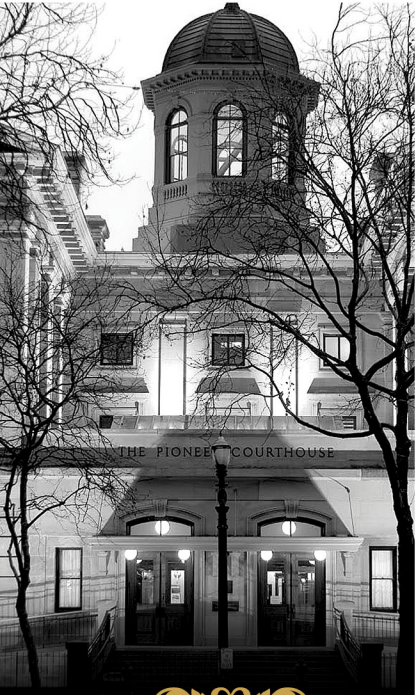


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2025 NFPA TECHNICAL MEETING

HELD ON

FRIDAY, JUNE 20, 2025

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Lenon Peake, Koffel Associates, Inc.
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Vincent Powers, National Fire Sprinkler Association
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American Bimetallic Assoc.
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Ryan Jackson, Self-Employed
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Paul Nijssen, EVCHARGE4U, Inc.
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Eric Sprague, Mitsubishi Electric US, Inc.
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Matthew Dillon
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Marcelo Hirschler, GBH International
Tom Zornes, Siemens Fire Suppression Systems Association
Lee Kaiser, Chair of the FSSA Technical Committee
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PARTICIPANTS CONTINUED

Submitters of CAMs:

Jody Leber, CSA Group

Michael Becker, CSA Group

Povl Hansen, STIF

Abid Anwar, Tesla, Inc

Jeff Knobbe, Alameda County Fire Department and Bauer Compressor Inc.

2025 NFPA TECHNICAL MEETING

HELD ON

FRIDAY, JUNE 20, 2025

CHAIR CROWLEY: Good morning, everyone. Welcome back. My name is Mike Crowley. I'll be the presiding officer. I declare there's a quorum for -- present for the purposes of conducting business.

Let me remind you that NFPA, being a safety organization, is always concerned about your safety. While we are here we want to make you safe. Please pay close attention to the following safety procedures.

Please look around for the marked exits. Keep in mind that the nearest exit may be behind you. In an event of an emergency at Mandalay Bay, please call the MBH security dispatch. From house phones dial 77911. Or from your cell phone 702-632-7911.

If there's an emergency requiring evacuation, an announcement will be made over the alarm system and security officers will provide further instructions.

When the alarm is activated, horns will sound, flashers will be visible throughout the area,

and a series of emergency announcements will be played over the public address system.

Once an alarm has been initiated, members of Mandalay Bay's trained security and engineering staff will immediately respond to the location of the alarm and determine the source, assess the situation, and report back to command center with their evaluation.

Evacuation is not automatic and is only ordered when warranted. If an evacuation is ordered, please quietly leave the room using the nearest exit to you. Follow the posted egress route, NFPA staff, and Mandalay Bay instructions. Remember, that exit may be behind you.

During the technical meeting the use of recording devices of any type is prohibited. The votes cast at the technical meeting in conjunction with the debate are an integral and important part of the contribution to NFPA's consensus standard process.

Through motions, debate, and voting, you, our NFPA membership, make recommendations to the Standard Council. The majority vote results today are the sole purpose to providing recommendations to the Standards Council prior to issuing of the

standards.

Any appeal based upon technical meeting actions today must be filed with the Standards Council Secretary by July 10, 2025. That is 20 days following the adjournment of this meeting.

An appeal for any amendment passed at this meeting which fails Technical Committee or Correlating Committee ballot shall be filed no later than five days after the publication of the Technical Committee ballot results, in accordance with Section 1.6.2(B) of the regulations.

Typically, results of amending -- amendment ballots are published within 20 days of the technical meeting adjournment.

The Standard Council's decisions on issuance is based upon the entire record before it, including pre-technical meetings, position statements submitted, debate, and results of the technical meeting.

The Standards Council will meet August 18th through the 20th 2025 to hear appeals and make final decisions on issuing the standards.

Today's session will include certified amending motions on NFPA 70 in the order as which they were posted at the -- in the agenda. With

that, I think we are going to be testing devices. Right? Okay.

So you've all picked up your devices. All we want you to do at this point in time -- everyone, please participate. We want to get a full count.

All of those in favor of green exit signs, please press the green button. All those in favor of red exit signs, please press the red button. Do not hit the send button.

Yeah. Oh wait, the results aren't coming up to us? Okay.

Okay. Those of you who haven't gotten "Okay" on your device, please raise your hand. One, two --

UNIDENTIFIED SPEAKER: Raise your hands, please.

CHAIR CROWLEY: Okay. Thank you. Please put your hands down. Okay. Thank you very much. That ends our test. And we will be doing standing counts all day so -- we're testing out new technology. Okay?

All right. Very good. Thank you. We are now going to be working on Amending Motion 70-48.

Larry AYER, will you please present the chair report?

MR. AYER: I'd like to defer comment to the Chair of Panel 11.

CHAIR CROWLEY: He's over there. I think he's -- go ahead. Please get close to the mic. We were having sound-level troubles yesterday. Thank you.

MR. MCKINNEY: Yep. No problem. Good morning, everyone. I'm Ken McKinney with UL Solutions and also the Chair of CMP 1. Dirk Mueller is the Chair of CMP 11. He couldn't make it and asked me to provide this report on his behalf. Does there need to be a motion first?

CHAIR CROWLEY: Okay. All right. I'm sorry. Always tough to start. Hang on. Don't go anywhere.

MR. MCKINNEY: It's fine.

CHAIR CROWLEY: Okay. Microphone No. 1, we need a motion on the floor.

MR. JACKSON: Good morning, Chair. And thank you. My name's Ryan Jackson, speaking on behalf of myself. And I move to reject second revision 8079 by way of Cam No. 70-48 as shown on the screen.

CHAIR CROWLEY: And we have a second. Thank you. Proceed.

MR. JACKSON: Thank you. Ryan Jackson, speaking for myself in support. I wish we could see the actual text on the screen -- I understand that we can't -- because the words here really matter.

We have a requirement. And they added an exception that doesn't do anything. The exception says -- this is in regards to air conditioner disconnecting means.

The exception says "Residential, non-fused, single-phase service disconnecting means rated 250 volts or less, not exceeding 60 amps shall be in sight from the equipment and accessible."

Well, those are both already required. The exception did not remove any requirements. Disconnecting means have to be within sight. That's what 440.14 already says. They have to be accessible because you can't bury them in a wall or literally underground in the dirt.

So what does this exception do? Because it doesn't remove any requirements and it doesn't add any requirements. All it does is add ambiguity and remove clarity.

Now if the intention was to only require that they be accessible and within sight, then they should have said it shall only be required to be

those two things. But that's not what it says.

All that it says is it shall be accessible and within sight, which is already a requirement. So what does this rule except out?

If this actually did what the Committee thought it did, it would be one of the worst exceptions in the history of the code because it would remove compliance with the entire section -- not just the ready access but the entire section.

Meaning that you would be permitted to install the disconnecting means over the nameplate. You would be permitted to install the disconnecting means over the access panel.

You would be able to put the disconnecting means 20 feet in the air, requiring a worker to use an extension ladder to shut the power off before they work on the unit, which they're not going to do.

So they're either going to work on the unit energized or they'll rely on the circuit breaker as the disconnecting means, which is not within sight and is not required to be lockable. So they have no control over the disconnecting means.

Meaning we decrease worker safety, and we've created a problem in the field with people

that think that this exception removes something when it in fact does not. All that this exception does is add problems.

And by the way, this also would allow me, if it did what the Committee thought it did -- which it doesn't -- this would allow me to put the disconnecting means directly behind the unit with six inches of clearance in front of it and leave the AHJ no recourse to require any more access because the rule now says you must comply with 110.26(A).

When we add an exception that seems to remove the entire requirement, we leave no recourse for an AHJ to actually require a reasonable amount of room to open that switch and test for voltage, which is going to be the first step that any technician does when they're troubleshooting that motor. That disconnecting means, fused or not, does need to be readily accessible in the name of safety. Thank you.

CHAIR CROWLEY: Thank you. Microphone No. 2.

MR. MCKINNEY: Again, I'm Ken McKinney with UL Solutions, Chair of CMP 1. Dirk Mueller is the Chair of CMP 11. He couldn't be here today, so he asked me to present this report on his behalf.

I'd like to speak in opposition to the motion. CMP 11, in response to Public Comment 1352, created Second Revision No. 8079 to include a new exception to Section 440.14 entitled "Location of Disconnecting Means of Air Conditioning Equipment."

The Committee's rationale for creating this new exception is non-fuse-able disconnect switches rated 250 volts single phase and 60 amps or less are allowed to be located in sight from the equipment as opposed to readily accessible and within sight.

These switches do not require the same level of work for maintenance and operation as fuse-able switches and those with higher ratings. The Technical Committee members voted on the second revision.

They voted unanimously in favor of this change. The vote was from 16 eligible voters. One was non-returned, fifteen affirmative, zero negative, and zero abstentions. Thank you.

CHAIR CROWLEY: Thank you. With that, we can open the floor to debate for Motion 70-48, rejection of second revision number two. Or sorry, Second Revision No. 8079. Microphone number three.

Good morning. And thank you, Mr. Chair.

Eric Heckert with Kennametal speaking on behalf of the NFPA Electrical Section in support of the motion. The Electrical Section voted to support this motion at the business meeting on Monday. Thank you.

CHAIR CROWLEY: Thank you. We just got to warm them up in the morning. Okay. Is there any -- I always get three lines in -- further discussion on Motion 70-48 to reject Second Revision No. 8079?

All right. Seeing none, Larry, do you have any final comments?

MR. AYER: I'd like to defer comment to the Chair of Panel 11.

MR. MCKINNEY: No further comments.

CHAIR CROWLEY: Okay. Thank you very much. We'll proceed to the vote. Before we vote, let me restate the motion. The motion on the floor is to reject Second Revision No. 8079.

All those in favor, please rise. Okay. Thank you. You can sit down. All those opposed to the motion, please rise. Motion passes. Thank you.

All right. Let's proceed on with Certified Amending Motion No. 7045. Yes, sir. Microphone 3.

MR. DUNNE: Good morning. I'm Tom Dunne,

affiliated with the International Brotherhood of Electrical Workers. And I make a motion to accept Certified Amending Motion 70-45.

CHAIR CROWLEY: Need a second.

UNIDENTIFIED SPEAKER 2: Second.

CHAIR CROWLEY: Second. Please proceed.

MR. DUNNE: Thank you. I speak in support of the motion to reject an identifiable part of Second Revision No. 76-75, specifically Informational Note No. 4.

I am the submitter of the motion, a member of Code-Making Panel 14, but speaking for myself. Second Revision No. 76-75 contained an informational note that was mistakenly included in the second revision.

As written, this informational note could cause the user to look for information which is unrelated to this section. It does not add clarity. And it creates confusion.

When the hazardous location wiring methods were converted from list-item format to table format, Informational Note No. 4 did not exist in the 2023 National Electrical Code list item text of 501.10(A)(1) before the conversion to the table format began.

Removing this misplaced informational note before the document is published will eliminate confusion for users of the 2026 National Electrical Code.

In closing, I speak in support of the motion. And my request is to accept Certified Amending Motion 70-45, specifically the removal of Informational Note No. 4. Thank you.

CHAIR CROWLEY: Thank you.

Larry, would you like to offer the Panel's position?

MR. AYER: I'd like to defer comment to the Chair of Panel 14.

MS. PORTER: Good morning. My name is Christine Porter. I'm from Inner Tech and the Correlating Committee. And I'm here representing Eddie Ramirez, who could not be here as the Chair of Panel 14.

Mr. Tom Dunne's -- Thomas Dunne's motion to reject Informational Note No. 4 in 501.10(A)(1) is supported by the majority members of NFPA 70 Code-Making Panel 14. There are no members opposed to this motion.

The intent of the original public comment was to convert the permitted wiring methods listed

in 501.10(A)(1) from list items to a table format. As the submitter of the original public comment, I can confirm that this was my goal.

At the time of -- the second revision was created; the Panel opted to modify the text of the wiring methods to provide additional clarity to the requirements for each permitted wiring method.

However, after the motion passed, the question was asked whether these technical changes extended beyond the scope of the public comment would be considered new material.

And the text would then revert to that of the 2023 edition since the changes were made as a second revision and not during the public input or as a first revision.

Therefore, the second revision was revisited and altered to remove the new material and to only make modifications as originally presented by the public comment.

The table format remained, but the added requirements for certain wiring methods were removed. Informational Note 4 was added to supplement one of the additional requirements for an MCHL cable, ITCFHL cable, TCERHL cable terminated with listed fittings for use in hazardous classified

locations.

When Code-Making Panel 14 revisited the second revision, removing the new language, the deletion of the informational note was overlooked.

Accepting the second revision 76-75 in its entirety would keep this informational note, which would add confusion to the reader. The note is not technically incorrect but is irrelevant to the section and adds no clarity.

Rejecting second revision 76-75 in its entirety would undo the desired action by CMP 14 to put the wiring methods in a table format. Therefore, the best course of action is only rejecting the part of the second revision targeting the informational note.

CHAIR CROWLEY: Thank you. With that we will open debate on the motion. Please provide your name, affiliation, whether you're speaking in support or against the motion.

Okay. If there is any further discussion on the motion to reject an identifiable part of Second Revision No. 76-75. (Indiscernible).

Larry, would you like an opportunity for any final comments?

MR. AYER: I'd like to defer back to the

Chair of Panel 14.

MS. PORTER: No further comment.

CHAIR CROWLEY: Thank you. And we will move to the vote. Before we vote, let me restate the motion. The motion on the floor is to reject an identifiable part of Second Revision No. 76-75.

All those in favor of that motion, please rise. Okay. Thank you. All those opposed, please rise. Okay. The motion passes. If people are having trouble getting up and down, just raise your hand. We'll have a staff person count you. You don't have to stand up, guys.

UNIDENTIFIED SPEAKER 3: Oh, I'm good.

CHAIR CROWLEY: Okay. All right.

UNIDENTIFIED SPEAKER 3: The knees work.

CHAIR CROWLEY: The knees work. Great. All right. Moving along. Let's now proceed with the discussion of Certified Amending Motion No. 70-46. Okay. Microphone No. 1, can you -- oh, I'm sorry. Number 3. Sorry.

MR. DUNNE: I'm Microphone 3, yes. Once again, I'm Tom Dunne, affiliated with the International Brotherhood of Electrical Workers. I want to make a motion to accept Certified Amending Motion 70-46.

UNIDENTIFIED SPEAKER 4: Second.

CHAIR CROWLEY: And we have a second.

Mr. Dunne, please proceed.

MR. DUNNE: All right. Once again, I speak in support of the motion to reject an identifiable part of Second Revision No. 76-86, specifically this time Informational Note No. 3.

I am the submitter of the motion, a member of Code-Making Panel 14, and speaking on behalf of myself. Second Revision No. 76-86 contained an informational note which was mistakenly included in the second revision.

As written, this informational note could cause the user to look for information which is unrelated to the section. It does not add clarity, and it creates confusion.

When the hazardous locations wiring methods were converted from list-item format to table format, Informational Note No. 3 did not exist in the 2023 National Electrical Code list item text of 501.10(A)(2) before the conversion to table format began.

Removing this misplaced informational note before this document is published will eliminate confusion for users of the 2026 National Electrical

Code. In closing, I speak in support of the motion, and my request is to accept Certifying Amending Motion 70-46, specifically the removal of Informational Note No. 3. Thank you.

CHAIR CROWLEY: Thank you.

Larry, would you like to offer the Panel's position?

MR. AYER: I'd like to defer comment to the Chair of Panel 14.

MS. PORTER: Again I'm Christine Porter with Inner Tech. And I am serving as representative for Panel 14 for Eddie Ramirez. And I'd really like to just say what he said.

CHAIR CROWLEY: Okay.

MS. PORTER: It is almost word-for-word the same substantiation. Mr. Tom Dunne's motion to reject Informational Note No. 3 in 501.10(A)(2) is supported by the majority of the members of NFPA 70 Code-Making Panel 14. There are no members opposed to this motion.

The intent of the original public comment was to convert the permitted wiring methods listed in 501.10(A)(2) from a list item to a table format. As the submitter of the original comment, I can confirm that this was my goal.

At the time of the second vision -- revision was created the Panel opted to modify the text of the wiring methods to provide additional clarity to the requirements for each permitted wiring method.

However, after the motion passed the question was asked whether technical changes extended beyond the scope of the public comment would be considered new material and the text would revert to that of the 2023 edition since the changes were made as a second revision and not during the public input or as a first revision.

Therefore the second revision was revisited and altered to remove the new material and to only make modifications as originally presented by the public comment.

The table format remained, but the added requirements for certain wiring methods were removed. Informational Note 3 was added to supplement one of the additional requirements for TCERHL cable terminated with listed fittings for use in hazardous classified locations.

When Code-Making Panel 14 revised the second revision removing the new language, the deletion of this informational note was overlooked.

Accepting the second revision 76-86 in its entirety would keep this informational note, which would add confusion to the reader.

The note is not technically incorrect but irrelevant to the section and adds no clarity. Rejecting Second Revision 76-86 in its entirety would undo the desired action by CMP 14 to put the wiring methods in a table format.

Therefore the best course of action is only rejecting part of the second revision targeting the specified informational note.

CHAIR CROWLEY: Thank you. With that, we will open debate on the motion. Okay. Seeing no debate, let's move on. Any further discussion on Motion 70-76 to reject an identifiable part of the Second Revision No. 76-86?

Larry, any closing comments?

MR. AYER: I'd like to defer back to Christine for comment for Panel 14.

MS. PORTER: No comment.

CHAIR CROWLEY: Thank you. Now we move on to the vote. Let me restate the motion. The motion on the floor is to reject an identifiable part of Second Revision No. 76-86. All those in favor, please rise. Thank you. All those opposed, please

rise. Motion passes. Thank you.

Moving along. We will now proceed with the discussion on Certified Amending Motion No. 71-56. Microphone 1.

MR. ARNOLD: Good morning. And thank you, Mr. Chair. Kevin Arnold representing Eaton Bussmann. I would like to make a motion to support CAM 70-156.

UNIDENTIFIED SPEAKER 5: Second.

CHAIR CROWLEY: We heard a second? Yep. All right. We have a second. Please proceed.

MR. ARNOLD: Again, good morning. Kevin Arnold, member of Panel 10 of Panel 13 representing Eaton Bussmann, speaking in favor of CAM 70-156 that seeks to reject Second Revision No. 77-40.

This journey began as a public input that was accepted nearly unanimously as a First Revision No. 86-34 with the following Committee statement. "It is critical that an elevator control panel is rated for the available fault current at its point of supply.

"Given the design complexity of the elevator control panel, it can often have a low short circuit current rating. This change provides much-needed information to aid the AHJ when

enforcing the code.

"Without this information, it is very difficult for an electrical inspector to verify that the conditions of 620.16(B) are met." So that was the Panel statement from the first revision.

You will hear from the Panel statement in the second revision that rejected this into a second revision by removing the first revision that this is a redundant requirement.

However, it is not redundant as the section referenced in the Panel statement refers to the disconnecting means. And this requirement is for the elevator controller.

It is important to have this labeling on the elevator controller as the Panel stated in the first revision. I ask you to support this CAM and the work that the Code Panel -- Code-Making Panel did in the first revision. Thank you very much.

CHAIR CROWLEY: Thank you.

Larry, would you like to offer the Panel's position?

MR. AYER: I'd like to defer comment to the Chair of Panel 12.

MR. BABLO: Okay. Thank you.

CHAIR CROWLEY: Microphone No. 2.

MR. BABLO: Thank you, Mr. Chair. This is Joe Bablo from UL Solutions and Chair of Panel 12 speaking in opposition to the motion.

Second Revision 77-40 was developed to remove wording around markings that was added at First Revision 86-34 as stated.

CMP 12 elected to modify the first revision and create Second Revision 77-40 to eliminate the need to provide an available fault current marking at the control panel that was deemed redundant based on existing marking requirements in 628.51. Vote count was based on 21 eligible votes with 17 for and 2 against with 2 not returned. Thank you.

CHAIR CROWLEY: Thank you. With that, we'll open the floor to debate on the motion. Please provide your name, affiliation, and whether you are speaking in support or against the motion. Nobody at the microphones again. Oh, we got somebody. Microphone No. 3.

MS. TABBARA: Good morning. My name is Jean Tabbara. I am an electrical engineer and a fire protection specialist. And I have quite a few elevator modernization projects. I'm speaking in favor of the motion.

So when we design elevators, the elevator controller manufacturer provides the short-circuit current rating. But it's often hidden inside the elevator controller panel and it's in very fine print.

The only way to find it is to take a photo of it and then enlarge it. That's only for the short-circuit current rating. It's not for the available fault.

Oftentimes the only short-circuit current rating available is 5,000 amps. The available fault exceeds that very, very often. So it's extremely important to have that indicated on the controller. I'm in favor of this motion.

CHAIR CROWLEY: Thank you. Is there any further discussion on Motion 70-176 to reject the second revision of No. 77-40? Yes, Microphone No. 4.

MR. HOLUB: Richard Holub with Dupont representing the American Chemistry Council. I'd just like to read --

CHAIR CROWLEY: Are you for or against?

MR. HOLUB: I'm against the motion, please.

CHAIR CROWLEY: Thank you.

MR. HOLUB: 620.51(D) says "Available fault current field marking. A disconnecting mean shall be legibly marked in the field with the available fault current at its lined terminals.

"The field marking shall include the date, the available fault current calculation was performed, and be of sufficient durability to withstand the environment involved."

It goes on and basically covers the same thing that was covered in the prior language that the submitter's trying to get reinstated. So I have to agree with the statement against. Basically it is redundant with what's in 620.51. Thank you.

CHAIR CROWLEY: Thank you. Microphone No. 1.

MR. ARNOLD: Thank you, Mr. Chair. Again Kevin Arnold speaking in support of the motion, representing Eaton Bussmann. The information is not redundant. The disconnecting means is covered under a separate section than what the elevator controller is.

So these pieces of equipment are installed in two different locations, have two separate sections under Article 620 that govern their installation. So the information is not redundant.

Thank you.

CHAIR CROWLEY: Thank you. Microphone No. 3.

MS. TABBARA: It's me again, Jean Tabbara. I'm also a member of the National --

CHAIR CROWLEY: Please state --

MS. TABBARA: -- Association --

CHAIR CROWLEY: Please state if you're for or against.

MS. TABBARA: For it.

CHAIR CROWLEY: Thank you.

MS. TABBARA: I'm in favor. Okay. I'm also a Member of the National Association of Elevator Safety Authorities. The reason for this marking on the controller is for the safety of elevator mechanics.

The available fault at the disconnect is not always the available fault at the controller. Elevator manufacturers will install an isolation transformer to decrease the available fault at the controller. So that needs to be taken into account.

CHAIR CROWLEY: Thank you. Okay. Is there any further discussion on Motion 70-156 to reject a Second Revision No. 77-40?

Larry, would you like opportunity for

final comments?

MR. AYER: I'd like to defer comment to the Chair of Panel 12.

MR. BABLO: No further comments. Thanks.

CHAIR CROWLEY: Thank you. We will now proceed to the vote. Before we vote, let me restate the motion. The motion on the floor is to reject Second Revision No. 77-40.

All those in favor of the motion, please rise. Okay. All right. Thank you. Please be seated. Okay. All those opposed to the motion, please rise. Motion passes. Thank you.

Okay. Let's move on to Certified Amending Motion 70-172. Do we have someone for 70-172? Okay. Let me find my -- oh, here he comes. Okay. Microphone No. 1, please.

Good morning, respected voting members. Thank you for the opportunity to speak today. My name is --

CHAIR CROWLEY: Please state your name.

Yeah, I was just going to say that.

CHAIR CROWLEY: Okay.

MR. GINSBERG-KLEMMT: My name is Achim Ginsberg-Klemmt. I am with the company GismoPower. I represent GismoPower. GismoPower was given a --

CHAIR CROWLEY: Please make a motion, please.

MR. GINSBERG-KLEMMT: I support the motion.

UNIDENTIFIED SPEAKER 6: Second.

CHAIR CROWLEY: No, I need you to state a motion, please.

MR. GINSBERG-KLEMMT: How would I do that? I support this motion or --

CHAIR CROWLEY: Yeah. Accept Public Comment No. --

MR. GINSBERG-KLEMMT: Oh, accept Public Comment No. 1225.

UNIDENTIFIED SPEAKER 6: Second.

CHAIR CROWLEY: Thank you.

MR. GINSBERG-KLEMMT: Thank you.

CHAIR CROWLEY: Proceed.

MR. GINSBERG-KLEMMT: I represent GismoPower. We received a generous grant from the Department of Energy to develop the MEGA. That is the mobile electricity-generating appliance that is basically a mobile carport on wheels plug-in solar.

I'm here to express serious concerns about the proposed addition of Section 625.4 to the NEC, which may have unintended consequences that run

counter to its stated safety goals.

Let's be clear. 625.4 will not stop do-it-yourself installations of EVSE. It will merely push those installers out of the system.

Homeowners and renters seeking to install their own EV-charging equipment may find themselves denied permits or saddled with paperwork burdens by the AHJ. Worse, some jurisdictions may outright refuse permits for self-installs. When you block the front door, people will go around to the side.

It is not hypothetical. It is already happening in other sectors of residential wiring. The result is more shadow work, less oversight, and ultimately lower safety.

And that's a shame because NFPA's real mission is to enhance safety -- not to create code that drives people away from the safety net of inspection and accountability.

Having a building inspector check torque values and wiring work done by a do-it-yourself installer is a good thing.

It ensures that even nonprofessionally-installed systems meets safety standards. But prohibiting do-it-yourself altogether doesn't eliminate risk. It eliminates

visibility.

Moreover, the language in 625.4 is narrow and unclear. It doesn't explicitly cover common configurations like empty junction boxes or future-use receptacles.

This ambiguity risks confusion and inconsistent enforcement across jurisdictions. We should instead be focusing on how to make EV power transfer equipment more self-documenting and inspectable.

Technologies like torque indicators, QR code link manuals, and smart diagnostics can help mitigate installation errors. Supporting this kind of innovation aligns with NFPA values.

Let's remember installing a hardwire EVSE is not more complex than wiring a dryer or range. But with 625.4 in place, a perfectly sound installation could be flagged by insurer as noncompliant, potentially resulting in coverage denial even if it was done safely and correctly.

So I respectfully urge this Panel to reconsider the adoption of 625.4. Let's not alienate responsible homeowners. Let's pull them into the fold of safety and oversight, not push them --

CHAIR CROWLEY: Okay. Excuse me --
MR. GINSBERG-KLEMMT: -- into the shadows.
CHAIR CROWLEY: Are you sure you're on the right motion?
MR. GINSBERG-KLEMMT: Well, that's what it says -- 627 -- 127.
CHAIR CROWLEY: Yeah.
UNIDENTIFIED SPEAKER 7: No, there's two motions. The motion is 172 --
MR. GINSBERG-KLEMMT: 172, yes. That's what I have.
CHAIR CROWLEY: Yeah, you have 172, which is an Article 100 definition.
MR. GINSBERG-KLEMMT: Well, I can read the 150. I have that one under 150.
CHAIR CROWLEY: Hold on.
MR. GINSBERG-KLEMMT: Can we switch? I mean, that's -- I don't know.
UNIDENTIFIED SPEAKER 7: (Indiscernible) is two motions down on this. So we're discussing --
CHAIR CROWLEY: Yeah. 150 is two down from this one.
MR. GINSBERG-KLEMMT: That's right.
CHAIR CROWLEY: So we're discussing Article 100 -- the definition.

UNIDENTIFIED SPEAKER 7: The motion's (indiscernible).

MR. GINSBERG-KLEMMT: I have two --

CHAIR CROWLEY: The motion's been made and seconded.

MR. GINSBERG-KLEMMT: You know, I was confused because on your agenda it's the other way around in the numbers. I got the information from Jeffrey Sergeant.

UNIDENTIFIED SPEAKER 7: (Indiscernible).

CHAIR CROWLEY: Yeah, yeah. Okay. 176.

UNIDENTIFIED SPEAKER 7: 176.

CHAIR CROWLEY: Right. Right. Okay. So the order of the agenda is 172, which -- and that's what we have here up on the screens. And I think we can give you another three minutes if you want to do Article 100 --

UNIDENTIFIED SPEAKER 7: To speak to the definition.

CHAIR CROWLEY: -- to speak to that definition.

MR. GINSBERG-KLEMMT: Is that PC 1189?

UNIDENTIFIED SPEAKER 8: (Indiscernible) 1225.

CHAIR CROWLEY: No, this is Public Comment

1225. PC, yeah, Public Comment 1225. That's --

UNIDENTIFIED SPEAKER 7: Let's just (indiscernible).

CHAIR CROWLEY: Yeah.

MR. GINSBERG-KLEMMT: Yeah. Okay. I have it on 162. Yeah. All right. Thank you so much.

CHAIR CROWLEY: All right. Hang on one second.

UNIDENTIFIED SPEAKER 7: Make sure he understands (indiscernible).

CHAIR CROWLEY: Yeah. Okay.

MR. GINSBERG-KLEMMT: Okay. I can go with that one first.

CHAIR CROWLEY: Hang on.

MR. GINSBERG-KLEMMT: Yeah, I can read this one instead. Yeah, yeah. That's a number mix-up. I don't know where it happened.

CHAIR CROWLEY: No problem. Okay. We'll start the timer again.

MR. GINSBERG-KLEMMT: Thank you.

CHAIR CROWLEY: Please proceed. State your name.

MR. GINSBERG-KLEMMT: My name is Achim Ginsberg-Klemmt. I represent GismoPower. We are supported by a DOE grant for mobile electricity-

generating appliances.

Today I rise to speak in support of the deleting -- oh, no. That's also the wrong one. I'm sorry. The recent rejection of Public Comment 1189, which proposing adding the term "unpropelled" cited --

CHAIR CROWLEY: Nope. That's not the one.

MR. GINSBERG-KLEMMT: Oh, 176.

CHAIR CROWLEY: 172, please.

MR. GINSBERG-KLEMMT: Oh, yeah. I'm here to -- I have this under 176. Wow. I'm here to address the rejection of Public Comment 1225, which was dismissed on the basis that Merriam-Webster is a proprietary reference and that unpropelled vehicles are not electric vehicles.

With all due respect, the response misses the critical purpose and urgency of the proposal. The core issue here is that Article 100, defined as electric vehicle, is outdated.

To work around this, the entire Article 624, formerly 627, was created -- spanning nearly 10 pages of new code. Its purpose? To broaden the definition of electric vehicles just enough to include forklifts and other electric-powered equipment.

But creating an entirely new article to patch an old definition is an inefficient and unnecessarily complicated. Instead I move that we accept the proposed modifications on an equivalent solution that expands the definition of "vehicles" in Article 100.

It is not merely a semantic issue. It's a fundamental pivot that aligns the National Electric Code with the future of the electric grid.

Work Order 2222 mandates the integration of distributed energy resources to wholesale markets, enabling two-way power flow. For that vision to become a reality our code must support it.

Plug-in power is no longer just about charging cars. It's about electric forklifts, boats, carts, and, yes, even portable solar carports like GismoPower's MEGA -- all of which can charge and discharge power using the same safe UL-compliant infrastructure.

Permissive code language must empower this new era of prosumer energy. We cannot let legacy definitions written for a unidirectional, monopolistic grid hinder the innovation and equity that the future demands.

Expanding the definition of Vehicle

Article 100 is not a workaround. It's a necessary modernization. I urge this Panel to reconsider Public Comment 1225 or adopt an equivalent amendment. Let's make the '26 NEC a blueprint for resilient, participatory, and decentralized energy systems.

CHAIR CROWLEY: Thank you very much.

Larry, would you like to offer the Panel's position?

MR. AYER: I'd like to defer comment to the Chair of Panel 12.

MR. BABLO: Okay. Thank you, Mr. Chair. I'm Joe Bablo, UL Solutions and Chair of Code-Making Panel 12 speaking against the motion on behalf of Code-Making Panel 12.

The definition of electric vehicle was created in order to distinguish a specific vehicle type that would be subjected to the rules associated with general public access charging stations in Article 625.

CMP 12, in electing not to include unpropelled vehicles as a type of electric vehicle, noted that an unpropelled vehicle is not an electric vehicle. The modification of the definition has proposed in this CAM was based on Public Comment

1225, which was rejected by CMP 12 with a vote of 18 to zero.

CHAIR CROWLEY: Thank you. Microphone No. 1? No. That's you.

UNIDENTIFIED SPEAKER 9: That's you.

MR. GINSBERG-KLEMMT: Oh, I get to respond?

CHAIR CROWLEY: Only if you want to respond.

MR. GINSBERG-KLEMMT: Hello, Joe. If you have an equivalent solution --

CHAIR CROWLEY: Please state your --

MR. GINSBERG-KLEMMT: -- that's fine --

CHAIR CROWLEY: -- name, affiliation, and whether you're for or against the motion.

MR. GINSBERG-KLEMMT: I am for the recommended motion and --

CHAIR CROWLEY: Please state your name --

MR. GINSBERG-KLEMMT: Achim Ginsberg-Klemmt.

CHAIR CROWLEY: -- affiliation --

MR. GINSBERG-KLEMMT: GismoPower. I support the motion. I am okay with an equivalent solution.

CHAIR CROWLEY: Okay. Thank you.

Microphone No. 3?

MR. GOODREY: Eddie Goodrey representing myself. I call the question.

CHAIR CROWLEY: Okay. There's a motion on the floor to call the question. I notice there's a number of people waiting remaining to talk. But this is a vote that we will take.

So we had a second. We'll proceed straight to the vote on calling the question. All those in favor of calling the question please rise. Thank you. All those in favor of continuing debate please rise. Okay. The motion passes.

We will now proceed to the vote. Let's see. Where am I? That was call the question. Okay. Before we go to vote, let me restate the motion. The motion on the floor is to accept Public Comment No. 1225.

All those in favor of accepting Public Comment 1225 please rise. All right. Thank you. You can be seated. All those opposed to Public Comment 1225 please rise. Motion fails. Thank you.

I also want to thank you -- but before I turn over the podium to the next certifying group of amending motions for consideration, I would like to express my thanks to you as the presiding officer.

It's been my pleasure to act in this position. I now introduce Jeffrey Foisel, NFPA Standards Council member. I turn my duties as presiding officer to him.

Jeff?

CHAIR FOISEL: Thank you, Michael.

So we will now move on to the next item on our agenda, which is NFPA 70 National Electric Code continuing. We will proceed by calling the certified amending motions on NFPA 70 in the order in which they were published in the agenda.

For a full list of these certified amending motions please reference the Motions Committee 2025 Annual Report documentation beginning on page 4. Microphone 1, please.

UNIDENTIFIED SPEAKER 9: That's you.

MR. GINSBERG-KLEMMT: Yes. Should we make sure we have the right one?

CHAIR FOISEL: We should have a motion, yes.

MR. GINSBERG-KLEMMT: Yes. It's about broadening the definition of electric vehicles? Yes. Today I speak --

CHAIR FOISEL: So --

MR. GINSBERG-KLEMMT: Oh, my name is Achim

Ginsberg-Klemmt. I represent GismoPower.

CHAIR FOISEL: Okay. And your motion?

MR. GINSBERG-KLEMMT: I move to accept the motion.

CHAIR FOISEL: I need something a little more -- like reject Second Revision No. 78-98.

MR. GINSBERG-KLEMMT: Oh, I am in support of the suggestion to delete Article 624 --

UNIDENTIFIED SPEAKER 10: Make that motion right there.

MR. GINSBERG-KLEMMT: Oh, I make a motion -- certified amended motion to reject Second Revision of No. 78-98 and any related portions and revisions, provisions, and first correlation revisions.

CHAIR FOISEL: Thank you.

UNIDENTIFIED SPEAKER 11: Second.

CHAIR FOISEL: And we have a second. Let's now proceed with the discussion of Certified Amending Motion 70-162. Microphone 1, please.

MR. GINSBERG-KLEMMT: Today I rise to speak in support of deleting Article 624 from the National Electric Code and instead broadening the definition of "vehicle" in Article 100, a revision I had proposed in a separate comment.

The rationale given for rejecting my initial proposal states that Article 624 is needed to address a gap in the code regarding non-automotive electric vehicles such as forklifts, airport ground support equipment, electric tractors, golf carts, and electric boats.

While I fully agree that these vehicles deserve proper safety guidance for charging and power export, maintaining a separate article for them is not the most coherent and scalable solution.

Creating a whole new article for every emerging or unconventional electric vehicle category leads to redundancy and fragmentation. Instead we should embrace a more comprehensive and future-ready approach.

Define "vehicle" in Article 100 to include all forms of electric transport and equipment whether or not they're used on roads or propelled or not.

Article 625 already sets the standard for electrical vehicle power supply equipment -- EVPSE -- with robust UL listing, flood compatibility, and protective grounding.

It's logical and efficient to expand this article's applicability to a wider spectrum of

vehicles unified under a broadened, modernized definition.

By doing this we eliminate confusion, streamline safety requirements, and provide a consistent foundation for regulating power flow to and from all vehicles of electric vehicles.

This is especially critical as bidirectional charging in V to X systems become standard features -- not only cars, but in many forms of mobile and stationary equipment.

We need to stop thinking in terms of siloed categories like on-road and off-road and start designing code that reflects the convergence of mobility, energy, and grid-interaction technologies.

I urge the Panel to accept the motion to delete Article 624 -- not to eliminate safety but to consolidate and elevate it. Let's ensure the NEC evolves with the times by redefining "vehicle" in Article 100 and housing all EVPSE equipment regardless of vehicle type within Article 625.

CHAIR FOISEL: Thank you.

Larry, would you like to offer the Panel's position?

MR. AYER: I'd like to defer comment to

the Chair of Panel 12.

MR. BABLO: Okay. Thank you, Mr. Chair.

Joe Bablo for UL Solutions and Chair of Code-Making Panel 12 speaking against the motion on behalf of Code-Making Panel 12. Article 625 was developed and added to the code in order to address charging of electric vehicles as defined within the code.

It explicitly omitted other vehicle types from its scope. Today these other vehicle types, which are excluded from Article 625 by definition, are using lithium-based batteries and using the same or similar charging stations to charge the vehicles.

As such, the same risks need to be mitigated. And therefore similar rules should apply. CMP 12 elected to create new Article 624 to address the installation of charging equipment for these other vehicle types.

The deletion of this article was proposed. And this CAM was based on PC 809, which was rejected by CMP 12 with a vote of 17 to zero. Thank you.

CHAIR FOISEL: Thank you.

With that, we will open debate on the motion. Please remember to provide your name, affiliation, and whether you are speaking for or

against the motion. Microphone 3, please.

MR. GOODREY: Eddie Goodrey representing myself. I call the question.

CHAIR FOISEL: Okay. There's a motion on the floor to call the question. I notice that there are still a number of people remaining at the microphones waiting to speak. But we will proceed with the vote on call the question. Is there a second?

UNIDENTIFIED SPEAKER 12: Second.

CHAIR FOISEL: We have a second. If you wish to vote in support of the motion to call the question, please rise. Okay. If you wish to vote against the motion, please rise.

Okay. The results of the vote are the motion to call the question passes with the two-thirds vote necessary. With that, we will go directly to the vote on Motion 70-162.

If you wish to vote in favor of the motion for 70-162, which is to reject a Second Revision No. 78-98 and related portions of first revision and first correlating revisions, if you wish to vote in favor of the motion please rise.

If you wish to vote against the motion, please rise. Okay. You may be seated. The motion

has failed. We will now proceed to Certified Amending Motion 70-150. Microphone 1, please.

MR. GINSBERG-KLEMMT: My name is Achim Ginsberg-Klemmt. And I'm with GismoPower. And I move to certify the amended motion to accept Public Comment No. 1189.

CHAIR FOISEL: There is a motion on the floor to accept Public Comment 1189. And it has been seconded. I got the second. Thank you. Please proceed with discussion on the motion.

MR. GINSBERG-KLEMMT: Good morning, esteemed members of the Code-Making Panels. Thank you for this opportunity to speak with you. My name is Achim Ginsberg-Klemmt.

I'm here to advocate for a rational and forward-looking revision of the 2026 National Electric Code. Specifically, I urge this Panel to consolidate Article 624 and 625 as retaining both is redundant and technologically outdated.

The recent rejection of Public Comment 1189, which proposed adding the term "and unpropelled" cited scope limitations entered exclusively on electric self-propelled vehicles.

But that response ignores the critical evolution of energy technology and usage. The

intent of my proposed modification was not to misclassification. It's necessary expansion.

Plug-in power should no longer be limited to self-propelled vehicles. Let me be clear. There is no scientific or engineering justification for excluding unpropelled electric vehicles or electricity-generating appliance such as mobile solar systems like the MEGA from participating in our emerging plug-in prosumer-based grid.

Devices like these use the same 240-volt plug infrastructure, the same UL-compliant inverter technology, and even the same safety principles already embedded in Article 625.

In Europe, plug-and-play solar appliances, often referred to as balcony solar, are growing exponentially. Germany alone saw a quadrupling of sales in 2023. These systems are legally allowed to plug in standard household outlets, providing both autonomy and energy resilience to consumers.

In the United States however innovation is stifled by code that artificially separates vehicle charging from home energy generation despite the identical hardware and functional overlap.

Keeping Article 624 separate perpetuates barriers to equitable energy participation,

especially for renters, mobile homeowners, and low to moderate-income families who cannot access rooftop solar.

By integrating Article 624 and 625 into a unified standard that covers all plug-in power equipment, whether for charging, discharging, or generating electricity, we can eliminate ambiguity, accelerate clean energy development, and ensure safety while expanding access.

This is not a fringe proposal. It reflects where the market is heading, what the science supports, and what economics and the climate demands. I respectfully urge this Panel to reconsider its position and modernize the code to embrace the full spectrum of plug-in electricity-generating appliance -- propelled or not.

CHAIR FOISEL: Thank you.

Larry, would you like to offer the Panel's position?

MR. AYER: I defer comment to the Chair of Panel 12.

MR. BABLO: Thank you, Mr. Chair. Joe Bablo from UL Solutions and Chair of Code-Making Panel 12 speaking against the motion on behalf of

Code-Making Panel 12.

CMP 12 elected to include Article 624 to address the installation of charging equipment for specific vehicle types that are excluded from Article 625. The scope of Article 624 and all requirements in this article were developed and proposed with those specific vehicles in mind.

The addition of other product types to the scope of Article 624, although perhaps warranted and possible under future revisions, may not address all aspects of safety for the installation without a thorough analysis of the content of Article 624.

The modification of the scope as proposed in this CAM was based on PC 1189, which was rejected by CMP 12 with a vote of 17 to zero. Thank you.

CHAIR FOISEL: With that, we will open debate on the motion. Please provide your name, affiliation, and whether you are speaking in support of or against the motion. Microphone 4, please.

MR. HIRSCHLER: Marcelo Hirschler, GBH International. I call the question.

CHAIR FOISEL: Okay. There is a motion from the floor to call the question. I notice there were still a few people remaining at the microphones waiting to speak, but we will proceed with the vote

on to call the question. Do we have a second?

UNIDENTIFIED SPEAKER 13: Second.

UNIDENTIFIED SPEAKER 14: Second.

CHAIR FOISEL: We have a second. So we will now vote on the motion to call the question. If you are in favor of calling the question please rise. Okay. Thank you. If you are opposed to call the question, please rise.

Okay. The motion to call the question has passed. We will now proceed directly to the vote on Motion 7-150 to accept Public Comment 1189. If you wish to vote in support of this motion recommending the text from screen one or the green screen, please rise.

If you wish to vote -- oh, you may be seated. Thank you. If you wish to vote against the motion and recommend the text in red, please rise. Okay. You may be seated. The result of the vote is that this motion has failed.

Let's now proceed with the discussion of the group Certifying Amending Motions 70-114, 70-123, 70-128, 70-132, 70-137, 70-140, 70-143, 70-164, 70-173, 70-174, 70-175, 70-176. Thank you. Now I know why you gave me that one.

UNIDENTIFIED SPEAKER 7: It was

(indiscernible).

CHAIR FOISEL: It was her. Okay. Microphone 3, please.

MR. NESBITT: Wahoo. Let's get them all done at once. Okay. My name is Bryce Nesbitt with Obviously Technical Inspections. And I am one of those -- I don't remember which one -- to reject the new Article 625.4 qualified persons. I'm in support of this CAM.

CHAIR FOISEL: Is that the motion?

MR. NESBITT: That is the motion. My motion is to reject 625.4 from the current edition of the code. Thank you.

CHAIR FOISEL: Thank you. Is there a second?

UNIDENTIFIED SPEAKER 15: Second.

CHAIR FOISEL: We have a second.

MR. NESBITT: Yes.

CHAIR FOISEL: Okay. Please proceed with the discussion on the motion.

MR. NESBITT: Okay. I'll introduce this first. And then --

UNIDENTIFIED SPEAKER 16: Okay. You go.

MR. NESBITT: Okay. In my view the best case for safety is to have electric vehicle charging

equipment when installed be inspected by a qualified authority having jurisdiction. That is what gets us a safe installation.

I'm a field inspector. I've inspected thousands and thousands of residences. And the most difficult and problematic cases are ones that would have never passed a competent field inspection by an authority having jurisdiction.

And here we have in front of us this requirement. Who wouldn't want EVSE to be installed by qualified persons? I certainly would. But in the real world this is a common item for people to home-install to DIY-install.

And under that circumstance I believe that safety demands that we do everything possible to ensure that those installations are done with a building permit and then inspected. That's the problem here.

Now I've spoken with NECA quite a bit. NECA put this on the ballot and has promoted it. And I understand their position with regard to electricians and bigger installs.

But NECA electricians very rarely work on homes. And they certainly don't get involved in a DIY install. This adds a qualification that will

result in AHJs being confused about who can and can't install an EVSE in their own home.

And they will have different qualifications. So rather than one national electric code, we will have one per jurisdiction as they try to determine what qualified means and what it doesn't.

I would fully support an idea that there is some sort of online course that one could take as a DIY person to be trained in the important aspects of EV install, but we don't have that. Thus my motion is to reject 625.4. Thank you.

CHAIR FOISEL: Thank you.

Larry, would you like to offer the Panel's position?

MR. AYER: I'd like to defer comment to the Chair of Panel 12.

MR. BABLO: Thank you, Mr. Chair. Joe Bablo for UL Solutions and Code-Making Panel 12 Chair. I am speaking against the motion on behalf of Code-Making Panel 12.

In adding this new section, CMP 12 elected to require the installation of permanently connected EVSE to be completed by qualified persons. This was done to address specific installation requirements

in Article 625 that would not necessarily be addressed by the instructions provided with the EVSE.

The Second Revision 78-53 was approved by CMP 12 with a vote count of 17 for, 2 against, 2 not returned. Thank you.

CHAIR FOISEL: Thank you. With that, we will open debate on the motion. Please remember to provide your name, affiliation, and whether you are speaking in support of or against the motion. Microphone 1, please.

MR. GINSBERG-KLEMMT: My name is Achim Ginsberg-Klemmt. I am with GismoPower. I'm here to express --

CHAIR FOISEL: Are you for or against the motion?

MR. GINSBERG-KLEMMT: I am for the motion.

CHAIR FOISEL: Okay. Thank you.

MR. GINSBERG-KLEMMT: I am here to express serious concerns about the proposed addition of Section 625.4 to the NEC, which may have unintended consequences that run counter to its stated safety goals.

Let's be clear. 625.4 will not stop do-it-yourself installations of EVSE. It will

merely push those installers out of the system.

Homeowners and renters seeking to install their own EV-charging equipment may find themselves denied permits or saddled with paperwork burdens by the AHJ. Worse, some jurisdictions may outright refuse permits for self-installs. When you block the front door, people will go around to the side.

It is not a hypothetical. It is already happening in other sectors of residential wiring. The result is more shadow work, less oversight, and ultimately lower safety. And that's a shame because NFPA's real mission is to enhance safety -- not to create code that drives people away from the safety net of inspection and accountability.

Having a building inspector check torque values and wiring work done by a DIY installer is a good thing. It ensures that even nonprofessionally-installed systems meets safety standards. But prohibiting do-it-yourself altogether doesn't eliminate risk. It eliminates visibility.

Moreover, the language in 625.4 is narrow and unclear. It doesn't explicitly cover common configurations like empty junction boxes or future-use receptacles.

This ambiguity risks confusion and inconsistent enforcement across jurisdictions. We should instead be focusing on how to make EV power transfer equipment more self-documenting and inspectable.

Technologies like torque indicators, QR code link manuals, and smart diagnostics can help mitigate installation errors. Supporting this kind of innovation aligns with NFPA values.

Let's remember installing a hardwire EVSE is not more complex than wiring a dryer or range. But with 625.4 in place, a perfectly sound installation could be flagged by insurer as noncompliant, potentially resulting in coverage denial even if it was done safely and correctly.

So I respectfully urge this Panel to reconsider the adoption of 625.4. Let's not alienate responsible homeowners. Let's pull them into the fold for safety and oversight, not push them into the shadows. Thank you.

CHAIR FOISEL: Thank you. Microphone 4, please.

MR. HIRSCHLER: Marcelo Hirschler, GBH International, speaking for (indiscernible) in opposition to the motion.

I understand what the proponents said -- that we want the authority having jurisdiction to have effect, to have some influence in what's going on. Absolutely. We absolutely want to do that.

But that's irrelevant to this. What this is saying is that we don't want little kids or unqualified people -- people who just quickly need to get something done -- to be the ones who install -- permanently install electric vehicle power (indiscernible).

They should not be allowed to do that. And that's what this article says. There's no -- or sorry, not article -- this section of the article.

So the fact that we do want the AHJ to cover all of these, the fact that we prefer all of these things to be listed -- which I am fully in support of -- it doesn't negate the need for this kind of section. Please disapprove. Thank you.

CHAIR FOISEL: Thank you. Microphone 3, please.

MR. NIJSSEN: Good morning. This is Paul Nijssen, EVCHARGE4U. I oppose --

CHAIR FOISEL: Affiliation?

MR. NIJSSEN: EVCHARGE4U.

CHAIR FOISEL: Oh, I'm sorry. Yeah.

Mr. NIJSSEN: No worries. I oppose. I'm an EV installer for the last 30 years. And I saw many things -- what went wrong. And I believe that we need to keep this in the Code Section 625.4 Qualified Persons. Thank you.

CHAIR FOISEL: Okay. Thank you. Yeah, Microphone 3, please. And just as a reminder, the labeling on the microphones helps me to try to get the balance of discussion.

You still have to repeat whether you're in favor or opposed to the motion for the record. But trying to hit the right microphones makes my life a little easier to make sure that our discussion's balanced. Microphone 3.

MR. GROVER: Thank you. Matthew Grover with the Independent Electrical Contractors speaking for myself. And I support the motion.

As an installer specifically I'm all for professional installation of this equipment. I don't really want to speak to the DIY side.

But typically in the code when we've used the term "qualified person" we've been using that when allowing more lenient installation standards because access is restricted for people who are not qualified or trained. Otherwise we've used it for

highly specialized roles such as identifying classified environments.

I do think code-wide -- not just in 625 -- if we continue down this path of constantly specifically requiring qualified persons for individual pieces of equipment we're opening the door to the creation of a complex web of certifications that can conversely stop otherwise qualified electricians from making these installations.

Electrical vehicle transfer equipment, as mentioned, is not often particularly complex. It's relatively simple to install. It's certainly less complex than other pieces of equipment that we do not specifically require qualified persons to install, such as switchboards, motor control centers, et cetera.

I think in general installers have to follow the code. I'd love to see experienced electricians making these installs. My concern is that these requirements will in fact limit the number of qualified electricians who can make these installs. Thank you.

CHAIR FOISEL: Thank you. Microphone 4, please.

MS. SCEARCE: Good morning. Susan Newman Scearce speaking in opposition of the motion. I speak for myself as an inspector, as an oversight of other inspectors, and as reality.

The reality is to take away a qualified person and to support that means that everybody with Tonka toys can come out and install an electrical product. Whether this is a complex installation or not, this could cause grave damage and damage to homes and other establishments.

But in reality, what we have is even though in some of your worlds you're looking at an inspector to do all the work, there are many places these are installed that are never inspected. There may not be an inspection program, or it may not get called to the inspector's attention.

So without this in here we're opening it up that it's just a free-for-all -- who can install electrical products. And then we as enforcement when we are involved have to come back and assure that we have corrected every installation and inspected those for the safety of the public.

CHAIR FOISEL: Thank you. Microphone 3, please.

MR. GOODREY: Eddie Goodrey, representing

myself. Motion to call the question.

CHAIR FOISEL: There is a motion from the floor to call the question. There are still a few people that are remaining at the microphones waiting to speak. But we will proceed with the vote on to call the question. Is there a second? I hear a second. So we'll go --

MR. GINSBERG-KLEMMT: Chair, as the person who made the motion, normally there's an opportunity to rebut. Is that open to me?

CHAIR FOISEL: No. We go directly to a vote to call the question.

MR. GINSBERG-KLEMMT: Thank you.

THE COURT: If you wish to vote in support of the motion, please rise. This is for the motion to call the question. Okay. You may be seated. If you wish to vote against the motion to call the question, please rise. Okay. The motion to call to question has passed with a two-thirds vote.

With that, we will go back to and take -- immediately go back into voting for the motion to reject Second Revision 78-53.

If you wish to vote in favor -- in support of the motion and recommend the text in green, please rise. Okay. You may be seated. If you wish

to vote against the motion recommending the text in red, please rise. Okay. You may be seated. The motion has passed.

UNIDENTIFIED SPEAKER 17: No, it failed.

CHAIR FOISEL: Sorry, sorry.

UNIDENTIFIED SPEAKER 17: Too late.

CHAIR FOISEL: Correction. The motion has failed. Thank you. Let's now proceed with discussion on Certified Amending Motion 70-108. Microphone 1, please.

MR. JACKSON: Yes, thank you, Chair. Sorry, that went faster than I thought. I'd like to make -- my name is Ryan Jackson, speaking for myself. And I move to reject an identifiable part of Second Correlating Revision No. 117 by way of CAM No. 70-108 as shown on the screen.

CHAIR FOISEL: We have the motion. Do we have a second?

UNIDENTIFIED SPEAKER 18: Second.

CHAIR FOISEL: And we have a second. Please proceed.

MR. JACKSON: Yes, thank you. Speaking in support. This CAM seeks to undo what almost certainly had to be a mistake on the part of the Technical Committee.

The new language that I seek to remove states, quote, "Disconnecting means that are not listed for EVSE or WPTE use shall be rated for continuous load or have a nameplate current rating that is 125 percent of the EVSE or WPTE branch circuit rating." End quote.

I need to emphasize those last three words -- branch circuit rating -- because 210.18 tells us that the rating of the branch circuit is the rating of the branch circuit over current protective device.

So if I have a 48-amp EVSE, the code currently requires me to have a 60-amp rated over current protective device. That is good code. I do not seek to remove that requirement. That is necessary for safety.

However, this new language would then require me to install an 80-amp disconnect after the 60-amp over current protective device because the rating of the over current protective device is 60 amps and the disconnect can't be less than 125 percent of that.

Now of course if I installed that 80-amp disconnect and put fuses in it, then I would have to install yet another disconnecting means because that

would become my branch circuit over current device rating. And I would have to install a 100-amp fuse disconnect.

But of course if I put fuses in it, I would then have to put in 125-amp disconnect. And we result in an infinite regress logical fallacy. There's no way that this was the intention of the Committee. We've all written bad code. It happens sometimes. This I think was a mistake.

We need to make sure that the disconnecting means is rated not less than the rating of the branch circuit over current device which is 125 percent of the load -- not 125 percent of the rating of the branch circuit protective device. Following this requirement would be unreasonable to say the least. I urge your support. Thank you.

CHAIR FOISEL: Thank you.

Larry, would you like to offer the Panel's position?

MR. AYER: I would defer comment to the Chair of Panel 12.

MR. BABLO: Thank you, Mr. Chair. Joe Bablo, UL Solutions and Chair of Code-Making Panel 12 speaking against the motion on behalf of Code-

Making Panel 12.

Second Revision 78-66 was developed by CMP 12 to address the proposed addition of requirements for emergency disconnects. This was further revised under Second Correlating Revision 117.

Section 625.43(B) was added to address disconnects that are used primarily for EVSE and the need to have these disconnects suitable for that use or rated for continuous rate with a rated -- with a rating correlated to the EVSE rating.

CMP 12 has noted that the text in the Second Revision 78-66 makes reference to a rating of 125 percent of the branch circuit rating. This is not aligned with the Panel statement that indicates that the disconnect device should have a rating of 125 percent of the equipment rating.

CMP 12 members are aware of this discrepancy and plan to correct it with a tentative interim amendment in the near future. Thank you.

CHAIR FOISEL: Okay. Thank you. With that, we will open debate on the motion. Please provide your name, affiliation, whether you are speaking in support of or against the motion. Microphone 3, please.

MR. CHONG: Kevin Chong, Charge Point

Canada, supporting the motion. Aside from the circular self-reference of this requirement making this unworkable, this requirement is unnecessary as it's already stated in 625.41 that EV power transfer can be a continuous load or source, thus requiring 125 percent rated circuit including disconnects.

Since this requirement permits a 125 percent rated disconnect, which will be fair more widely available than disconnects listed to an as-yet-not-updated and published standard, this requirement simply seems unnecessary. I encourage the membership to vote yes. Thank you.

CHAIR FOISEL: Microphone 3, please.

MR. JACKSON: Ryan Jackson, speaking for myself in support of the motion. I was a bit surprised to hear the rebuttal a moment ago when the Committee Chair said, "Yes, we did screw up. No, these are not the right words, and we realize that they're wrong. Therefore we're going to us the TIA process to fit it after we allow it to get into the code wrong."

The time to fix it is now before the code book gets printed. If we have a TIA on this issue it will not be issued -- I believe -- until after the code book is printed.

So the first printing of the NEC is going to say one thing and a second printing of the NEC is going to say something else. And when you have AHJs and installers with two books that say different words, you have major problems.

I don't believe that the TIA was intended to be a vehicle to fix problems that we already knew existed. It's there to fix problems that we were not aware of.

In fact, that's part of the requirement when you submit a TIA. You have to justify why it's an emergency nature. And it's typically because the TIA brings up something that the Technical Committee was not aware of.

The Technical Committee is aware of it. They're choosing to do nothing about it. And by the way, that TIA may or may not pass. The time to fix the code is before the code gets printed -- not after it gets printed. Thank you.

CHAIR FOISEL: Thank you. Microphone 3 again.

MR. HECKERT: Good morning. Thank you, Mr. Chair. Eric Heckert of Kennametal speaking on behalf of the NFPA Electrical Section in support of the motion. The Electrical Section voted to support

this motion at the business meeting on Monday. Thank you.

CHAIR FOISEL: Thank you. Microphone 3 again.

MR. NESBITT: Bryce Nesbitt, Obviously Technical Inspections, in support of this motion. Ryan has the analysis exactly right. I work in a jurisdiction that reads this code and reads every bit and will interpret it in exactly the wrong way. The time to fix it is now. You have the opportunity. No need to wait. Thank you.

CHAIR FOISEL: So not seeing any other comments.

Larry, would you like an opportunity for any final comment?

MR. AYER: I would defer comment to the Chair of Panel 12.

MR. BABLO: No further comment. Thanks.

CHAIR FOISEL: Okay. We will now move on to a vote for Motion 70-108 to reject an identifiable part of Second Revision No. 117. If you are in favor and recommend the text in green, please rise. Okay. You may be seated.

If you wish to vote against the motion and recommend the text in red, please rise. Okay.

Let's see if I get this right. The motion passes. Let's now proceed with discussion on the grouped Certified Amending Motions 70-120, 70-133, 70-136, 70-138, 70-141, 70-144, 70-148, 70-149, 709-177, and 70-180.

Do we have someone who would like to make a motion or who is on the list to make a motion? Okay. You're going to make the motion? Okay.

MR. NIJSSEN: Hi, my name is Paul Nijssen, EVCHARGE4U. And I oppose to 725-43 --

CHAIR FOISEL: You're not authorized to make the motion so --

MR. NIJSSEN: Okay. Okay.

CHAIR FOISEL: Okay. Microphone 3.

MR. NESBITT: Bryce Nesbitt, Obviously Technical Inspections. I'm not sure where we got out of scope here on doing it, but I'm one of the people who submitted a CAM on this. So hello. Welcome, Las Vegas. Oh no, that was last night at the show. Sorry.

I am here to make a motion on -- this is on emergency disconnects. And I so apologize for not having the right text. But they're a series of CAMs all on the same topic. Not all of them are grouped. But all of them have a common root because

they're about the emergency disconnect rule.

So our motions taken as a group are to modify this very problematic section. There's about six different ways that that was done by the various people who supported this CAM. And we have to take them one at a time unfortunately. So here we are on the first one. That is my motion.

UNIDENTIFIED SPEAKER 19: Second.

CHAIR FOISEL: Okay. We have a motion and a second. Additional information?

MR. NESBITT: Additional information. So this is called the e-stop issue. And this has created considerable concern among the electrical vehicle charging community. And one of the reasons is that these regulations were drawn from NFPA 30, which is a fuel standard.

They create a disconnect requirement. And they were imagined for one form of install. But they end up applying to all forms of EV install, of which there are quite a few.

My main concern is I do multifamily apartment installs where I design and install those. And to install the array of disconnects that are imagined by 625.44 is just untenable. It creates a wiring mess.

That is why I'm here on this particular CAM. Quite a number of other people are likely to speak on this, including Paul over here, who should be at the green stand -- not the red one. Thank you.

CHAIR FOISEL: Thank you.

Larry, would you like to offer the Panel's position?

MR. AYER: I'd like to defer comment to the Chair of Panel 12.

MR. BABLO: Thank you, Mr. Chair. Joe Bablo, UL Solutions and Chair of Code-Making Panel 12 speaking against the motion on behalf of Code-Making Panel 12.

First Revision 83-17 and Second Revision 78-66 along with Second Correlating Revision 117 added the requirements in 625.43. These revisions addressed a reported need by first responders to have access to emergency disconnects at the site when responding to emergencies.

CMP 12 elected to revise Section 625.43 to include these provisions. CMP 12 approved the second revision with a vote of 17 for, 2 against, 2 not returned. Thank you.

CHAIR FOISEL: Okay. With that, we will

open debate on the motion. Please provide your name, affiliation, and whether you are speaking in support of or against the motion. Microphone 3, please.

MR. NIJSSEN: Paul Nijssen, EVCHARGE4U. I'm working in --

CHAIR FOISEL: For or against the motion?

MR. NIJSSEN: For.

CHAIR FOISEL: Thank you.

MR. NIJSSEN: I am working in a lot of wealthy family housing. And what I saw over the last 13 years -- that there are restrictions like, say, Palo Alto where they put disconnects 20 feet away from the charging stations over the car.

And when you have people with -- coming from their own utility meter, it's going to be a big mess of which one you're going to shut off.

So in a lot of situations we have that HOAs don't want to have systems like Charge Point. They want to have individuals from their own meter. And if you create 10 situations like that where you have 10 disconnects then, yeah, good luck finding the right disconnect. So thanks.

CHAIR FOISEL: Thank you. Microphone 2, please.

MR. HART: Hi. Michael Hart, Tesla. I am speaking in opposition of this CAM. But I am conflicted. I agree with many of the things that other EVSE manufacturers will state here.

But what they're stating is the issue with the current language and not the fact that an emergency disconnect is needed. An emergency disconnect -- this has been heavily debated over the last three years.

It is now in the IFC -- the placement for that disconnect in one and two-family dwellings. We believe that distance itself should be left up to the fire official.

I believe that NEC's prescriptive distance requirements are overly restrictive. And they actually don't work with the most basic charging -- public charging layouts. Those considerations did not exist.

An emergency disconnect is for first responders. We need to keep that as simple as possible. I don't think that the CMP got it right. So what I believe is that the NEC should have the electrical requirements for this disconnect.

The fire code should have the requirements for its placement because the fire official should

state, "We need it here for our first responders." We don't want a situation where (indiscernible) we have two different disconnects.

We don't want a proliferation of disconnects. That makes it difficult onsite. So with that in mind, I've been working with other members in this room. We want to submit a TIA to try to fix this language to address all the issues that EVSE manufacturers are stating.

But removal of the disconnecting means -- emergency disconnector (indiscernible) should not happen. And we oppose this motion. Thank you.

CHAIR FOISEL: Thank you. Number 4, please.

MR. CANDLE: Thank you, Mr. Chair. David Candle, ABB, speaking for myself and speaking against the motion. I am speaking against the motion to delete emergency shutoff requirements for electrical vehicles charging systems in Section 625.43(E).

To be clear, this is a safety issue and not a marking or inconvenience issue. An emergency shutoff provides first responders a quick means to disconnect power from the electrical distribution equipment to the electrical vehicle chargers during

an emergency.

A joint task group -- members of NEMA and the representatives from the Big City Fire working group developed this language that we see in 625.43(E). I mean, it was modified by CMP 12 and tweaked it in some areas. And that can be corrected.

The requirement does not affect one or two-family dwellings. Instead the requirement applies to the charging stations supplying power to electrical vehicles along major highways, parking garages, and parking lots.

When an emergency occurs at one of these EV charging systems, first responders need a quick means to disconnect power in order to respond to the emergency safely.

Emergency shutoffs are not new to the NEC. We use them elsewhere in the code, such as for outside branch circuits and feeders, services, generators, stationary standby batteries, and solar (indiscernible) systems for example.

All these things -- emergency shutoffs -- are used for the increase of safety of our first responders. It is understood that the new emergency shutoff requirements for EV charging will involve

through future code and through the NFPA processes -- and as mentioned earlier, we're eager to already to start addressing some of the issues with TIAs.

On the behalf of the safety of our first responders, please reject this CAM and maintain the emergency shutoff requirements for EV chargers in the National Electric Code. Thank you, Mr. Chair.

CHAIR FOISEL: Thank you. Microphone 3, please.

MR. NESBITT: Bryce Nesbitt with Obviously Technical Inspections. The reason that there were 12 stakeholders in electrical vehicle charging who submitted NITMAMs was not a desire to reduce safety.

Rather the exact wording and language of this particular set of shutoffs -- it's just unworkable. It doesn't work in all situations. It doesn't achieve its goal in all situations.

We have tried to engage with Big City Fire on this issue. And I hope that can continue because I think that we can come to consensus wording that will satisfy the needs of all the types of EV charging providers yet provide the critical safety shutoffs that are needed for fire personnel.

That's why this CAM was produced -- in order to get this topic on the table so that we

could get to workable, implementable, safe language. And unfortunately, this isn't it. And I'll highlight one piece of that from one segment of the EV charging industry.

There's a lot of different EV charging that is done in a lot of different places. It's quite diverse. But in highway fast chargers -- those are almost always unattended sites.

And they are often in remote locations. And the remote locations for DC fast chargers are the most important. One of the provisions in this code says that when that emergency shutoff is hit it must be manually reset.

Now think about this. If you pull up to a remote charging site in the middle of Arizona and you discover that it is off, dead, nonresponsive to the world -- you now have to wait for somebody to dispatch from two hours away to drive to that station to turn it back on even if there is absolutely nothing wrong with that station.

So one of the asks here is to allow electronic reset based on such things as security camera data indicating that there is no problem with the station and that it can be restarted.

These are the type of wording changes that

are needed to make this section workable for EV charging reliability. The reason you got such strong response from the EV charging community is we already have a problem with reliability.

Check any news source. Go to Fox News, whatever, you can see how unreliable EV charging is. We have black eyes about this already.

And now we have a requirement that's going to add more points of failure and more disappointed customers when they pull up to a charging station that is fine. There is no emergency. But for some reason it's off. And that's going to happen randomly and depending on area. In my area people pull those switches just because. Thank you.

CHAIR FOISEL: Thank you. Microphone 4, please.

MR. WIEDERRICH: Thank you, Mr. Chair. I'm Assistant Chief Mark Wiederrich with the Denver Fire Department. And I'm here representing Big City Fire. I'm speaking against the motion to delete emergency shutoff requirements of Section 625.43.

I am a 27-year professional firefighter. My department is one of the members of the US Department of Homeland Security's Big City Fire working group. And I'm one of two co-chairs for

that group.

The members of Big City Fire working group are senior fire service leaders from 13 of the largest metro fire departments in the US, including Denver, Atlanta, Chicago, Dallas, Las Vegas, Los Angeles, Miami, New York City, Philadelphia, St. Louis, Seattle, and Washington, DC.

Our members work to understand and identify the highest priorities of their departments and collaborate to identify and discuss the emergency challenges of responding to those daily emergencies.

In 2023 members of the Big City working group recognized the need to modify NFPA 70 Section 625.43 and add requirements for emergency disconnects on electric vehicle charging stations.

Some of the initial concerns raised by Big City Fire when evaluating the need for an e-stop stations were as follows. Level 3 DC stations provide 400 and 900 volts of electricity to each charging station.

Most emergency responders neither have the trained personnel nor the equipment to deal with such an extreme hazard emergency area. Some vendors have chosen to install e-stop disconnects

voluntarily, which have been installed at the charging device which is in the hazard area.

The e-stop should be located at least 20 feet away from the charging station as stated in the new section of the emergency shutoffs. This provides a safe means of access and a safe working area for first responders.

If the vendor has chosen not to install an emergency shutoff, then that emergency disconnect per code is allowed to be in a locked room, a cabinet, different elevations, or even camouflaged to be aesthetically pleasing for that area.

This creates confusion, frustration, and delays for first responders attempting to address the emergency at that location.

The concerns listed above are some of the concerns raised and evaluated by a task group of experts representing the fire services, electrical engineers, and EV representatives. We all worked together to craft Section 625.43.

First responders are looking for e-stops like what they have seen at gas stations required in NFPA 38. Mechanical e-stops have been present at gas stations since 1984.

Two generations of responders and the

public have been provided with this highly effective means of providing a safe shutoff for fuel. The same should be present for EV fuel stations. The Big City --

CHAIR FOISEL: Thank you.

MR. WIEDERRICH: The Big City Fire requests you reject it. Thank you.

CHAIR FOISEL: Microphone 3, please.

MR. WILSON: Justin Wilson from Charge Point speaking in support of the motion. As many may know, Charge Point is a manufacturer of Level 2 and DC fast charging equipment in the US, Canada, and in Europe.

We appreciate all the work that has gone into this particular issue over the course of the last several years. It's noticeable in the changes in this draft. However we still believe that there are problems.

I'd like to speak to one problem in particular that we find very challenging to meet from a practical perspective. The requirement that the disconnect be in a readily accessible location not less than 20 feet and not more than 100 feet from equipment and inside of the equipment is extremely challenging.

I think we've heard discussion of that on the upper end -- how that can be challenging to be within 100 foot. I believe that it's challenging on the lower end as well.

We are seeing more and more multifamily developments in big cities on small lots, making that practically impossible to install EV charging equipment where we would be able to locate the emergency disconnect more than 20 feet from an EV charging station.

Again while we really support the work that has gone into this, we really support finding a solution that can provide safety, we need to make sure that those solutions are workable for a world that is going to have EV charging stations at the majority of multifamily residents in the future. Thank you.

CHAIR FOISEL: Thank you. Microphone 4, please.

MS. HAYES: Thank you. Megan Hayes with the National Electrical Manufacturers Association in opposition to the motion. NEMA opposed CAM 71-20 and other associated CAMs that seek to remove the language of 625.43(E) for emergency shutoffs for the safety of our first responders. Thank you.

CHAIR FOISEL: Microphone 1.

MR. HIRSCHLER: Marcelo Hirschler, GBH International. I call the question.

CHAIR FOISEL: Okay. There's a motion on the floor to call to question. There are still a few people remaining in the microphones waiting to speak. But we will proceed with the vote on call to question. Is there a second?

UNIDENTIFIED SPEAKER 20: Second.

CHAIR FOISEL: We have a second. So voting on the call to question -- if you wish to vote in support of the call to question, please rise. You may be seated. If you wish to vote against the call to question, please rise. Okay. You may be seated.

Okay. We're going to need to do a standing count on this one. So as staff gets ready to go around -- all right. If you are in favor of the motion to call to question, please rise. Okay. You may be seated.

If you would like to vote against the motion to call the question please rise. Oh, you can sit down. I'm sorry. That's what this means. Okay. The vote did not reach the two-thirds vote required to pass so we will continue with the debate

for --

UNIDENTIFIED SPEAKER 7: 70-120 et al.

CHAIR FOISEL: -- 70-120, 133, 136, 138, 141, 144, 148, 149, 177, and 180. If you were at the microphone, please return to your microphones. And Microphone 4, please.

MR. SUAREZ: Good morning, Mr. Chair. Robert Suarez, Executive Officer to the Fire Chief and Deputy Fire Marshal, the City of Miami Fire Rescue. I'm here to speak against the motion to delete the emergency shutoff requirements in Section 625.43.

My department is a member of the Big City Fire working group. And our Fire Chief Robert Hevia is co-chair of the Big City Fire along with Chief Wiederrich.

Charging stations supplying DC power to EVs are primarily along major highways. But they're becoming more available in public parking garages and workplace parking lots.

The City of Miami currently has over 45 high-rise buildings under construction. And most have EV charging stations in the parking garages. These multi-floor garages are at the bottom of high-rise and very tall buildings, both residential and

commercial.

When an emergency occurs at one of these EV charging stations, responders need a quick means to disconnect power to safety mitigate the emergency. The proposed requirements from the Big City Fire working group member departments were fairly simple.

We requested an emergency disconnect that is easily seen, labeled appropriately, readily accessible and operable without the use of specialized tools, matching the distance requirements for fueling stations.

We asked to specify the 20-foot minimum distance from EV supply equipment to the disconnect as a safety gap in case of an EV fire and a 100-foot max distance to ensure the disconnect can be seen from the EV supply equipment.

For additional safety the task group expanded the marking requirement to make it clear that the emergency shutoff only de-energizes the EV supply equipment and that the electrical vehicle will still be energized.

The revision to NFPA 70 requiring the installation of EV shutoff -- emergency shutoff devices at EV charging locations will aid in keeping

our responders safe in these high-energy environments.

Finally, if the electrical shutoff section were not included in the NEC, then the requirements will be mandated by state and local governments. And those requirements will likely differ across the country.

The City of Miami Department of Fire Rescue and the Big City Fire working group request that you reject this CAM and maintain the emergency shutoff requirements for EV charging stations.

Much like all of us walking and using these escalators working our way up here with emergency shutoffs on them, what we're asking is for a reasonable means for our responders to remain safe while we mitigate the situation to protect the users of this equipment.

This equipment normally would otherwise be found in rated rooms, separated. By bringing it out where it's necessary to the consumers, where it's exposed to our responders -- we need a way to make the situation safe. And we ask for the opposition.

CHAIR FOISEL: Thank you. Microphone 4, please.

MR. DIGAETANO: My name is Joseph

DiGaetano, Battalion Chief, Las Vegas Fire and Rescue. Also the safety chair of our local -- IFF Local 1285. I'm here to speak against the motion on the emergency shutoff Section 625.43(E).

The concern that people initially activating the emergency shutoffs when there's not an emergency or whether out of ignorance, maliciousness, or basic tomfoolery -- in my 30-year career I've never seen that, never experienced it.

I've actually gone to several convenience stores over the last several months of this and took a poll. And they don't have a weekly, monthly problem with this either.

It reminds me of a couple of stories from my own career. As a young firefighter in the 90s I went to a call where a U-Haul truck had tried to make a left turn out of a gas station and cut it too close and ran over the last gas pump and the (indiscernible) there to protect it.

This knocked over the pump and spilled gas. A citizen nearby walking out of the convenience store witnessed the event and actually hit the emergency shutoff because it was right next to the door.

This was long before any first responder

arrived, but thus mitigating the scenario and a minimal leak and spill, which provided no negative consequences with fire or patient injury.

In another time later in my career somebody had a medical episode -- actually crashed into the gas pumps directly, knocking them over, and then hit a car on the other side while that person was pumping gas.

This created a large gasoline spill and a complex scenario because that patient was still unconscious behind the wheel and the car was still running. Again a citizen was able to hit the shutoff because it was easily recognizable and identifiable.

By the time we arrived five minutes later I was able to immediately assess the patient and give patient care, saving that person's life from a cardiac event.

Had the citizen or first responders been delayed in having to search for a shutoff or had a leak grown too large to handle quickly, a hazmat event would have been created and/or the patient might not be here today.

These are just a few examples of how a 41-year-old safety standard has been memorized by

just about everybody in the last two generations from the first responder community to the citizens at large.

As we build the next 500,000 superchargers throughout the nation in the next decade, we should do nothing but continue the safety features so all citizens and first responders can maintain a high level of awareness in these high-acuity and low-frequency events that gives maximum safety for all of us in our community for generations to come.

I encourage this group to vote against the motion and maintain electrical shutoffs for all new electrical superchargers being built in America. Thank you.

CHAIR FOISEL: Thank you. Microphone 4, please.

MR. OLMSTEAD: Yes. My name's Chris Olmstead. I represent the International Association of Firefighters. As a first responder and a firefighter myself, we don't need to add extra hazards that we can't control.

Here's a situation where we have a way to control the hazard. Let's go ahead and keep the disconnects so that we can respond and eliminate the hazard. Thank you.

CHAIR FOISEL: Okay. Microphone 4, please.

MR. SPIERS: Dustin Spiers, Madison Fire and Rescue. I'm opposed to the motion. I'm a fire marshal in Small City Fire. And I just want to assure everyone that this is not just a problem for big cities.

I agree with all the supporting information my brothers in the Big City provided. But this is a problem not just for Big City Fire. This is a problem for responders in all city fire. So please reject this motion. Thank you.

CHAIR FOISEL: Thank you. Microphone 2, please.

MR. HART: Thank you. Michael Hart, Tesla, in opposition of this motion. I just wanted to get up here and talk a little bit about the fact that we agree with everything that's being said from the EVSE manufacturers and the first responder community.

The fact is that our emergency disconnects for EV charging stations are here. And they're heavily supported. And they're needed. However I've heard talks about wanting e-stops that are similar.

But I think this -- the way the code is written now does not allow an e-stop. An e-stop is not a disconnecting means. It does not provide that. So that is one of the issues we would like to fix through the TIA process.

We've also heard distances relating to motor fuel requirements. Basically those distances were taken from the motor fuel requirements. The safety considerations for first response for EV charging stations it not the same as a gas station. And different considerations are needed.

And so we find EV charging stations -- most of the time they're retrofitted to existing sites. They're not new construction.

They're going to parking lots around convenience stores or cafes or just lots that have a lot of constraints for property lines, available green space, and all these other things. And including parking garages. Right?

And so having prescriptive distance requirements in this language doesn't work in many of these situations. And that is why we want to work with the safety community, including first responders, to make that -- have that decision be made by the fire official.

This was put into IFC 2027 for these disconnect devices. And we believe that's where they should be met. That way the fire official can look at a set of plans, say we want our emergency disconnect here.

And we need the language so that it's simple for that disconnect as well where there's not a proliferation of disconnects onsite. So we would like everyone to oppose this motion. Thank you.

CHAIR FOISEL: Thank you. Microphone 4, please.

MR. MCGRAW: Yes, good morning. Brian McGraw with Stantec speaking in opposition to the motion. As the fire service has brought up, the need for having disconnects is very important for the responders.

There's a couple of flaws in the argument that we just heard from an enforcement perspective. And I'll speak -- I'm speaking as myself, but I am the former Virginia State Fire Marshal.

In Virginia, more than half of the state comes under State Fire Marshal jurisdiction. There is no local fire official to go meet with and say, "Hey, where do you want these?" Number one.

Number two, this is the National Electric

Code. How many fire officials are actively engaged in enforcement of the National Electric Code on a daily basis? In a lot of jurisdictions they rely on the Building Department, the electrical inspectors.

If you have a good working relationship, yep, the electrical inspector or the electrical plan reviewer will come and ask the fire department, "Hey, what do you think?" But without a starting point you've got nothing.

One of, in my opinion, the most abused phrases in NFPA 1 and some of the other codes is "as required by the fire official." It is meant for, hey, if you've got something that's not covered.

But unfortunately a lot of times we see it abused with the fire official basically saying, "Hey, it says in there I can basically require whatever I want."

If we have a finite distance specified, we have finite requirements specified, the jurisdiction can always modify those under alternate methods if they can't meet those requirements in a specific site. They can prove equivalent safety by doing it a different way.

But for the vast majority of jurisdictions, having finite requirements as a

starting point -- it is a huge issue. Without that, it'd have never even get looked at. Thank you.

CHAIR FOISEL: Thank you. Is there any further discussion on the group motion to reject an identifiable part of the Second Correlating Revision No. 117 and any related portions of first revisions and first correlating revisions?

Larry, would you like an opportunity for any final comments?

MR. AYER: I'd like to defer the final comments to the Chair of Panel 12.

MR. BABLO: No further comments. Thank you.

CHAIR FOISEL: Okay. Thank you. Now we will -- let me restate the motion. The motion on the floor is to reject an identifiable part of the Second Correlating Revision No. 117 and any related portions of first revisions and first correlating revisions.

If you wish to vote in favor of this, the text on the green screen, please rise. Okay. You may be seated. If you wish to vote against the motion, the text on the red screen, please rise. You may be seated. The motion has failed.

Before we proceed to the next motion,

let's take a 10-minute break. Be back at 20 after. Oh, okay. If you still have your voting devices, please return those to the boxes by the doors. That way they can start packing those things up. We will not need those for the remainder of the session. So please return your voting devices. Thank you.

(WHEREUPON, a recess was taken.)

THE CHAIR: 70-181.

MR. NESBITT: Hello. Bryce Nesbitt, Obviously Technical Inspections. And I am here to make a motion on CAM 70-181 to reject an identifiable part, specifically the word "nonlocking."

UNIDENTIFIED SPEAKER: Second.

THE CHAIR: Very good. We have the motion and a second. Please proceed with the discussion. Microphone 3.

MR. NESBITT: Okay. So I'm an engineer. I'm not a lobbyist or -- you figured that out already. And in the course of my normal work in EVs working on a new method of multifamily electrical vehicle installation, I chose a connector to use for that application.

And why I chose that connector is not really relevant here. For good and valid

engineering reasons I chose that connector and receptacle and then discovered that in Article 625 there is a blanket prohibition against locking connectors.

I understand that that was placed many years ago for two reasons -- one, due to perceived problems with the NEMA L-Series connectors. And second, due to a concern that an EV may drive away while charging and that it would be undesirable to have a locking connector.

But move forward today. There are a lot of good engineering reasons to choose in specialty applications a locking connector or in other cases the only connector that has the desirable quantities -- characteristics, at least for small installations, is one that happens to be locking.

And I'll tell a story from Beta Dot Team, which also supported this CAM. They are doing electric aircraft. And what they want to do is place locking receptacles at each gate.

And when one of their aircraft flies in and moves to that gate, they then wheel or drive a portable DC fast charger to the gate and plug it in. For obvious reasons, they want a very robust connector. And they want a locking connector.

The connectors that we are allowed to use are undesirable for this application. So we are in an environment nationally where there is a lot of effort to reduce regulation.

And here we have a regulation that is stifling innovation and engineering choice. We are forced to use connectors like the one I'm holding here where it is possible to touch the live pins of the connector.

Thus the only protection for personnel is the upstream GFCI if it's present. That's not a good situation. We have safer connectors that are finger safe. They just happen to be locking.

THE CHAIR: You're out of order. You're not allowed to have props with you.

MR. NESBITT: I apologize. I've put the props on the ground. In 14 seconds I encourage this body to strike the word "nonlocking" so that we can freely choose the most appropriate connector for the application. Thank you.

THE CHAIR: Okay. Thank you.

Larry, would you like to offer the Panel's position?

MR. AYER: I defer comments to the Chair (indiscernible).

THE CHAIR: Okay. What he said was he would like to defer comments to the Chair of Panel 12.

MR. BABLO: Okay. Thank you, Mr. Chair. Joe Bablo for UL Solutions and Chair of Code-Making Panel 12. And I am speaking against the motion on behalf of Code-Making Panel 12.

CMP 12 elected not to remove the term "nonlocking" from the receptacles that are permitted to be used with EVSE. The use of nonlocking receptacles was intended to mitigate the risk of damage at the receptacle when strain is placed on the supply cord for any reason.

The modification to 26 -- sorry, 625.44 as requested in this CAM was based on Public Comment 1680, which was rejected by CMP 12 with a vote of 17 to zero. Thank you.

THE CHAIR: Okay. Thank you. With that, we will now open debate on the motion. Please remember to provide your name, affiliation, and whether you are for or against the motion. Microphone 4, please.

MS. HAYES: Thank you. Megan Hayes from the National Electrical Manufacturers Association in opposition to this CAM. NEMA opposes CAM 70-181

eliminating the nonlocking requirement from 625.44(A) and (B).

Allowance of locking-type connectors in these applications will increase the risk of misuse by untrained consumers.

Although locking-type connectors are widely used, it can be reasonably expected that untrained consumers will simply insert locking-type connectors without twisting to lock, resulting in potentially unsafe connections. Thank you.

THE CHAIR: Thank you. Is there any further discussion on Motion 70-181 to accept Public Comment 1680? Microphone 3.

MR. NESBITT: Bryce Nesbitt, Obviously Technical Inspections. In rebuttal, I've heard the concern, which is true for the NEMA L-Series that inserting but not twisting that connector creates an unsafe condition. And I agree completely.

That is not the characteristic of all locking connectors, many of which do not engage until they are properly twisted and locked. This is about engineering choice to me.

This is an issue where due to the specific application a specific superior, safer connector has been chosen, certified, used, yet the code will not

allow it to be used. That is really an inversion of the safety role of the NFPA.

And I encourage striking of the word "nonlocking" or its replacement via a list of banned and undesirable connectors such as the NEMA L-Series that have the safety problem or other methods to not restrict our engineering choice to choose the best connector and receptacle for the job. Thank you. In support of this CAM.

THE CHAIR: Thank you. Is there any further discussion on Motion 70-181 to accept Public Comment 1680? Okay.

Larry, would you like an opportunity for any final comments?

MR. AYER: I'd like to defer any final comments to the Chair of Panel 12.

MR. BABLO: No further comments. Thank you.

THE CHAIR: Okay. Thank you. Okay. Before we vote, let me restate the motion. The motion on the floor is to accept Public Comment No. 1680.

To vote we're going to go through the standing vote again. So if you are in favor of the motion and recommend the text on the green side,

please rise. Okay. Thank you. You may be seated.

If you wish to vote against the motion, recommending the text on the red side, please rise. And you may be seated. The motion has failed. Let's proceed with discussion on Group Certified Amending Motion 70-58, 70-77, 70-147, 70-151, 70-178. Microphone 3.

MR. MCGEE: Hello. I'm Rodney McGee with the Society of Automotive Engineers. I would like to move to reject Second Revision No. 78-75 and any related first revision and first correlating revisions, essentially reverting 625.54 to the 23 code.

THE CHAIR: Okay. We have a motion. Do we have a second?

UNIDENTIFIED SPEAKER 2: Second.

THE CHAIR: And I hear a second. Thank you. Please proceed with the discussion, Microphone 3.

MR. MCGEE: This is to support a critical incompatibility between new expansive requirements for branch circuit ground fault protection and the ground fault protection present in the charging station.

I want to point out that adopting this

maintains GFI requirements for receptacles. All EVSE per 625 contain a multifunction fault interrupter especially designed for EV charging.

That's defined by UL 2231. And that's to protect the user from electric shock. 625.54(A) and (B) specify different thresholds strictly based on supply voltage. This is not how the UL standard works for EVSE equipment or how the EVSEs are designed. UL 2231 provides for a CCIV 20 for all voltage applications.

For example, under 625.54(B)(1) an 80-amp continuous 208 single-phase EVSE, which was -- is designed to trip between 15 to 20 60 hertz equivalent ground fault and the vehicles for that are designed within that envelope would require an upstream branch circuit that would trip between 4 to 6 milliamps.

So what's the problem? Well, I can give you a few examples. I'll start with some commercial vehicles. So First Student is the largest school bus operator in the country. I tested all four of the school buses that are used under the proposed text. None would be able to charge. That includes like Bluebird, E-Line, Micro Bird.

The effect on passenger cars is varied.

But this expansion would include power levels which many passenger cars would be unable to charge.

Issues with 625(B)(2), which allows for SPGFCI, but many EVSEs in the class include another function -- ground monitor interrupter. A ground monitor interrupter is a unique feature of 2231 devices that sources a current to test the ground continuity upstream of the charging station.

That current can be detected by upstream protection as a ground fault incorrectly even though it's part of the safety scheme of charging stations.

I just want to say also I am the SA Chairman of the task force representing medium and heavy-duty charging and also passenger cars. We have, you know, unanimous concern regarding the current text. And we urge you to support this motion.

THE CHAIR: Thank you.

Larry, would you like to offer the Panel's position?

MR. AYER: I'd like to defer any comment to the Chair of Panel 12.

MR. BABLO: Thank you, Mr. Chair. Joe Bablo, UL Solutions, Chair of Code-Making Panel 12 speaking against the motion on behalf of CMP 12.

CMP 12 elected to develop Second Revision 78-75 to expand the use of GFCIs and SPGFCIs to all EVSE and WPTE equipment covered under the scope of Article 625. CMP 12 approved Second Revision 78-75 with a vote of 16 for, 3 against, with 2 not returned. Thank you.

THE CHAIR: Thank you. With that, we will open debate on the motion. Please remember to provide your name, affiliation, and whether you are speaking in support of or against the motion. Microphone 3, please.

MR. HART: May we start with Microphone 1? I thought that's how it happened.

THE CHAIR: You were there first.

MR. HART: Okay.

THE CHAIR: You can defer. I don't mind.

MR. HART: Okay. Yeah, my name's Michael with Tesla -- Michael Hart, Tesla. And I support this motion. As previously stated is that this -- that EVSE within the UL standards already has monitoring interruption for faults within it.

Those trip levels are different than a Class A GFCI, which is what is required for this text. And the fact is that those trip levels will cause a true nuisance trip. This isn't a nuisance

trip that was discussed yesterday where maybe it's just doing its job. This is an incompatibility between the two levels.

And so what will happen in public AC charging is that users will get stranded and they won't have access to those breakers. That is a safety concern that will take up resources for first responders.

It'll strand people far away from their homes. The only time I publicly charge I'm hundreds of miles away from home at hotels specifically.

And there's also an issue with the current language in its exception. The exception applies to the GFCI and the SPGFCI sections. But it only references SPGFCI for that exception. That doesn't really add up per the language.

So when you look at this as a whole, I don't think the CMP did their job to understand what they were putting into the code and tying it back to the UL standards and what's required for safety for this equipment. So I urge everyone here to support this motion. Thank you.

THE CHAIR: Thank you. Microphone 2, please.

MR. HICKMAN: Thank you. Palmer Hickman

representing the IVW. I call the question.

THE CHAIR: Okay. There's a motion on the floor to call the question. There are a number of people who are remaining at the microphones waiting to speak. But we will proceed with the vote on call to question. Do we have a second?

UNIDENTIFIED SPEAKER 3: Second.

THE CHAIR: We have a second. Okay. So looking at the vote to call to question, if you are in support of the motion to call to question, please rise. Okay. You may be seated.

If you wish to vote against the motion to call the question, please rise. Okay. You may be seated. Okay. We need to go to a standing count. Staff. Okay. We are not going to a standing count. That was not close to the two-thirds required so we will proceed with discussion. So Microphone 1, please.

MR. WIRYADINATA: Thank you, Mr. Chair. Indra Wiryadinata, Tesla, speaking on behalf of Tesla in support of this motion. Tesla is committed to safety, and we support robust regulatory requirements to ensure the safety of the general public.

This CAM is to prevent operational

disruptions of hardwired EV charging stations due to incompatibility and (indiscernible) elements of GFCI to the ground fault protection in the EV charging station that would result in stranding of EV drivers at inconvenient times.

Class AGFCI per UL 943 Clause 6.9 is only subjected to high-frequency susceptibility tests that is 40 times -- 40 times -- lower than that of the listed ground fault protection in EV charging stations.

This makes them to be more sensitive to high-frequency noise generated by the EVs and resulting in unintended tripping. This is similar to the concerns raised by the appliance and HVAC manufacturers with regards to the GFCI.

In the case of public charging, such as in shopping malls, hotels, apartment buildings, the GFCI installed upstream from the EV charging station is not accessible for the public to reset.

EV drivers will remain stranded, unable to charge their EVs until the appropriate personnel reset them. It is further worsened when multiple EV charging stations are installed in one branch circuit as permitted in 65.42 as the GFCI will trip even when no EV is connected.

There is also the issue of uncoordinated trip levels. GFCI has a trip level that is four times lower than that of the listed ground fault protection inside the EV charging stations.

This means the GFCI will always trip first before the EV charging station and making the listed personnel protection in the EV charging stations redundant. This interferes with the EV charging station's operation, such as the auto retry function.

To reiterate, the proposed motion seeks to prevent unintended stranding of EV drivers due to incompatibility and (indiscernible) limits of GFCI on hardwired EV charging stations.

By going back to the 2023 language it provides time for EV, EV charging, GFCI manufacturers, and RGLs to work together to identify root cause to the issue and provide a more precise and optimal solution as well as best practices that is safe, reliable, and compatible for EV application. In closing, we seek your support to vote for the green text. Thank you.

THE CHAIR: Thank you. Microphone 3, please.

MR. CHANG: Thank you, Mr. Chair. Kevin

Chang, Charge Point Canada, supporting the motion. UL 2231 combines the frequency-sensitive threshold similar to Class A HF -- high frequency -- HF plus with other safety features.

For those unfamiliar with the (indiscernible) frequency factor, think of skin effect, which increases with frequency. But it's not quite the same physics.

For those of you wondering why it's so hard then to get Class A HF to work, consider that putting GFCI in series with PPE -- personnel protection equipment -- and obtaining selective coordination would not have been anticipated when it was done.

And as with zone-selective interlocking in series rating systems, they only work with listed combinations of products. That will be nearly impossible given the different manufacturers of different distribution equipment, EVSE, and vehicles.

And it's not the fault of any one of those individual product manufacturers and involves different standards development organizations.

We are not aware of a situation where UL 2231 personnel protection was any less adequate than

GFCI Class A, including in countries with less-robust safety standards or enforcement but more electric vehicles.

Given the redundancy of the personnel protection and risk of unwanted tripping, we encourage the members to vote to accept the motion. Thank you.

THE CHAIR: Thank you. Microphone 1, please.

MS. HAYES: Thank you. Megan Hayes from the National Electrical Manufacturers Association speaking in support of the motion. NEMA supports CAM No. 70-58 and other associated CAMs to return the language of 625.54 to the 2023 NEC. Thank you.

THE CHAIR: Thank you. Microphone 3, please.

MR. SOLENSKY: This is Mike Solensky from UL Solutions representing UL Solutions and speaking in support of the motion.

Electric vehicle supple equipment is required to incorporate a personnel protection system that complies with UL 2231, which is the standard for personnel protection systems for electric vehicle supply circuits.

A 2231 protection system is required --

requires that that system include a charge current interruption device which works similarly to GFCI protection. The use of this protection system makes the GFCI at the receptacle redundant and potentially problematic.

Additional modifications to the text from 2023 may offer better clarity. But the additions included as part of the 2026 code cycle can be problematic as I've described.

UL Solutions supports reverting to the 2023 code text as that is the most practical approach to resolving the compatibility issue.

THE CHAIR: Okay. Thank you. Microphone 1, please.

MR. JACKSON: Thank you, Chair. My name's Ryan Jackson. And I'm speaking as the Chairman of the State of Utah's Electrical Advisory Committee in support of the motion.

When people like me have to explain to our State legislature why code changes happen, our legislature -- our legislators want to know the basis of the requirement, not just a cost and impact analysis.

This rule -- if you think I'm joking, rest assured I am not. This rule got into the code --

the submitter submitted this as a joke. And you can go online and you can watch their YouTube videos where he says, "I put this in as a joke."

And then it passed. And the submitter came back -- a ridiculously irresponsible joke, but a joke, nonetheless.

At the public comment stage the submitter came back and actually tried to undo the damage that he had already done by saying, quote, "There is currently no technical merit to add the word 'outlet' to this reference." End quote.

I have to explain to our State legislature why we are adding GFCIs to hardwired EVSE as the result of a joke. Now we're almost all of us NFPA members in this room. And as such we get the publication NFPA Journal.

Two editions ago that magazine's cover story talked about how states and local jurisdictions are removing wholesale requirements out of codes before they adopt them or indeed not adopting them at all.

The State of Indiana is just barely getting off of the 2008 code. It's changes like this that have massive scope, massive implications, and zero technical substantiation.

These are the changes that result in states not only ignoring specific revisions but the entire realm of codes and standards.

If this does not work, by the way, if we put this into the code and GFCIs begin tripping, there aren't enough TIAs in the planet to undo the ringing of that bell because the Department of Energy will be interested. The Department of Transportation will be interested.

We can't make rules that we do not know will function at the cost of every owner of an electric vehicle. I implore you please support the motion on the floor which will revert to the 2023 NEC language. Thank you very much.

THE CHAIR: Thank you. Microphone 1, please.

UNIDENTIFIED SPEAKER 4: Thank you, Chairman. I'm (indiscernible) from Honda. I am speaking to support the motion. Assuring safety inherently introduces cost. Of course these costs make sense if the intended safety is achieved.

Importantly, if no safety benefit is achieved, it is just a cost. The GFCI requirement will require implementation introducing both cost and burden. Why?

Today and for the past 20 years EVSE are certified with charge current interruption device under CCID 20, which shuts down the charger when leakage current between 15 and 20 milliamp is detected in accordance with UL 2231-1 and UL 2231-2.

The threshold for the risk to human body is higher than 20 milliamps. CCID 20 adequately provides for human safety. And the Class A GFCI trips when its leakage current before 4 and 6 milliamps is detected.

The electric vehicle industry is suffering from widespread customer dissatisfaction from Class A GFCI trips. It is a burden for all EV users -- American consumers.

In the worst circumstances the code results in stranding of vehicles. Moreover, AHAs have no means for approving a new permit under the current and the proposed version of the NEC.

The likelihood of nuisance tripping is higher for EV charging simply because it takes time to charge a car. It is not a hairdryer. It takes hours. Even small disturbances may cause tripping during the charging session. We could raise other possible reasons, but let's not get too technical given the time limits.

Do the intended modifications to the GFCI relevant sections introduce improved safety benefit? Mostly no, for reasons. One, the CCID 20 implementation assures safe operation under hazardous condition even without a GFCI.

Two, users tend to be away from the charging equipment. No one wants to stay connected -- remain present during a charging session that takes hours.

So citing the existing safe personnel protection afforded by CCID 20, we would like to eliminate the poorly-planned redundancy of these proposed GFCI requirements for the sake of American consumers. Therefore we would like to have your support for the motion. Thank you.

THE CHAIR: Thank you. Microphone 1, please.

MR. ANWAR: Abid Anwar, Tesla, speaking in support of the motion. Earlier this week we heard the phrase "Safety does not happen by chance." And I'd like to expand on that.

Safety does not happen by chance and hazards spread where caution is dismissed. I'm here today to urge to provide that caution. This is not a competitive issue. This is not a cost issue. It

is simply one of technical incompatibility, as we've heard from the other speakers today.

In the face of inaction, notwithstanding other hazards, we are welcoming nuisance tripping due to that conflict between the proposed protection devices and the existing product level ground fault detection and protection requirements.

We are not fixing a problem. We are creating it in the face of inaction. Inaction on this matter is an invitation for unintended hazards. I urge this Committee to support the motion. Thank you very much.

THE CHAIR: Thank you. Number 3, please.

MR. MCGEE: Rodney McGee, Society of Automotive Engineers, supporting. I would like to -- one section that I think is important from 2231 -- this is Section 18. "Only cord and plug EVSEs rated 15 or 20 amps are allowed to employ means to make themselves Class A compatible." That's actually a requirement.

The reason why this expansion is a specific problem is it brings hardwired into the mix, which includes power levels that are much high. This section is more conservative than anything in 210.F without justification.

For example, it would require a single pull 100-amp rated GFCI system to have a -- which aren't produced. You know, try to buy a QO breaker or a color hammer ground fault in 100-amp two pull. Those aren't available. That's why those exceptions are in that earlier section, you know, limitations on amperage.

Those are not contained here. This effectively bans many types of commercial charging that's currently in use because of unavailable of equipment to meet the requirement.

I would like to support the motion. But I also think -- and I don't know if this is in order. I would like to make the call for a vote.

THE CHAIR: That's not in order.

MR. MCGEE: Okay.

THE CHAIR: Thank you. Microphone 3, please.

MR. NESBITT: Hello, Bryce Nesbitt. But changing affiliation here. Now speaking on behalf of EV-SEg, a DC fast-charging public provider located in Los Angeles, California. My role here is to --

THE CHAIR: For or against?

MR. NESBITT: For the motion in favor of

keeping the existing language with regards to GFCI. So I will simply list the supporters who signed one of our support letters or otherwise asked to be represented at this meeting.

Starting for Genevieve Cullen, the executive director of the Electric Drive Transport Association; the EV Charging Association; Emporia Energy; EV-SEg; the EV Charging for All Coalition -- EVCAC; EVCHARGE4U, who is present; EV Go; Go Power; Moon 5 Technologies; the National Charging Access Coalition; Prepared Power; RVE Canada; simpleSwitch, David Graves; Open EVSE; Plug In America; It's Electric; Charge Point; the Alliance for Automotive Innovation; and Switch Technologies with a special call-out to the editors at Motor Trend who wrote on this topic in January. Thank you.

THE CHAIR: Thank you. Microphone 3. Yeah, 3, please.

MR. NIJSSEN: Okay. Paul Nijssen, EVCHARGE4U. I am an EV installer. And I'm very concerned. So I oppose to what we have here.

When we put a GFCI in for the NEMA 1450s and the NEMA 1430s, we saw already what happening with plug-in charges. And my clients are calling daily on the problems what they have.

So I oppose that we're going to change the language that a hardwire charging station can just be done with a regular breaker instead of a GFCI breaker. Thank you.

THE CHAIR: Thank you. Microphone 2, please.

Thank you, Mr. Chair. Thomas (indiscernible) with Eden. I'm speaking opposition to the motion on the table. We're going to have a few other areas of discussion regarding this section of the code which I think are more appropriate.

There are some provisions that were put in place for technology, such as the special-purpose GFCI, that provide compatibility with these charging application solutions.

I would think it would not be a good thing to send this back to the 2023 edition and miss out on technology that can save lives. I could support other areas of this discussion. But this motion, in my opinion, I would hope that people do not support. Thank you, Mr. Chair.

THE CHAIR: Thank you. Microphone 3, please.

MR. HART: Hi, Michael Hart, Tesla. I want to -- I am in support of this motion. I wanted

to address what was just said. The fact of the matter is that fault protection interruption is in the code now.

Having this extra GFCI device on this AC-charging equipment will strand users. We've heard from UL among many other EVSE manufacturers about this issue. I don't know.

It's really hard to sit here and see this process work out in front of a room that's full of people who can just get up to the mic and say that there's a danger issue on a thing when it's already been addressed.

So I strongly support this CAM and urge others to do so as well. I think that we can't rely on a TIA process or a future iteration of the UL standard when the safety's already accounted for and there is potential to strand people in charging locations. Thank you.

THE CHAIR: Thank you. Microphone 4, please.

MR. DOLLAR: Yes. Randy Dollar with Siemens speaking in opposition to the motion. The GFCI requirement is about protecting the line side of that device. It's not about trying to protect on the secondary side where the CCID actually performs

a function.

There are many cases -- we've talked about it through different aspects of the code when we've discussed GFCI -- where ground wires have been damaged and electrical equipment outdoors has been energized.

These pedestals may be at the end of a driveway. You may have a child playing in the rain or the mist. They come touch that pedestal that the GFCI's connected to -- the CCID is not going to provide them any protection at all.

If you want to talk about an incompatibility issue, I think that's the wrong terminology. It's not an incompatibility. It's a coordination issue. And there has been a TIA submitted to allow for SPGFCI on the front end.

So if you have 20-milliamp protection on the line side and 20-milliamp protection from the CCID, there shouldn't be a coordination issue in that aspect. So I'd just encourage you to vote against this motion for public safety. Thank you.

THE CHAIR: Thank you. Microphone 1, please.

MR. CLARY: Mr. Chairman, Shane M. Clary, Bay Alarm Company. And I rise with good knees to

call the question.

THE CHAIR: There is a motion on the floor to call the question. I notice there's still a couple people remaining at the microphones waiting to speak. But we will proceed with the vote on the call to question. Is there a second?

UNIDENTIFIED SPEAKER 5: Second.

THE CHAIR: There is a second. This will be a standing vote. So if you wish to vote in support of the motion, please stand. You may be seated. If you wish to get -- vote against the motion to call the question, please stand.

Okay. The motion to call the question passes so we will proceed directly to the vote on the motion. Before we vote, let me restate the motion.

The motion on the floor is now to reject Second Revision No. 78-75 and any first related revisions and first correlating revisions. If you are in favor of this motion and recommend the text on green, please rise. You may be seated.

If you wish to vote against the motion and recommend the text on the red screen, please rise. Okay. Thank you. You may be seated. The motion fails. We will now proceed with discussion on

Grouped Certified Amending Motion 70-134 and 70-182. Is there anyone to make a motion for 70-137, 70-182 -- okay. Thank you.

MR. NESBITT: Bryce Nesbitt, Obviously Technical Inspections. Given the redundancy of this with the prior votes, I will withdraw this CAM. Thank you.

THE CHAIR: Okay. Certified Amending Motion No. 70-134 and 70-182 appeared in our agenda. However the authorized maker of the motion has chosen not to pursue it.

Seeing this, in accordance with NFPA convention rules, the motion may not be considered by the assembly as a certified amending motion and is removed from the agenda. We will now proceed to the next motion.

The next motion is discussion on Grouped Certified Amending Motions 70-135, 70-142, 70-145, and 70-179. Is there someone to make the motion?

MR. NESBITT: Bryce Nesbitt, Obviously Technical Inspections. There's several people on this motion. But this is redundant with the ones that have already been discussed so --

THE CHAIR: Hang on one second there, please. Yes. Okay. Thank you. Please keep going.

MR. NESBITT: Bryce Nesbitt, Obviously Technical Inspections. There are several people on this motion who could stand for this. But since nobody else is and since we have discussed this matter previously and voted, I believe this is redundant. Withdraw it.

THE CHAIR: Thank you. So Certified Amending Motions -- Grouped Certified Amending Motions 70-135, 70-142, 70-145 -- yes?

UNIDENTIFIED SPEAKER 6: Point of order.

THE CHAIR: Yes?

UNIDENTIFIED SPEAKER 6: I don't believe (indiscernible) submitter of any (indiscernible).

UNIDENTIFIED SPEAKER 7: Was he designated?

THE CHAIR: He was designated representative prior to the meeting. Thank you. So Certified Amending Motion 70-135, 70-142, 70-145, and 70-179 appeared in our agenda. However --

MR. NESBITT: I apologize. Due to a miscommunication I have been asked to make that motion. And therefore I will so make that motion to forward this item and discuss it today.

UNIDENTIFIED SPEAKER 8: Second.

MR. NESBITT: We have a second.

THE CHAIR: One second. Okay. So we will take two.

UNIDENTIFIED SPEAKER 9: Point of order.

THE CHAIR: Yes?

UNIDENTIFIED SPEAKER 9: I believe that once as presiding officer you've accepted withdrawal, the withdrawal is final.

THE CHAIR: We never got to that point in the speech. But thank you.

So is there a motion?

MR. GINSBERG-KLEMMT: I have authorized to make that motion because I am in 179.

THE CHAIR: Okay. Please make the motion.

MR. GINSBERG-KLEMMT: Yeah, that's going to be -- I don't have the text.

THE CHAIR: Hang on. There's more than one person --

MR. GINSBERG-KLEMMT: It's a motion to reject an identifiable part -- this one? Certified Amending Motion to reject an identifiable part of Section Revision No. 78-75.

THE CHAIR: Okay. There is a motion on the floor. Is there a second?

UNIDENTIFIED SPEAKER 10: Second.

THE CHAIR: And a second. Please proceed

with discussion, Microphone 1.

MR. GINSBERG-KLEMMT: Good afternoon, members of the panel. My name is Achim Ginsberg-Klemmt. I'm with GismoPower.

Let me begin with a simple truth stated by an experienced EVSE expert who is among us today and who's over there. There's no reason for outlets to be included. UL 2231 protection systems are required to be provided in all EVSE.

The use of this protection system makes the GFCI redundant and potentially problematic as a nuisance trip. This isn't just theory. It's practice. Every electric vehicle supply equipment unit already integrates a robust personnel protection under UL 2239.

Layering a NEC-mandated GFCI breaker on top of that is not only redundant, it creates avoidable reliability problems and prevents innovative solutions from reaching the market.

Now consider the regulatory context. The Federal Energy Regulatory Commission -- FERC -- Order No. 2222 mandates equipment and standards that support two-way power flow.

That means power is no longer just coming into a home or a car. It's also going out of the

home and into the grid. And there's the problem.

The National Electric Code 2023 requires GFCI protection for outdoor and garage receptacles, yet there are no GFCI breakers listed available for the US that are provided -- that are approved for bidirectional power flow.

Worse yet, no UL standard or listing procedure even exists for such breakers, leaving manufacturers without a path forward. This regulatory contradiction is already causing friction at the state level.

Several states have been rejecting and amending these NEC requirements. Iowa, Oregon, South Dakota, and Utah removed GFCI requirements for 240-volt receptacles following the National Association of Homebuilders recommendation.

Georgia, Massachusetts, New Mexico, South Dakota, Texas, and Utah have rolled back Section 2108(F) regarding outdoor outlet GFCI protection, largely due to widespread nuisance tripping and installation delays for appliances like air conditions and EVSEs.

It is not about weakening safety. It's about removing redundant barriers and enable bidirectional code-compliant innovation.

If we truly want to implement FERC Order 2222, provision of a flexible, responsive grid, the NEC must recognize the current GFCI design is incompatible with the very systems we are being asked to deploy. Let's not make GFCIs a bottleneck for distributed energy progress.

I urge this Panel to act -- initiate the development of UL listing procedures for bidirectional GFCI and AFCI breakers or clarify NEC exceptions when UL 2231 or equivalent protections are already present in the system. Thank you for your time and consideration.

THE CHAIR: Larry, would you like to offer the Panel position?

MR. AYER: I'd like to defer comment to the Chair of Panel 12.

MR. BABLO: Thank you, Mr. Chair. Joe Bablo, UL Solutions, Chair of Code-Making Panel 12 speaking against the motion on behalf of Code-Making Panel 12.

CMP 12 developed Second Revision 78-75 to expand the use of GFCIs and SPGFCIs to all EVSE and WPTE equipment covered under the scope of Article 625. CMP approved Second Revision 78-75 with a vote of 16 for and 3 against with 2 returned -- non-

returned. Thank you.

THE CHAIR: Thank you. With that, we will open debate on the motion. Please remember to provide your name, affiliation, and whether you are speaking for or against the motion. Microphone 3, please.

MR. JACKSON: Yes, thank you, Chair. Ryan Jackson speaking on behalf of myself in support of the motion. I didn't plan on speaking on this, but I was asked to to clarify exactly what this does compared to the previous CAM.

The previous CAM would have had the effect of rolling back the requirements to the 2023 edition. What this CAM will do is simply remove a proposed new requirement for GFCI protection of hardwired EVSE rated 150 volts or less to ground.

As I indicated earlier, there was no technical substantiation as to why this protection was needed in the first place. So my thoughts would be the same on why we need to remove this.

This also I believe addresses some of the concerns that were brought up in the negative -- in the opposition statements to previous CAM. I would urge your support on this CAM. Thank you.

THE CHAIR: Thank you. Microphone 3,

please.

MR. NIJSSEN: Paul Nijssen, EVCHARGE4U. I support the motion. Again, like earlier, we have a real problem with the redundancy in the case where you put a 5-milliamp GFCI breaker in front of the GFCI settings already in the charger from 50 to 20 milliamp.

So if you want to have a GFCI breaker in front of it, why don't you let the manufacturer put a 30 milliamp in front of it so that we don't have the tripping hazard so it's still safe?

But this doesn't make sense to put a 5 milliamp in front of it. And be aware -- I'm all about safety. That's nothing that I'm against to. But it'd make it impossible to charge your car in the future. Thank you.

THE CHAIR: Thank you. Microphone 1, please.

MR. POTTER: My name is Jason Potter. I am speaking on my own behalf. However I am a member of Code-Making Panel 18, where we know one thing if we know nothing else, which is the difference between a receptacle and an outlet. And I think the general public sometimes doesn't grasp that.

But the other thing that we need to

remember -- the difference between an AFCI and a GFCI is the AFCI protects the whole circuit from the panel out and the GFCI is allowed to protect either from the outlet or from the panel.

So what is in the current code -- if we don't support this motion, which I do, is saying now in certain cases you can't use a receptacle to provide GFCI. You can only use a breaker and a panel.

So running you through a scenario. A customer has a bad receptacle but they have an EV charger. And the electrician comes in and recommends that they direct wire. If their panel isn't compatible with GFCI breakers but they already had a GFCI receptacle where they plugged in that EVSE, they were compliant.

The second you take it out of the receptacle and direct wire it -- now you're telling that person that suddenly the wire between the panel and the outlet needs to be protected.

That doesn't square with the rest of the code. We allow GFCI protection to be provided at the panel or at the outlet. And it's clear that EVSEs provide superior protection because they don't energize until the cord is plugged in and they have

a safe way of retrying if something goes wrong because the breaker will trip off.

That prevents the EVSE from retrying and continuing to charge that vehicle. And the person trying to use the charger may not have access to that breaker to reset it. So I agree that there are reasons not to throw it all out. But I think this is a very reasonable small step towards ensuring compatibility. Thank you.

THE CHAIR: Microphone 1, please.

MR. WILSON: Justin Wilson from Charge Point speaking in support of the motion. I agree with everything the last two commentors have said. I did want to raise two pieces.

I think this particular motion, which is much more narrow in scope, still does alleviate one of the major challenges here with permanently-wired 150-volt or less to ground equipment that only allows for GFCI protection here.

So compatibility issues certainly exist. I don't think anybody has said that those don't exist. We still need to work on those.

We need time to work on those. This particular part of the section, which is different than B2, goes into effect at the first of next year.

We need time to work on those compatibility issues.

I've also heard mention of a TIA. Earlier today that argument or that comment was, you know, we have the opportunity right now today to take a step to fix this issue.

If we need to then make a TIA in order to do clarifications, we can do that down the road. We have a known issue. We have a known solution. Let's fix it. I ask for your support.

THE CHAIR: Thank you. Microphone 4, please.

MR. HIRSCHLER: Marcelo Hirschler, GBH International. I call the question.

UNIDENTIFIED SPEAKER 11: Second.

THE CHAIR: There's a motion on the floor to call the question and a second. I notice that there's a number of people still remaining at the microphones waiting to speak. But we will proceed with the vote on the call to question.

If you wish to support -- vote in support of the motion to call to question, please stand. Okay. You may be seated. If you wish to vote against the motion to call the question, please stand.

Okay. The motion to call to question

passes so we will proceed directly to the vote on Motion 70-135, 70-142, 70-145, and 70-179. This motion is to reject an identifiable part of Second Revision No. 78-75.

If you wish to vote in support of this motion and recommend the text on the green screen, please rise. Okay. Thank you. If you wish to vote against this motion and recommend the text in red, please rise. Okay. Thank you. this motion fails.

Give me one second. Okay. Let's now proceed with discussion on Certified Amending Motion 70-122. Microphone 1, please.

MR. POTTER: My name is Jason Potter. I do represent the Entertainment Services and Technology Association on CMP 18. But today I'm speaking on my own behalf.

I have the distinct honor of making the last motion on the agenda today. I move to accept Public Comment No. 1797.

THE CHAIR: We have a motion. Do we have a second?

UNIDENTIFIED SPEAKER 12: Second.

THE CHAIR: We have a second. Please continue to Microphone 1.

MR. POTTER: I speak in favor of my

motion. Chapter 7 of NFPA 101 requires emergency lighting systems to provide required illumination for at least 90 minutes. Initially the illumination must average one-foot candle with no points along the path of egress at floor level falling below 0.1-foot candle.

After 90 minutes these levels may decline to an average of 0.6-foot candle and no point below 0.06-foot candle. So that's a mouthful. But importantly, the phrase "full luminaire output" doesn't appear in NFPA 101. It's not a defined term. It's not in the NEC.

And to avoid duplicating that big mouthful of requirements on foot candles and all of this stuff, and keeping it in the right place in 101, the NEC simply states in 716(A) "Emergency lamination shall include means of egress lighting illuminating exit signs and all other luminaires specified as necessary to provide required illumination."

In the 2023 edition the NEC allowed two types of emergency luminaires -- fixtures that required a signal to go to the required light pole from an activating controller. Then there's another kind that went to the required light level when the control signal was disconnected.

Now that second type isn't listed as an emergency luminaire because instead it relies on the listed emergency lighting control device to disconnect the control signal. These are standard fixtures that often provide better emergency illumination as they are the same fixtures that light the building on a normal day.

For the 2026 draft these two types are given clearer names -- directly-controlled emergency luminaires activated by a control signal and directly-controlled luminaires that just default to emergency mode without a signal.

This is a big improvement. It makes the code more understandable. However the draft language replaced the 2023 term "required illumination level" with "full luminaire output," which introduces some ambiguity.

Many luminaire drivers include a high-end trim function that changes what "full" means for the fixture. You might reduce full output to tone down a blindingly bright fixture or avoid overloading the driver due to a high-current LED string.

Requiring full luminaire output could confuse specifiers and inspectors alike. It also risks overburdening emergency power systems and thus

jeopardizing the 90-minute runtime required by NFPA 101.

In my opinion the solution is simple. My CAM proposes reinstating the NEC 2023 term required emergency illumination level, thus realigning the NEC with the NFPA 101. Thank you.

THE CHAIR: Thank you.

Larry, would you like to offer the Panel's position?

MR. AYER: I'd like to defer comment to the Chair of Panel 13.

MR. BOYCE: Thank you, Mr. Chair. I'm Kim Boyce, representing UL Solutions and Chair of Code-Making Panel 13, speaking in opposition to the motion on behalf of Code-Making Panel 13.

CMP 13 created First Revision 8178 for the 2026 NEC based on Public Input 1710 to clarify the requirements in Section 700.24 for luminaires with controlled inputs that provide emergency illumination.

Public Comment 1797 agreed with the merit of these changes but sought to make an additional change to permit varying levels of illumination for directly-controlled luminaires.

There are two types of controllable

luminaires for emergency lighting. First, a directly-controlled emergency luminaire, or a DCEL, which requires a listing under UL 924, the standard for emergency lighting and power equipment.

And second, a directly-controlled luminaire, or DCL, which does not require a listing under UL 924. To qualify as a DCL, a luminaire must have its control input disconnected upon loss of normal power by a listed emergency lighting control device.

This creates a situation where the control input functionality is disabled and the luminaire must energize if power is applied in an emergency illumination scenario.

It is exactly this simple functionality of going to full illumination when power is applied that provides the direct control and thus the rationale for not requiring a DCL to be evaluated under UL 924.

PC 1797 sought to add more complexity to DCL operation by allowing a luminaire to be configured to go to some level other than full upon disconnection of the control input. This would conflict with the straightforward and established mode of DCL operation.

The proposal also raises a number of practical questions, including photometric reporting of reduced levels, luminaire configuration methods, and whether such an approach is even appropriate -- all of which were not adequately substantiated in PC 1797, and all of which should have public review if code changes were to be made.

PI 1710 did not propose and FR 8178 did not in any way permit some intermittent illumination mode for DCLs. Any future changes in that regard would additionally need public review.

Based on this, Code-Making Panel 13 is confident that we took the proper actions relative to safety associated with the topic of direct control luminaires and Public Comment 1797 and ask you to oppose the motion. Thank you.

THE CHAIR: Thank you. With that, we will open debate on the motion. Please remember to provide your name, affiliation, and whether you are speaking in support of or against the motion. Microphone 4, please.

MR. TERRY: My name is Steve Terry. I'm with ATC. And I represent the US ITT on Code Panels 13 and 15. I speak in opposition to CAM 71-22.

Section 700.24(B) provides an emergency

listing exemption for directly-controlled luminaires, or DCLs, because of a very specific and simple use case. And that is disconnect the control input, go to full.

The guaranteed simplicity of this DCL functionality is the only rationale for the emergency listing exemption.

This motion seeks to expand the use case to include programming levels other than full, thus adding complexity while maintaining the emergency listing exception, which was specifically noted in Panel 13's statement as a reason for rejecting PC 1797.

A DCL with such programmable functionality other than go to full would actually be a directly-controlled emergency luminaire, or DCEL, covered by the requirements of 700.24(A). This was also confirmed in Panel 13's rejection statement.

Programmable level functionality in a luminaire would require evaluation and certification to UL 924 as a DCEL, also confirmed in Panel 13's rejection statement.

Public Comment 1797 substantiation stated the reason for less than full output was to increase runtime and reduce energy storage requirements.

That rationale was not part of my original Public Input 1710 and the resulting FR 8178.

While it is possible that programmable luminaire function -- level functionality might be useful, it is clear that such functionality would disqualify the luminaire from the emergency listing exemption of 700.24(B). Such a change to allow levels other than full would also require a public review.

It's also worth remembering that both DCLs and DCELs are life-safety devices when used under the requirements of 700.24(A) and (B). For these reasons and as a member of both Code Panel 13 and UL TC 924, I urge rejection of this certified amending motion. Thank you.

THE CHAIR: Thank you. Microphone 1, please.

MR. HART: Jason Hart speaking for the motion on behalf of myself. I don't disagree that this area of code needs work. However I just do want to point out that I understood the PI that brought these two definitions to simply be trying to clarify the definitions.

I in my reading of the 2023 code -- what I am suggesting here is already allowed by the NEC

2023. And I'll read it to you.

In 700.24 it states "Luminaires that are energized to the required emergency illumination level by disconnection of their control input by a listed emergency lighting control device shall not be required to be listed for use in emergency systems."

This was discussed during the '23 cycle. It achieved consensus. And it permits exactly what I have proposed in this CAM.

So the Committee response that I am asking for something new that wasn't permitted in the previous code or adding complexity -- I do not believe that is correct. I think I'm asking to move it back to where the NEC 2023 had consensus and then to engage in the next cycle to work on this. Thank you.

THE CHAIR: Is there any further discussion on Motion 70-122 to accept Public Comment 1797?

Larry, would you like an opportunity for any final comments?

MR. AYER: I'd like to defer final comment to the Chair of Panel 13.

MR. TERRY: Thank you, Mr. Chair. No

further comments.

THE CHAIR: Okay. Before we vote, let me restate the motion. The motion on the floor is to accept Public Comment 1979. If you wish to vote in support of the motion and recommend the text in green, please rise. You may be seated.

If you wish to vote against the motion and recommend the text in red, please rise. You may be seated. The motion fails. Is there any further discussion on NFPA 70?

Seeing none, I want to thank everyone for your time and participation today and yesterday. It was my pleasure to serve as presiding officer and to conclude the debate on the motions for the 2025 Tech Session.

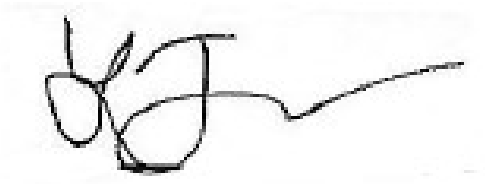
On behalf of the entire NFPA Standards Council and NFPA, this officially concludes the 2025 NFPA Technical Meeting. Thank you all for your participation, interest, and support. I now declare the 2025 Technical Meeting officially adjourned.

(WHEREUPON, the meeting concluded.)

CERTIFICATE

I, LeAnn Trumble, do hereby certify that the proceeding named herein was professionally transcribed on the date set forth in the certificate herein; that I transcribed all testimony adduced and other oral proceedings had in the foregoing matter; and that the foregoing transcript pages constitute a full, true, and correct record of such testimony adduced and oral proceeding had and of the whole thereof.

IN WITNESS HEREOF, I have hereunto set my hand this 10th day of July, 2025.



LeAnn Trumble

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