type="checkbox"/>	In Person
Stephen Culbert	<input checked="" type="checkbox"/>	<input type="checkbox"/>	In Person
Mike Patarino	<input checked="" type="checkbox"/>	<input type="checkbox"/>	In Person
Lynn Madden	<input checked="" type="checkbox"/>	<input type="checkbox"/>	In Person
Randy Gulley	<input checked="" type="checkbox"/>	<input type="checkbox"/>	In Person
Charlie Eldridge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	In Person

Notes

Additional information may be available at the [Committee's Web Page](#).

Also in attendance:

Dustin Dyer, Director of Boards and Commissions, IDHS

Matt Cronley, Chief Inspector

1. **Call to Order** – Chairman Popich called the meeting to order at 9:12am.
2. **Roll Call and Determination of Quorum** – All were present but one. Quorum was met. See attendance record above.
3. **Review Code Change Proposals for Chapters 2 and 3**
 - i. **92 - 210.8(A) - Dwelling Units** –Joint resubmission from Mike Patarino and Lynn Madden. Change was made to accommodate multifamily style homes to help save costs. Mr. Meyers stated that the GFCI protection would be provided by a GFCI breaker, not a GFCI receptacle that is inaccessible behind an appliance, and the change was made in light of a plumber who was electrocuted after coming into contact with a range. Mr. McClintock indicated that these sorts of electrocutions are an increasing trend, including the electrocution of several children. Mr. McClintock indicated that the CPSC

database shows that there were 29 deaths associated with appliance electrocutions. Mr. McClintock moved to allow Mr. Brett Brenner to speak. Mr. Brenner supported the view that electrocution is a real hazard. Mr. Patarino did not challenge the idea that electrocution deaths happen, but was unsure how to legislate and ultimately avoid all safety issues related to contact with electrical appliances. Ms. Madden expressed concern about attempting to legislate intelligence. Mr. McClintock countered that the Committee cannot legislate to prevent all deaths and accidents, but that the Committee has a chance to prevent a known hazard. Mr. Eldridge expressed support for 250 volt GFCIs because they will protect life and safety. Mr. Culbert indicated that the language in the model code protect people from faulty appliances. Mr. Patarino asked how many faulty appliances were found, and noted that there has to be a cost balance involved. Mr. Eldridge countered by asking how many people were shocked, but did not get electrocuted. Mr. Patarino again expressed a concern that the model code language was attempting to legislate common sense. Mr. McClintock noted that not all CPSC data on deaths was related to occupants, but also included workers, and that the CPSC published a memorandum on GFCIs that noted that a per-life cost was around five million dollars, and that the expected useful life of a GFCI averages about forty years and is expected to improve over the life of the products. Such data shows that the reduction in total societal costs can be discounted from the costs of GFCI's, showing that the present discounted value is more than 80 dollars per household. Mr. Culbert asked how Ms. Madden and Mr. Patarino arrived at their fiscal analysis numbers. Ms. Madden indicated that hers were arrived at through direct cost. Mr. Patarino indicated that he consulted with an electrical contractor. Mr. Iverson indicated that, per code, not all ranges would be required to be on this sort of GFCI protected if it were more than six feet from a sink. Mr. McClintock indicated that over the last fifty years, GFCI protection is becoming more common, and that the 2023 edition will include GFCI protection for all outlets that serve the kitchen. Mr. Eldridge called for a vote to end discussion. Motion passed unanimously.

Mr. Popich called for a vote to approve the proposal. Motion **failed** 2-8, approval does not pass.

- ii. **95 - 210.8(A)(5) – Basements** – Mr. Eldridge indicated that he believes the language is the same as what is in the Indiana Residential Code. Carpeted basements are not likely to stay wet, and so likely do not need GFCI protection. Mr. Meyers indicated that the change was made to account for tiled or laminated basements, or certain concrete finishes that are electrically conductive. Mr. McClintock notes that the Indiana Residential Code is based on the 2017 NEC, so this was a change to the model code that the IRC was based on. Mr. Meyers asked how one electrically differentiates between a finished and unfinished basement. Ms. Madden called for the question. Motion passed unanimously.

Mr. Popich called for a vote on the proposal. Motion **passes** 8-2.

- iii. **91 – 210.12 – Arc Fault Circuit Interrupter Protection (A) Dwelling Units** – Ms. Madden indicates that the fiscal impact is gathered from the websites of top three electrical manufacturers. Ms. Madden notes that wiring a house on four or five breakers is impractical, and that builders and electricians refuse to install that few, often having upwards of forty. Ms. Madden indicates that nuisance tripping can create serious costs for homeowners, and once again indicated that the model code is

attempting to legislate intelligence. Mr. Popich noted that the code is a minimum, and builders may go above and beyond the requirements of code, but code officials can only enforce minimums. Mr. Meyers asked whether we would also remove provisions 1-6, as they are not addressed in the proposal. Mr. Gulley suggested that the language should be changed to match the Indiana Residential Code. Carlie Hopper said she did not believe it was necessary for the code to match the IRC, and that 1-6 would stay because it applies to dorms and nursing homes, etc. Mr. Popich clarified that 1-6 would remain based on the language of the proposal. Mr. Eldridge indicated that he believed that AFCIs were not required in their entirety in the IRC, but Mr. Popich indicated that the section Mr. Eldridge was referring to was only for extensions. The IRC requires AFCI's in the prior section. Mr. Patarino noted that nuisance tripping is even more problematic in multifamily and apartment buildings. Mr. Popich asked how big of a problem nuisance tripping is in modern technology. Mr. Eldridge noted that nuisance tripping is almost non-existent with modern technology, but is unsure whether having it mandated is a good idea. Mr. Brenner indicated that there was no nuisance tripping with AFCI and GFCI, that CPSC recommends at least 50% protection by AFCI and GFCI. Flashover occurs within two minutes in modern homes with modern synthetic materials. Mr. Gulley indicated that the open nature of modern houses in combination with synthetic furnishings are what creates most flashover, and that the smoke generated from synthetic furnishings is much more toxic than natural materials as they create hydrogen cyanide compounds. Mr. Gulley also indicates that firefighters have two sets of fire gear to decontaminate gear due to the toxicity, and that the rate of cancer among firefighters is due to additional toxicity. Mr. McClintock notes that NFPA Research and Analytics published a report about building fires in Indiana preventable by AFCIs that should have been wholly or partially preventable by AFCIs between 2012-2016. The report indicated that AFCIs should prevent all or nearly all fires originating between the the panel board, switch board or circuit breaker board, and the outlet or switch where electricity interacts with electric-powered equipment in the home, including those end points." . Ms. Hopper noted that cooking is the number one cause of fires in residential areas is cooking, but Mr. Brenner noted that electrical causes were three of the top ten. Mr. Meyers shares that the other 49 states have adopted AFCIs more than twenty years ago and kept them in their code cycle, and wonders why Indiana remains different. Mr. McClintock notes that 45 have statewide adoption for Residential, 30 states have no AFCI amendments whatsoever. Ms. Madden counters that nine states do not have statewide adoption, and that AFCIs protect property, not lives. Ms. Madden expresses concern about the total fiscal impact based on permits going from 14k to 21k. Mr. Eldridge called for the question. Motion carries.

Mr. Popich called for a vote on the proposal. Motion **fails** 2-8. Proposal is rejected.

- iv. **94 - 210.52(C) - Countertops and Work Surfaces** – Mr. Patarino expressed concern about the mandating of adding more outlets around countertops in residential and multifamily. Mr. Meyers asked whether it was the intention of the proponent to batch two discussion topics into the same proposal. Mr. Luppacino noted that deleting the language actually requires the addition of a receptacle. Mr. Meyers and Popich noted that the “12 inches or wider” language is in the Indiana Residential Code and the 2008 NEC. Mr. McClintock indicated that the proposed 2023 NEC makes outlets in islands and peninsulas optional. Mr. Patarino indicates that the code change is market based. Mr. Popich noted that section 2 can simply be deleted without the other changes.

Ms. Madden and Mr. Patarino agreed to **withdraw** the motion and re-write the proposal.

Committee went on **break** from 10:25 – 10:35.

- v. **90 - 210.52(G) - Garage, Basement, and Accessory Building Receptacles** – Mr. Patarino wishes to eliminate the requirement for the outlet in this section. Outlet is always wired to the house panel and not the individual unit. Individuals use the outlet for electric cars, power tools, etc. Mr. Patarino wishes to modify how the exception is read so that tuck-under garages and power usage for multifamily units are not included. Mr. Popich notes that the clarification would have no fiscal impact, but fiscal impact is noted for later staff use due to the changes in the model code.

Mr. Popich called for a vote on the proposal. Motion **passed** unanimously.

- vi. **87 - 250.90 - Bonding – General** – This is a resubmission. Mr. Eldridge rewrote to include towel bars and mirror frames.

Mr. Popich called for a vote on the proposal. Motion **passed** unanimously.

- vii. **88 - 250.104(A)(1) - Metal Water Piping - General (Revised)** – Another revision related to the prior. Mr. Popich asked where they were adding the exception, as no numbering was given. Mr. Meyers indicated that the exception would need to go after the rule (A)(1), directly above (2) Buildings with Multiple Occupants.

Mr. Popich called for a vote on the proposal. Motion **passed** unanimously.

- viii. **26 - 250.14(B) - Other Metal Piping** – Mr. Eldridge noted that this is from the prior electrical code and brought it forward, but is not sure that it is necessary. Mr. Eldridge indicated that black iron piping is electrically continuous by nature, so is unsure where you would bond it. Mr. Meyers notes that he believes the model code is fairly clear.

Proposal is **withdrawn** by proponent per the suggestion of the Chairman.

- ix. **27 - 250.110 - Equipment Fastened in Place (Fixed) or Connected by Permanent Wiring Methods** – Proponent wished to amend the proposal to remove all items after (B) Add a new list item...

Mr. Popich called for a vote. Proposal **passed** unanimously.

- x. **28 - 250.114 - Equipment Connected by Cord and Plug** – Mr. Eldridge notes that the proposal has a typo. Section 250.110 should be stricken, as well as the (b) Add a new list item...

Mr. Popich called for a vote on the proposal as amended. Motion **passed** unanimously.

- xi. **29 - 300.3(D) - Separation from Corrugated Stainless Steel Tubing** – Ms. Madden indicates that the manufacturers indicated that two inches is acceptable. Mr. Meyers asked whether they should consider whether there is a material that is allowed to be in direct contact. Mr. Popich noted that if the manufacturers instructions allow direct contact, it would be allowed, but Ms. Madden and Mr. Luppachino noted that the

current wording would not allow manufacturer's instructions to be considered. Mr. Eldridge said that he believes the two inches should be maintained.

Mr. Popich called for a vote on the proposal. Motion **passed** unanimously.

- xii. **30 - Table 310.4(A) - Conductor Applications and Insulations Rated 600 Volts** – Another proposal changing 'special permission' to 'where approved' so that the AHJ can approve.

Mr. Popich called for a vote on the proposal. Motion **passed** unanimously.

- xiii. **31 - 310.15(C)(1)(e) - Adjustment Factors - More than Three Current-Carrying Conductors** – Mr. Eldridge noted that if there is no thermal insulation, there is no issue with heat dissipation, and that these can be bundled. Mr. McClintock suggested that it is permitted to use a conductor with a 90C temperature rating for ampacity adjustment, but the proposal does not put any sort of upper limit on the number that can be bundled. Mr. Meyers noted that 334.80 would be in conflict with this section, and would also need to be addressed if passed. Mr. Eldridge noted that section (3) of the exception says substantively the same thing as 334.80 if there is thermal insulation. Mr. Popich notes that sealing is not necessary thermal insulation, but could also refer to fire caulking. Mr. Popich asked what was gained by the proposal that is not addressed in 334.80. Mr. Eldridge indicated that it would negate the need for calculations where there is no sealant or thermal insulation. Mr. Culbert asked whether there was a maximum length the proposal would allow for bundling. Mr. Eldridge indicated that there would not be. Mr. Culbert had concerns about not limiting the length or number of bundled cables. Mr. Eldridge notes that this is being brought from the 2020 IRC, and that the bundle would not have enough load on it. Mr. Popich notes that the 2020 IRC still limits the number, but Mr. Eldridge notes that his proposal language is still in the IRC. Mr. Eldridge notes that "caulk and sealing foam," should be added to item 3 to read, "...surrounded by thermal insulation, caulk, or sealing foam, Table 310.15©(1) shall..."

Mr. Popich called for a vote on the proposal. Motion **passes** 7-3.

- xiv. **32 – 314.16(B)(2) – Box Fill Calculations – Clamp Fill** – Another proposal brought forward from the 2020 IRC. Proposal is for clarification only.

Mr. Popich called for a vote on the proposal. Motion **passes** unanimously.

- xv. **33 - 334.10 - Uses Permitted** – Proposal put forward from 2009 electrical code. Mr. Culbert expressed concerned about using NM cable in places of assembly. Mr. Meyers asked if you could build a twenty story hotel using NM cable. Ms. Madden and Mr. Popich believed it could be under the current wording. Mr. McClintock notes that in the next iteration of the model code, some of the changes regarding how high structures can be built with NM cable will be rolled back. Several members of the Committee expressed concerns about the types of constructions referenced.

Mr. Popich called for a vote. Motion **failed** 1-9.

- xvi. **55 - 334.10 - Uses Permitted** -- Proposal brought forward from 2009 Indiana Electrical Code.

Mr. Popich called for a vote. Motion **failed** 1-9.

- xvii. **56 - 334.10 - Uses Permitted** – Mr. Meyers shared that NM cable can be put in conduit per code book but does not believe that this proposal does not provide any additional clarification on this discussion item.

Mr. Popich called for a vote. Motion **failed** 0-10.

- xviii. **34 - 334.12(A) Uses Not Permitted** – Brought forward from 2009 Electrical Code. Current proposal would conflict with prior proposals passed regarding uses of NM cable.

Mr. Popich called for a vote on the proposal. Proposal **fails** 0-10.

- xix. **35 - 362.10 - Uses Permitted** – Mr. Eldridge notes that the change in language would be accommodating of current language used in Indiana. Mr. Patarino indicated that he wishes the proposal to be tabled, given the significant amount of information involved.

Mr. Popich called for a vote. Proposal was **tabled** until the next meeting unanimously.

- xx. **36 – 362.12 - Uses Not Permitted** – Mr. Culbert noted that this proposal corresponds heavily with 35.

Mr. Popich called for a vote. Proposal was **tabled** until the next meeting unanimously.

- xxi. **37 - 372.20 - Size of Conductors** – A change of language to ‘where permitted.’

Mr. Popich called for a vote. Proposal **passed** unanimously.

- xxii. **38 - 374.20 - Size of Conductors** – A change of language to ‘where permitted.’

Mr. Popich called for a vote. Proposal **passed** unanimously.

- xxiii. **39 - 394.10 - Uses Permitted** -- A change of language to ‘where permitted.’ Mr. Popich indicated that he would

Mr. Popich called for a vote. Proposal **failed** unanimously.

4. **Other Committee Business**

- i. **April Minutes** – Committee approved the minutes by a vote of 10-0.
- ii. **May Minutes** – Committee approved the minutes by a vote of 9-0 with Mr. Jackson abstaining.

5. **Next Meeting – July 27th, 2022 at 9:00am.** 302 W. Washington, Indianapolis, IN 46204. Government Center South, Conference Room 29.

Public notice and virtual/electronic meeting access details will be provided on the [Committee's Web Page](#) in advance of the meeting.

6. Closing Comments and Adjournment – Meeting adjourned at 12:33pm.