

COMMONWEALTH OF MASSACHUSETTS

STANDARDS COUNCIL MEETING

BEING HELD AT

BOSTON HYATT REGENCY

ONE AVENUE DELAFAYETTE

BOSTON, MASSACHUSETTS

Wednesday, August 10, 2022

Commencing at 10:02 a.m.

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APPEARANCES

Standards Council:

James Golinveaux, Chair

Kenneth Bush, Member of Council

Michael Crowley, Member of Council

Jeffrey Foisel, Member of Council

Richard Gallagher, Member of Council

Michael Johnston, Member of Council

David Klein, Member of Council

John Kovacik, Member of Council

Randy Krause, Member of Council

James Quiter, Member of Council

Rodger Reiswig, Member of Council

Catherine Stashak, Member of Council

NFPA Staff:

Dawn Michele Bellis

Suzanne Gallagher

Christian Dubay

Barry Chase

Chad Duffy

Laura Moreno

Tracy Vecchiarelli

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3 Matthew Barker

4 Nicole Cassels

5 Heath Dehn

6 Amy Greenfield

7 Ken Holland

8 Corey Hannah

9 Erik Hohengasser

10 Jeffrey Sargent

11 Jennifer Sisco

12

13 Speakers:

14 Ted Jablkowski

15 Joe Andre

16 Christel Hunter

17 Frederick Hartwell

18 Chuck Mello

19 Reuben Clark

20 Douglas Dorr

21 Peter Graser

22 David Watson

23 Timothy Keeler

24 Alan Manche

1 APPEARANCES (cont'd)

2 Speakers (cont'd)

3 Chris Wingate

4 James Moellmann

5 Greg Woyczynski

6 Randy Dollar

7 William Koffel

8 Mary Koban

9 Ed Lehr

10

11 Guests:

12 Jack Lyons

13 Bill Timmons

14 Amy Cronin

15 Mark Early

16 John Hipchen

17 Ellen Aldin

18 Aaron Bowling

19 Ernest Gallo

20 Randy Hunter

21

22 Court Reporter:

23 Lauren M. Buzzerio, CSR

24

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1 MR. GOLINVEAUX: I'd like to start
2 this off by saying good morning. My name is
3 James Golinveaux. It is my distinct pleasure
4 to serve as the chair of the NFPA Standards
5 Council and welcome you. I'm going to call
6 this hearing to order. In a moment, I'll have
7 everyone introduce themselves by stating their
8 name and their affiliation. But before we do
9 that, I want to remind everyone that we have a
10 stenographer in the room today who is recording
11 these hearings. So from this standpoint, it is
12 important that each of you, when you make your
13 remarks, that you state your name and the
14 affiliation so that the stenographer may
15 accurately capture the information for the
16 record. In addition, to those who will be
17 speaking, if you haven't already done so,
18 forward your name as you wish it to appear in
19 the record as well as your affiliation to Mary
20 Maynard at mmaynard@NFPA.org so that we can
21 spell your name correctly in the record.

22 Appeals hearings are scheduled for
23 today, August 10, 2022. And the plan is to
24 move for one hearing to the next with some

1 breaks throughout the day as necessary. If we
2 cannot get through all the hearings today, we
3 will start again tomorrow morning, August 11th,
4 and continue until we conclude the hearings.
5 We'll start with the introduction of council
6 members, followed by the NFPA staff. And,
7 finally, I will recognize the appellants that
8 are planning to speak to a specific appeal to
9 introduce themselves. Following breaks, I will
10 go through this introduction again just for
11 those who have joined since starting the
12 appeals this morning. If you're merely
13 attending as a guest and not speaking on any
14 items, please be certain to sign in with Mary
15 Maynard at the table outside the hearing room.

16 So I'll begin the introductions with
17 Mr. Quiter.

18 MR. QUITER: James Quiter, member of
19 council.

20 MR. GALLAGHER: Richard Gallagher,
21 member of council.

22 MR. CROWLEY: Michael Crowley, member
23 of council.

24 MR. KOVACIK: John Kovacik, member of

1 council.

2 MR. REISWIG: Rodger Reiswig, member
3 of council.

4 MS. GALLAGHER: Suzanne Gallagher,
5 NFPA staff.

6 MS. BELLIS: Dawn Michele Bellis, NFPA
7 staff.

8 MR. FOISEL: Jeff Foisel, member of
9 council.

10 MR. KRAUSE: Randy Krause, member of
11 council.

12 MR. KLEIN: David Klein, member of
13 council.

14 MS. STASHAK: Cathy Stashak, member of
15 council.

16 MR. BUSH: Kenneth Bush, member of
17 council.

18 MR. GOLINVEAUX: And we'll move to
19 Mr. Dubay.

20 MR. DUBAY: Christian Dubay, NFPA
21 staff.

22 MR. CHASE: Barry Chase, NFPA staff.

23 MR. DUFFY: Chad Duffy, NFPA staff.

24 MS. VECCHIARELLI: Tracy Vecchiarelli,

1 NFPA staff.

2 MR. BAKAJ: Patrick Bakaj, NFPA staff.

3 MR. BARKER: Matt Barker, NFPA staff.

4 MS. CASSELS: Nicole Cassels, NFPA
5 staff.

6 MR. DEHN: Heath Dehn, NFPA staff.

7 MS. GREENFIELD: Amy Greenfield, NFPA
8 staff.

9 MR. HOLLAND: Ken Holland, NFPA staff.

10 MR. HANNAH: Corey Hannah, NFPA staff.

11 MR. HOHENGASSER: Erik Hohengasser,
12 NFPA staff.

13 MR. SARGENT: Jeff Sargent, NFPA
14 staff.

15 MS. SISCO: Jennifer Sisco, NFPA
16 staff.

17 MR. GOLINVEAUX: Thank you very much.
18 Now I'm going to move to the guests. I will
19 start with the front row and we'll move --

20 MR. JABLKOWSKI: Ted Jablkowski of
21 Five North American Combustion. Member of NFPA
22 86.

23 MR. WATSON: Dave Watson with
24 Southwire.

1 MR. KEELER: Tim Keller, Mayer Brown
2 law firm.

3 MS. ALDIN: Ellen Aldin, Mayer Brown.

4 MR. GALLO: Ernie Gallo, Ericsson.

5 MR. BOWMER: Trevor Bowmer, Bunya
6 Telecom Consulting.

7 MR. MOELLMANN: James Moellmann,
8 Maxivolt.

9 MR. GOLINVEAUX: I'm going to
10 interrupt just for one quick second. Make sure
11 you project your voices. The stenographer is
12 way in this corner. So if I'm having a tough
13 time hearing you, it must be difficult over
14 there so.

15 MR. WINGATE: Chris Wingate, Maxivolt.

16 MR. ANDRE: Joseph Andre. I'm here
17 representing myself.

18 MR. MELLO: Chuck Mello, cdcmello
19 Consulting.

20 MS. CRONIN: Amy Cronin, Strategic
21 Code Solutions.

22 MR. EARLY: Mark Early, Alumni Code
23 Consulting Group.

24 MR. GRASER: Peter Graser, American

1 Bimetallic Association and Copperweld
2 Bimetallics.

3 MR. TIMMONS: Bill Timmons, Electrical
4 Wiring Systems.

5 MR. HIPCHEN: John Hipchen, Copper
6 Development Association.

7 MR. HARTWELL: Frederic Hartwell. I'm
8 representing myself.

9 MR. CLARK: Reuben Clark with CMI.

10 MR. LEHR: Ed Lehr, representing ACCA.

11 MR. DOLLAR: Randy Dollar, Siemens.

12 MR. BOWLING: Aaron Bowling, Arnold &
13 Porter on behalf of Cerrowire.

14 MS. HUNTER: Christel Hunter,
15 Cerrowire.

16 MR. HUNTER: Randy Hunter, guest.

17 MR. LYONS: Jack Lyons, NEMA.

18 MR. WILLIAMS: David Williams,
19 International Association of Electrical
20 Inspectors.

21 MR. DORR: Doug Dorr with the Electric
22 Power Research Institute.

23 MR. KOFFEL: William Koffel, Koffel
24 Associates.

1 MR. WOYCZYNSKI: Greg Woyczynski,
2 Association of Home Appliance Manufacturers.

3 MR. MANCHE: Alan Manche, Schneider
4 Electric.

5 MR. GOLINVEAUX: Okay. Has everyone
6 been recognized in the room?

7 UNIDENTIFIED SPEAKER: Yes.

8 MR. GOLINVEAUX: All right. From a
9 process standpoint, the general approach we
10 will take today is to allow ten minutes for
11 each side to make any opening remarks. And
12 then we'll open the floor to questions from
13 council members. For those of you who have
14 requested and been granted additional time for
15 opening remarks, those approvals will be
16 honored. Please wait me to recognize you
17 before speaking to ensure that all comments and
18 questions are heard for accurate recording.
19 Once all questions are addressed and satisfied
20 by council, we'll move to closing remarks.
21 Five minutes have been allocated for closing
22 remarks for each side. Following closing
23 remarks, the hearing will conclude.

24 Does anyone have any questions at that

1 point? Okay. Seeing none, let's begin.

2 HEARING ON 22-8-6-1

3 MR. GOLINVEAUX: So the first hearing,
4 this hearing is related to agenda item number
5 22-8-6-1, regarding text recommended by the
6 technical committee on NFPA 86, Section 5-5.3.1
7 Again, on NFPA 86. And this is CAM 86-6.

8 Who's going to be speaking in favor of the
9 motion? Please take a seat at the front of the
10 table. If you're supporting the motion, you
11 will be on my right on the left-hand side. If
12 you're speaking representing the committee or
13 against the motion, you'll be on my left. Do
14 we have Mike Grande in the audience? How about
15 John Olsen? And then Ted you're already
16 representing the committee. And I have nobody
17 to speak -- okay. I'm sorry.

18 So before I get going, are there any
19 members of council that will be recusing
20 themselves? Mr. Gallagher.

21 MR. GALLAGHER: Richard Gallagher,
22 member of council. For the record, I'm
23 recusing myself from this agenda item and will
24 not participate as a member of the Standards

1 Council on the hearing, deliberations, or
2 voting on this matter.

3 MR. GOLINVEAUX: Thank you. And I
4 just need a quick pause. I'm trying to find
5 the appellant. So without the appellant being
6 here, I'll go ahead and call for -- Ted, for
7 you to read into the record your statement in
8 regards to this CAM for this motion.

9 MR. JABLKOWSKI: Yes. I'll be pleased
10 to. My name is Ted Jablkowski. I work for
11 Five North American Combustion, and I'm a
12 member of the NFPA 86 technical committee. On
13 7/25, I submitted a brief in opposition to the
14 appeal for CAM 86-6. In it I stated that in
15 the prior review period that this was a
16 carryover item that was rejected but held. And
17 so discussion of, I think it was PI-30 at the
18 time, became on the agenda for the current
19 renewal cycle for NFPA 86. From it first
20 revision 69 was created and excerpts from that
21 are included, which include direct changes in
22 the clause that is under appeal.

23 In the second draft meeting, public
24 comment 17 was discussed by the technical

1 committee and a task group was assigned by the
2 technical committee. And in the second draft
3 meeting, the task group brought their report on
4 this particular item. After this, the item was
5 discussed by the technical committee and action
6 was taken to make further changes to the 5.3.1.

7 And so my belief is that the process
8 was clearly followed, that there was ample
9 notification to the public of the actions of
10 the technical committee on this particular
11 item. Our deliberations were dealing with
12 equivalent strength which was very difficult.
13 In fact, it was impossible for the committee to
14 come to terms with it to be able to define it
15 better. And, again, I didn't think the change
16 that we made was contrary to the work of any
17 particular organization. It wasn't intended to
18 harm any particular manufacturer or process in
19 the industry. In fact, it was really based
20 upon safety. And over the years there's been a
21 number of carveouts in this particular
22 requirement for explosion relief. And in my
23 brief, I recall the very strong opinions of
24 Fred Jensen who was a long-term member of our

1 committee from Jensen Oven Company. And he
2 shared a number of photos over the years to
3 many cycles with the committee of explosions on
4 Class A furnaces. He was a fervent advocate in
5 explosion relief for those applications and
6 felt that no matter what requirements there
7 were for the combustion system on an oven or a
8 furnace, that there was still substantial risk
9 to the end user overloading the flammable
10 solvents in these processes and/or reducing the
11 safety ventilation or both. And he was a firm
12 believer by his actions and testimony that
13 explosion relief was the last line of defense
14 on these particular applications to prevent
15 loss of life and loss of equipment.

16 So the committee has been struggling
17 for quite a while with this 3/16-inch shell
18 carveout that was, in my interpretation, really
19 intended to be carveout for Class B furnaces
20 that didn't have any combustibles being
21 processed except for the fuel that was being
22 used in the burner system, which, of course,
23 has a number of safety requirements and layers
24 of protection to mitigate any explosive

1 hazards.

2 So in research for this appeal,
3 because I certainly respect the opinions of
4 other committee members in the industry, I
5 looked back over the records and I found in
6 2003 one of our most distinguished members, Al
7 Underuse (phonetic) of A. Finkl and Company,
8 now deceased. He had submitted a public input
9 on this very topic. I gave you an excerpt of
10 it in my brief. And in it he substantiated a
11 calculation for equivalent strength. Much to
12 my surprise in this research, his input was
13 rejected. And it was rejected because the
14 practice of not allowing explosion relief was
15 based on the use of heavy refractors, except in
16 the proposal with the extended elimination of
17 explosions relief to those that did not use
18 refractory liners. And so, to me, this was
19 clear evidence of the intention of the
20 committee, at least back in 2003, that the 3/16
21 shell thickness and the equivalent strength in
22 construction was really intended for Class B
23 furnaces that would be built with heavy steel
24 walls, refractory linings, and buckstays or

1 support beams to hold all of that structure
2 together. And yet it was rejected because of
3 that.

4 And so when I looked at this claim,
5 the NITMAM and CAM that resulted, I didn't find
6 any new information, except the fact that the
7 particular submitter said that they have been
8 using this 3/16 shell construction on, I
9 presume, Class A furnaces that handled
10 flammable materials with good success. But,
11 again, we couldn't find -- as a committee, we
12 couldn't find no basis for this. And we tried
13 to find equivalent strength and couldn't do it.
14 Because 86 covers a very wide range of ovens
15 and furnaces. And it's constantly evolving to
16 allow for new applications and new
17 technologies. New technologies that can
18 increase safety and certainly in furnaces and
19 oven construction and materials. As an
20 example, we sometimes see furnaces, Class B
21 furnaces, that are built with the expanded
22 metal shelves and fiber liner. There's no
23 3/16-inch plate that would be in keeping with
24 the carveout.

1 So my feeling is that the committee
2 acted appropriately with due notification to
3 the public through all of its deliberations and
4 meetings. And I hope that you can find no
5 reason to allow this appeal, especially in
6 light of the fact that there is TIA already
7 filed with a due date, a ballot due date, of
8 August 17th. And this essentially gives the
9 technical committee another chance to consider
10 the input of the submitter of this CAM.

11 MR. GOLINVEAUX: Okay. Thank you very
12 much. Just for the record, Mr. Grande did not
13 sign and Mr. Olsen had a family emergency as
14 the reason even though they had requested the
15 hearing. So I will open this up for questions
16 from council. It's pretty much for
17 Mr. Jablkowski. I'm sorry if I mispronounced
18 your name. If he can answer further questions
19 that you may have relative to the written
20 submittal that was given to us maybe that he
21 could answer for us. So I'll open it up to
22 questions from council. Go ahead.

23 MR. FOISEL: Jeff Foisel, member of
24 council. Just one quick question. After the

1 first draft when the task group convened for
2 looking at this, what was the reasons for that
3 task group to be convened?

4 MR. JABLKOWSKI: Again, at the time,
5 the discussion was on trying to address the PI
6 on the equivalent strength. And the committee
7 didn't know how to find equivalent strength.
8 Because there's got to be some scientific basis
9 for that. And the task group's report was
10 really inconclusive, saying that they could not
11 develop language for equivalent strength.

12 And so as in other times in the past,
13 as an example, the committee once deliberated
14 long and hard over crafting language for
15 pulse-fired systems, which were very prominent
16 in Europe and started to be prominent in the
17 United States. And after many, many task group
18 meetings and language crafted and brought back
19 to the committee about pulse firing -- pulse
20 firing is where burners can turn on and off in
21 a programed cycle -- the language didn't hold
22 up to scrutiny. Because no matter how detailed
23 that language was to try to define pulse
24 firing -- and it's not defined in EN 746-2 with

1 any clarity -- someone in the committee said,
2 well, what if I only have one pulse a day or
3 one pulse a week or one pulse a year? Why is
4 it safe to be able to bring these burners back
5 on when my chamber is below auto ignition
6 temperature? What am I really trying to
7 safeguard here by crafting language? And so we
8 deliberated on that input and said what we were
9 really trying to do -- to define was language
10 that would prove minimum combustion airflow
11 during this period that the burners were off,
12 all the burners would be off. To define what
13 kind of leakage we could have in the safety
14 shutoff valves. How many safety shutoff valves
15 there should be. What's the cycle time reading
16 for safety shutoff valves that are being used.
17 And what's the life -- rated life span for
18 those safety shutoff values.

19 So in the end, we didn't craft any
20 language that deals with pulse firing. But we
21 did change a lot of language that dealt with
22 minimum combustion airflow interlock with
23 safety shutoff valve leakage as referenced in
24 the annex material to requirements for safety

1 shutoff valve cycle duty and cycle life in the
2 standard and for replacing those safety shutoff
3 valves before their life was reached. So, to
4 me, this was -- this was action on employee
5 relief that was quite in keeping with prior
6 deliberations that I've experienced on NFPA 86.

7 MR. GOLINVEAUX: Mr. Quiter.

8 MR. QUITER: Jim Quiter, member of
9 council. I presume you've read the appeal that
10 was put in. And I have two questions that
11 maybe you can help me understand a bit better.
12 Once is about the public comment was not -- did
13 not specifically identify removal of the
14 language and, therefore, took the industry by
15 surprise is basically what it says. And the
16 second is the description of the safety hazard
17 that this causes, which is in the -- I don't
18 remember what page number it's on. But it
19 talks about that this creates a safety hazard
20 by removing the exception. And I wondered if
21 you could address both of those.

22 MR. JABLKOWSKI: Well, I tried to
23 address the first one already. So the
24 committee had a history. They had this section

1 5.3.1 open as they rejected but hold from the
2 prior renewal cycle. They acted upon it in the
3 first draft. There was a first revision
4 created based upon this topic. And,
5 ultimately, when they could not come to grips
6 with being able to define equivalent strength
7 construction, decided what are we really trying
8 to accomplish by this language and chose to fix
9 it in the manner that they did.

10 With respect to creating a safety
11 hazard, I for one never thought of this
12 3/16-inch material carveout to ever be used on
13 a Class A furnace handling flammable materials.
14 So I don't -- I don't know that there is a
15 safety hazard. Perhaps there is a safety
16 hazard in those furnaces not having explosion
17 relief. I can't answer that. When you bottle
18 something up really strong, you know, with
19 additional material, are you indeed creating
20 another hazard? This is what the committee has
21 been struggling with, to say what is this
22 language really trying to accomplish. And my
23 belief, again, was especially based upon the
24 input from Al Underuse and the action of the

1 committee at the time, saying that it was all
2 about heavy construction. That was what the
3 carveout was intended for in my opinion.

4 MR. GOLINVEAUX: All right. Thank
5 you. James Golinveaux, member of council. I
6 have a question for you. You mentioned TIA
7 with a voting deadline of August 17th. And in
8 your opinion, do you think that it covers the
9 issue of this appellant as well?

10 MR. JABLKOWSKI: Yes, I do. The TIA
11 essentially proposes new language that allows
12 some of the revision -- revised language that
13 the committee had acted upon already to stay
14 in. But to introduce the carveout of 3/16
15 construction for -- essentially for a Class A
16 furnace, any category Class A furnace. So it's
17 a little different than reverting back to the
18 old language. And it remains to be seen how
19 the technical committee will act on the TIA.

20 MR. GOLINVEAUX: Thank you.

21 Any there further questions?

22 MR. BUSH: Thank you, Mr. Chair.

23 Kenneth Bush, member of council. Part of the
24 appeal states that the public comment that was

1 submitted did not specially identify certain
2 language in the section of the code and that
3 change was unexpected by the public and the
4 industry. Can you tell me whether there was
5 any consideration that that information that
6 was introduced to the public comment was
7 considered as new business?

8 MR. JABLKOWSKI: No, there was not.
9 In fact, I believe our staff liaison did not
10 point out any particular process issue. 5.3.1
11 was open. It was open from the very start of
12 this renewal cycle. So my understanding is
13 once an article is open, it can be changed in
14 any fashion.

15 MR. BUSH: Thank you.

16 MR. GOLINVEAUX: Okay. Are there any
17 further questions from council? Seeing none,
18 I'm going to give you just a brief summary --
19 there hasn't been a -- other than the written
20 record for the appellant that council will
21 review plus your testimony today. But I'll
22 give you to summarize your argument and we'll
23 conclude the hearing.

24 MR. JABLKOWSKI: I appreciate that.

1 And I need just a minute to do so. I believe
2 that the folks at the technical committee in
3 every cycle that I've been part of is to
4 continually improve the standard. How many
5 times have we seen in the substantiation adding
6 clarity that's no longer allowed in the
7 committee statement which is now a term for
8 that. Safety is paramount. But clarity and
9 less ambiguity is really important to all of
10 the users of the standard. Sometimes we're
11 surprised as a committee to debate certain
12 items, certain interpretations of our own
13 language. And we choose to try to correct that
14 either with the mandatory text or with annex
15 material. And we always need to allow for
16 evolving technologies that can be used to
17 increase safety. And another example that I'd
18 like to share with you is when safety
19 instrumented systems were first being talked
20 about in the U.S. under ISA 84.01 and in
21 conjunction then with IEC's 61511 and 61508.
22 Well, we had no provision in 86 to recognize
23 safety instrumented systems. And the people
24 that work with safety instrumented systems

1 primarily in the petrochemical industry, the
2 chemical industry, the refining industry and so
3 forth, they thought that our cookbook approach,
4 and that's what they referred to NFPA 86 as, as
5 a cookbook, was not as safe as a safety
6 instrument system, which required an analysis
7 of every risk that would be imaginable. And so
8 the committee struggled with this as well and
9 found a way to qualify the use of ISA 84 and
10 ISA 61511 and 61508 as an alternate to the
11 prescribed methods for implementing a burner
12 management system in NFPA 86.

13 And so the committee, in my mind, has
14 acted appropriately. I ask that you respect
15 the work of the committee. I don't believe
16 that we did not follow in the process. We're
17 certainly not looking to surprise the industry.
18 We never are. And that you vote to deny this
19 appeal and allow the technical committee to
20 take action on the TIA that's pending. And I
21 thank you for your time and for your service to
22 the safety in our country.

23 MR. GOLINVEAUX: Thank you. As we
24 conclude the hearing, let me inform as to what

1 happens next. The council will deliberate and
2 reach its decision in executive session. Once
3 the decision is made, that decision, including
4 background of any other information council
5 believes relevant will be prepared by NFPA
6 staff and published by the secretary of the
7 Standards Council on the Standards Council web
8 page, www.NFPA.org/SC2022 and in accordance
9 with the regulations the development of the
10 NFPA standards.

11 Additionally, the decision will be
12 sent to the appellants and to the chair of the
13 responsible committees directly. The official
14 opinion and decision of council is that as
15 published by the secretary and no other
16 communication shall be considered the council's
17 decision or position. Any questions regarding
18 the decision should be addressed with the
19 secretary.

20 On behalf of the NFPA Standards
21 Council, I'd like to thank all of those who
22 participated in today's appeal hearing. Your
23 involvement, as well as the stakeholders', is
24 important to the NFPA standards development

1 process. This hearing is now ended. Thank
2 you.

3 MR. JABLKOWSKI: Thank you very much.

4 HEARING ON 22-8-5-K-1

5 MR. GOLINVEAUX: We'll move directly
6 into the next hearing. This is hearing related
7 to agenda item number 22-8-5-K-1. This is in
8 regards to NFPA 70, Section 334.12(A), CAM
9 70-63. And who are going to be my speakers for
10 this motion? Okay. Please take your seat.

11 Okay. So with this, I'm going to be
12 asking if there any recusals of council members
13 on this agenda item?

14 MR. REISWIG: Rodger Reiswig, member
15 of council. For the record, I am recusing
16 myself on this agenda item, and I will not be
17 participating as a member of the Standards
18 Council in the hearing, deliberation, or voting
19 on this matter.

20 MR. KOVACIK: Thank you, Mr. Chair.
21 John Kovacik, member of council. For the
22 record, I am recusing myself on this agenda
23 item, and I will not participate as a member of
24 the Standards Council in the hearing,

1 deliberations, or voting on this matter.

2 MR. GOLINVEAUX: Okay. And just an
3 introduction for those who have sat at the
4 table here.

5 MR. ANDRE: Joseph Andre. I prefer
6 Joe. I'm here representing myself.

7 MS. HUNTER: And Chris Hunter with
8 Cerrowire.

9 MR. GOLINVEAUX: Okay. Very good.
10 Mr. Andre, please begin by introducing yourself
11 and proceed with your opening statement in
12 support of your appeal.

13 MR. ANDRE: Thank you, Mr. Chairman.
14 Thank you, Standards Council. My name is
15 Joseph Andre. I am here to appeal the vote by
16 the technical panel of Code Panel 6 with the
17 NFPA 70 on CAM 70-63. The first thing I would
18 like to do is to dispel one assertion that has
19 been made during this on my appeal is that it's
20 a commercial interest. I'm here representing
21 myself. I am an independent consultant. I
22 have consulted for a number of organizations,
23 one of which does -- is an association that
24 manufactures products that are related to

1 wiring methods, The Steel Tube Institute. I am
2 not here representing them. They have
3 discussed this matter. They have concluded
4 that there is little to no impact to them on
5 this. Wood frame buildings are not their
6 forte.

7 So I wanted to dispel any notion that
8 there is a commercial interest driving me being
9 here. I've been a member of NFPA for
10 30-some-odd years. I've been in the electrical
11 industry for 51. And I've been an active
12 participant in code development for at least
13 25. I'm here because I'm concerned over how we
14 can get to a certain place in the NFPA process.

15 To that I would point out that prior
16 to the 2002 NEC, NM cable was limited to three
17 stories above the grade. Period. The
18 Standards Council in 2001 acted favorably on an
19 appeal to raise that or to change that to Type
20 III, IV, and V construction. There was a long
21 dissertation about that process from the
22 Standards Council explaining its position. And
23 one of the more pertinent statements was that
24 this will effectively give a rise to the NM

1 cable allowance to four stories non-sprinkled
2 and five stories sprinkled. That was the
3 intent -- that was the stated intent of the
4 Standards Council. And the industry accepted
5 that and lived with it for two decades. The
6 words are unchanged in the NEC from 2002 to
7 2023 now, assuming that it goes as submitted.

8 The problem I have is that after the
9 2020 edition of NEC has gone through its whole
10 process, the public input stage, the comment
11 stage, the deliberation stage, the technical
12 meeting stage, it was still four stories
13 non-sprinkled and five stories sprinkled. Then
14 the two building codes in effect in this
15 country within weeks of each other completed
16 their process several months after the NEC was
17 actually issued by the Standards Council, this
18 was in 2020, in which they changed type IV
19 construction to allow under certain conditions
20 up to 18 stories if you're under the
21 International Building Code, 24 stories if
22 you're under NFPA 5000. That was never
23 anticipated in the Standards Council decision
24 back in 2001. It was never discussed for the

1 2020 NEC by the code panel. It couldn't have
2 been. It's impossible. Because it came out
3 months afterwards. What the assertion by the
4 panel is that they discussed it as a 2023
5 discussion from several public inputs and
6 public comments to say, whoa, wait a minute, we
7 didn't get a chance to talk about this.

8 So the comments were not and the input
9 was not to raise it. It was to go back to the
10 existing understanding and existing intent.
11 And that's to leave it at four stories
12 non-sprinkled and five stories sprinkled. Not
13 to go all of a sudden with no input and no
14 public comment and no transparency and being
15 changed by two different codes that aren't
16 related to the NEC. And, in fact, the vast
17 majority of this country is under the
18 International Building Code, which is not even
19 an ANSI standard contrary to what a statement
20 by the panel says that it never has been and
21 never will be.

22 So we look at record -- and I
23 basically have summarized this in writing --
24 the code changed after the process was done.

1 I've been accused of bouncing between the 2020
2 and the 2023. It's true because this didn't
3 happen in either one of them. In fact, I
4 could've referenced the 2002, '5, '8, '11, '14,
5 '17, '20. They're all the same. When the
6 building code changed, it changed every one of
7 those. Not the words, but the intent and the
8 application. It went from five stories maximum
9 to 18 or 24 stories without any public process.

10 Did Code Panel 6 look at this? Yes,
11 they -- I'm not contesting what they did in
12 2023 for their code cycles. There was a number
13 of comments and a number of public inputs
14 saying stop. We need to go back. We need to
15 be able to discuss the rising of this, not
16 being told that we don't have documentation to
17 go back to it. Actually, the panel statement,
18 Code Panel 6 in its statement says we are aware
19 of the implications or the impacts to the
20 national electrical code by a change of the
21 building code. Panel 6 admitted it, that they
22 didn't do it. That they allowed the code to
23 change to the NEC. That's not part of our
24 process.

1 Then there's all kinds of comments --
2 I didn't want this to be a technical
3 discussion. But there are safety concerns.
4 They say they don't have any. All you have to
5 do is go back to 1996, 1999 code revision cycle
6 for the NEC and look at the discussion around
7 arc-fault circuit interrupters. There was a
8 great number of reports about the number of
9 home fires, anywhere from 25- to 40,000
10 depending on the year and what study you look
11 at home fires. Hundreds of deaths, civilian
12 deaths. Billions of dollars' worth of damage.
13 Why am I referencing homes when we're not
14 talking about homes? It's the same wiring
15 method. It's a wiring method that is most
16 susceptible to damage. If you go over the
17 report that I submitted in writing with a link
18 to it -- I couldn't reproduce the report. I
19 don't have permission -- that states that they
20 did some testing and a single camera blown
21 through a piece of NM cable will reduce the
22 insulation value from 20,000 volts to 1,000
23 thousand volts. The same with overdriving
24 staples. This is really common.

1 I spent my early years as an
2 electrician running hundreds and hundreds of
3 miles of NM cable. And I can tell you that not
4 everybody is 100 percent accurate on driving
5 those staples and driving them properly. That
6 report also states, well, even if that
7 120 volts won't sustain enough, it's probably
8 true. But we developed arc-fault circuit
9 interrupters at a huge cost to the resources in
10 this industry to mitigate the problems of NM
11 cable just in homes. Now, we're talking about
12 putting them into a mid-rise, high-rise
13 building of combustible construction that we
14 don't even have necessarily the arc-fault
15 circuit interrupter protection. If it's not in
16 dwellings, it doesn't apply. So we have less
17 protection on these buildings with limited
18 egress and much more high-density occupancy and
19 we want to go on and say it's safe when there's
20 all kinds of documentation that says it isn't.

21 There's a thousand things I could say.
22 I want to conclude my testimony with just
23 asking the council to respect the overwhelming
24 wishes of the membership at every stage here.

1 This was brought -- the CAM was brought to the
2 NFPA electrical section that voted in support.
3 It went to the floor of the technical meeting
4 where it achieved a 299 to 93 favorable vote,
5 over three-quarters. It went to the
6 correlating committee with voting ten to two,
7 more than three-quarters. And even the Code
8 Panel 6, the majority voted in favor of this
9 CAM. So we're here because the minority of
10 people on one code panel disagree with the
11 entire industry.

12 MR. GOLINVEAUX: Thank you. Ms.
13 Hunter.

14 MS. HUNTER: Thank you. Chris Hunter
15 with Cerrowire. I serve on Code-Making Panel
16 6. I am the principal for The Aluminium
17 Association and I've been on -- well, it used
18 to be Code-Making Panel 7 for NM cables, now it
19 gets rolled into Code-Making Panel 6. And I've
20 been on the panels that deal with NM cables
21 since the 2011 NEC.

22 This is not a new concept. Obviously,
23 this is something that's been talked about for
24 a very long time in the NEC. We have decades

1 of research. We have decades of input and
2 comments about NM cable and what occupancies it
3 can be used in and how it should be installed.
4 What it comes down to in this cycle is the
5 code-making panel was made very well aware of
6 the -- through the public input and through
7 information based on the new Type IV building
8 allowances of exactly where NM cable is going
9 to be installed and exactly what kind of
10 protections are afforded to these mass timber
11 buildings. We now have heavy timber and mass
12 timber. We have three new categories. We are
13 not referring to another code, not even a
14 building code. We're referring in Article 334
15 to occupancy types, which are well understood
16 in the construction industry.

17 This entire issue was discussed in
18 task groups. It was discussed in the first
19 draft stage. Again in task groups in the
20 second draft stage and at the committee
21 meetings. The entire panel was able to review
22 information about the new building types, the
23 kind of protection that's required as far as
24 sprinklers and egress. A tremendous amount of

1 research went into the building codes that
2 allowed this new construction type. And the
3 code-making panel discussed all of that.

4 The process worked the way it's
5 supposed to. We followed the NFPA process. We
6 had public input. Then we had open meetings.
7 And at the end of it, the code-making panel
8 decided that the existing language in Article
9 344 is the correct language and that there was
10 no technical or safety reason to change the
11 language or prohibit the use of NM cable in the
12 new construction types.

13 So to come to it at this point and say
14 that there was a change that people weren't
15 aware of or they didn't get a chance to
16 discuss, I don't believe that's accurate. This
17 has been discussed for over three years now
18 just in Code-Making Panel 6 and for many more
19 years throughout the industry. So we've -- the
20 process was followed. The process worked. And
21 we still have no compelling information to
22 change the results of that NFPA process.

23 Thank you.

24 MR. GOLINVEAUX: Thank you very much.

1 I'll open us up for questions from council.
2 Mr. Gallagher.

3 MR. GALLAGHER: Richard Gallagher,
4 member of council. And this question is for
5 Mr. Andre. With the IBC change that you
6 referenced in 2020 that occurred after the
7 process in the NEC, you were indicating
8 concerns with the NFPA process and how it
9 responded. Is there further insight to be
10 shared to help us understand what you felt the
11 process should have done differently.

12 MR. ANDRE: That's a very good
13 question. Because, honestly, this really
14 shouldn't be a technical discussion right now,
15 it should be a process discussion. It was my
16 hope that NFPA would've stepped in when they
17 saw this and said we can't let this happen and
18 administratively done something about it. How
19 to deal with it past that point? I'm not sure.
20 What we had to do was say, well, we didn't ever
21 discuss raising the limits. But now we've got
22 to go in and discuss, well, they're already
23 there somehow magically. Now we've got to
24 discuss should they be there or how to get it

1 back to where it was so we can have that
2 discussion. I don't have the answer to your
3 question, to be honest. It happened in between
4 code cycles. The panel did due diligence on
5 what they had to work with. But what they had
6 to work with is a drastically different process
7 to say let's take a five-story maximum and go
8 to 24 stories and document how that's safe than
9 it is to say it's already at 24 stories, now
10 you tell me how it's unsafe. We didn't do the
11 first part.

12 MR. GOLINVEAUX: Cathy.

13 MS. STASHAK: Cathy Stashak, member of
14 council. The question is, I guess, for either
15 of you. Did NFPA 5000 -- that's where this
16 change is, correct? -- did they go through the
17 process of first draft, second draft, and then
18 balloting to allow this change and the height
19 to be permitted?

20 MS. HUNTER: Do you want to take it,
21 Joe?

22 MR. ANDRE: Sure. Yeah. Both
23 buildings --

24 MR. GOLINVEAUX: Just state your name

1 and your affiliations.

2 MR. ANDRE: It's Joe Andre. I'm a
3 consultant representing myself. Both processes
4 went through their process. And the NFPA 5000
5 went through the process. They evaluated the
6 buildings based on structure, egress, fire
7 detection, fire prevention, things like that.
8 To my knowledge, and I'm more familiar with
9 what happened at the IBC because I know people
10 that are on those panels. It was never
11 discussed or even understood that this was
12 going to impact the wiring method there. So
13 the electrical portion was not part of that
14 discussion.

15 MS. HUNTER: May I?

16 MR. GOLINVEAUX: Yes, please.

17 MS. HUNTER: Thank you. Chris Hunter
18 with Cerrowire. Yeah. And Joe's correct.
19 They did go through the process. NFPA 5000 did
20 go through the through first draft and the
21 second draft process. They did include mass
22 timber in the Type IV occupancy. They had
23 slightly different requirements than the IBC,
24 but basically the same as far as construction

1 type and protection. So it did go through that
2 process.

3 MR. GOLINVEAUX: Jeff.

4 MR. FOISEL: Jeff Foisel, member of
5 council. Were there any public comments or
6 public inputs filed for 5000 from CMP 6.

7 MS. HUNTER: Chris Hunter with
8 Cerrowire. No, not my knowledge.

9 MR. GOLINVEAUX: Rich.

10 MR. GALLAGHER: Richard Gallagher,
11 member of council. And it's a question for Mr.
12 Andre. Was there any activity between cycles
13 for the NEC to raise a TIA or anything related
14 to this topic before the current cycle?

15 MR. ANDRE: Joe Andre, consultant.
16 Yes, there was. I filed a TIA on that. And it
17 was unsuccessful for several reasons. I think
18 it was brand-new. The Standards Council said,
19 well, we're going to wait until the 2023 cycle
20 because we know it's on the agenda. So that
21 TIA did not move forward. But I did file a TIA
22 at that point. Yes, sir.

23 MR. GOLINVEAUX: Mike.

24 MR. CROWLEY: Mike Crowley, member of

1 council. This is for Ms. Hunter. You said you
2 had a task group that discussed this topic.

3 Can you expand on what they actually discussed?

4 MS. HUNTER: Yes. Chris Hunter with
5 Cerrowire. Yeah. So there were -- we
6 discussed the occupancy types, the protection
7 types. We have a member of Code-Making Panel 6
8 that is extremely active in the International
9 Building Code. And he had been in -- what the
10 protection and the construction methodology is,
11 he was very deeply involved in the development
12 of the mass timber addition to the IBC. And he
13 explained exactly how the construction
14 methodology was developed, the extensive
15 testing that went into this new allowance for a
16 Type IV occupancy. And we also discussed the
17 effective wiring methods based on height. And
18 really there was nothing brought forward in the
19 task groups that would indicate that there was
20 any difference with any wire methods based on
21 height. And we have no -- we have no floor
22 limits. We have occupancy types. So that's
23 where the discussion focused.

24 MR. GOLINVEAUX: Okay. Are there any

1 further questions from council? Seeing none,
2 Mr. Andre, five minutes to summarize your
3 appeal.

4 MR. ANDRE: Joe Andre, consultant. In
5 summary, I would like to make a point. And I
6 will name a name. John -- Mr. John Shue
7 (phonetic) is a member of the IBC structural
8 committee. He is a professional engineer, a
9 structural engineer, retired chief building
10 official for the City of Seattle. I know him
11 through business dealings quite well. And we
12 discussed this.

13 So I have an expert as well who was
14 involved on the panels. And when he found out
15 what the implications were for the electrical,
16 he went to his electrical division and as a
17 emergency rule prohibited NM cable from being
18 put in buildings of this sort, at least of a
19 certain height. The state of Washington
20 followed suit, the state of Oregon followed
21 suit, the state of California followed suit.
22 So we now have -- and they all did it a little
23 bit differently.

24 So now we have a network of local

1 requirements around the country, some of which
2 I'm sure will accept it and some of which
3 won't, they have serious concerns. So my
4 expert on the building code who has sat on
5 building code panels through the IBC for a
6 number of cycles has serious concerns about it.

7 As far as the -- there's a statement
8 that the wiring method doesn't know what
9 building it's in. That's not entirely true.
10 Tall buildings, especially wood buildings are
11 attractive to the structural engineer because
12 during wind events, during seismic events, and
13 even during earth settling, they can move. And
14 they will adjust themselves. They won't fall
15 down. They're very good at swaying.

16 Swaying is exactly the kind of thing
17 that rubs in corners around corners where you
18 run NM cables that will potentially damage the
19 cables. Other wiring methods are much more
20 robust than that. That's why the NEC in '12,
21 when they talked about AFCIs, directed it
22 towards dwellings. And this is a
23 dwelling-intended wiring method. If you are
24 putting it in metal raceways and metal cables,

1 those requirements go away because the danger
2 isn't there. That will conclude my statement.
3 Thank you.

4 MR. GOLINVEAUX: Thank you.

5 Ms. Hunter, five minutes.

6 MS. HUNTER: Thank you. Chris Hunter
7 with Cerrowire. Building codes change every
8 three years. We have standards changes, codes
9 changes in all of our hundreds or thousands of
10 codes and standards that apply to the buildings
11 and the products that we put into them. That
12 is baked into the revision cycle and the
13 process. During the 2023 NEC and even the TIA
14 that proceeded the 2023 NEC, the code-making
15 panel, responsible for the uses permitted for
16 NM cable, considered the changes to the
17 occupancy type, the changes to the building
18 codes, looked at how that might affect or not
19 affect the wiring method and following the NFPA
20 process and voted to reject any changes.

21 Thank you.

22 MR. GOLINVEAUX: Thank you.

23 And as we conclude the hearing, let me
24 inform you as to what happens next. The

1 council will deliberate and reach its decision
2 in executive session. Once a decision is made,
3 that decision, including background or any
4 other information council believes relevant,
5 will be prepared by the NFPA staff and will be
6 published by the secretary of the Standards
7 Council on the Standards Council web page
8 www.NFPA.org/SC2022 in accordance with the
9 regulations governing the development of the
10 NFPA standards.

11 Additionally, the decision will be
12 sent to the appellant and to the chair of the
13 responsible committees directly. The official
14 opinion and decision of council is that as
15 published by the secretary and no other
16 communication shall be considered the council's
17 decision or position. Any questions regarding
18 the decision should be addressed with the
19 secretary.

20 On behalf of NFPA Standards Council, I
21 want to thank of those who participated in
22 today's appeal hearing. Your involvement, as
23 well as the stakeholders', is important in the
24 NFPA development process. This hearing is now

1 ended. Thank you.

2 MR. ANDRE: Thank you.

3 MS. HUNTER: Thank you.

4 HEARING ON 22-8-5-W-1

5 MR. GOLINVEAUX: Okay. The next
6 hearing is related to agenda item number
7 22-8-5-W-1. This is on NFPA 70, Section
8 680.26(B) and CAM 70-117. I'll have you
9 gentlemen introduce yourselves in a second
10 here.

11 Do I have any recusals of council on
12 this agenda item?

13 MR. REISWIG: Thank you. Rodger
14 Reiswig, member of council. For the record, I
15 am recusing myself on this agenda item. And I
16 will not be participating as a member of the
17 Standards Council in the hearing,
18 deliberations, or voting on this matter.

19 MR. KOVACIK: Thank you, Mr. Chair.
20 John Kovacik, member of council. For the
21 record, I am recusing myself on this agenda
22 item. And I will not participate as a member
23 of the Standards Council in the hearing,
24 deliberations, or voting on this matter.

1 MR. GOLINVEAUX: Thank you, gentlemen.

2 I'm going to have you introduce
3 yourselves up here. So we have Mr. Hartwell,
4 Clark and Door, I believe. Please introduce
5 yourselves first.

6 MR. HARTWELL: Yes. My name is
7 Frederic Hartwell. I'm representing myself.
8 And I am the appellant.

9 MR. GOLINVEAUX: Okay. Thank you.

10 MR. CLARK: Rueben Clark with CMI.

11 MR. GOLINVEAUX: And, Rueben, you're
12 also speaking in favor of the appeal?

13 MR. CLARK: In favor. Correct.

14 MR. DORR: This is Douglas Dorr with
15 the Electric Power Research Institute. I won't
16 be speaking. But I'm here to support in
17 questions that the council has on the matter.

18 MR. GOLINVEAUX: Okay. And you're in
19 favor of the appeal?

20 MR. DORR: I'm in favor of the appeal.

21 MR. GOLINVEAUX: Will anyone be
22 speaking against the appeal? Okay. Not seeing
23 any, I believe, Mr. Hartwell, you're going to
24 be the first speaker?

1 MR. HARTWELL: Yes, sir.

2 MR. GOLINVEAUX: Okay. So please
3 begin by introducing yourself and proceed with
4 your opening statement in support of your
5 appeal.

6 MR. HARTWELL: Yes. Frederic
7 Hartwell. I'm representing myself. I've been
8 on Code Panel 9 under the electric code for
9 many -- for the last 32 years. But this is not
10 a CMP 9 issue. I spent considerable time
11 perfecting the written argument that you've all
12 had a chance to read. I want to begin by
13 acknowledging that the appeals to the Standards
14 Council have to meet a much higher standard
15 than in simply being correct. Generally, the
16 council -- when the councils intervene, and it
17 should only continue to intervene in an
18 instance where there's compelling evidence of
19 technical -- where the technical committee
20 action is unsubstantiated or when it creates a
21 threat to public safety. I've been involved in
22 a number of Standards Council hearings over the
23 years and I've certainly tried to follow this.
24 And I'll say on a personal note that I'm

1 75 years old and this is probably my last
2 appeal before council. And, fittingly, I think
3 it's the most important. Because this appeal
4 really involves human lives that hang in the
5 balance on this. And, also, frankly, this also
6 involves the ongoing credibility of the NFPA
7 standards process in these matters.

8 And you're going to hear about voltage
9 gradients and so forth. This is -- the NEC
10 does not control these. They're largely a part
11 of the power system. And the utilities use
12 grounded electric distribution and they do so
13 for very good reasons. And, unfortunately,
14 like most things in life, they're not perfect.
15 And they can result in voltage gradients in the
16 earth and unbalance. We are not going to
17 revamp our entire utility distributions even
18 knowing that these effects are part of the
19 package.

20 Thirty-five years ago in the 1987
21 code, the NEC solved the consequences of these
22 gradients in livestock farmers by requiring
23 equipotential planes. Now farmers need not
24 have cows drop out of milk production. It is,

1 to me, embarrassing and almost unthinkable that
2 after 14 years of discussions -- the first was
3 raised after the 2008 code came out -- after
4 14 years of discussions, we still treat cows
5 better than people. The utility voltage
6 gradient of ten volts that resulted in the
7 North Carolina loss experience that generated
8 the TIA that's now pending before council could
9 very easily have been 16 volts. If it were --
10 and voltage gradients of that magnitude are
11 well known in this industry -- the family that
12 received the painful shocks in those swimming
13 pools in North Carolina, they could easily have
14 been dealing with fatalities.

15 I'd like to introduce my -- Rueben
16 Clark who makes the grid. And most
17 particularly, Rueben has been in attendance at
18 numerous meetings of Code Panel 17 that I have
19 not been in attendance on. And he has some
20 very important information to share.

21 MR. CLARK: Yes. Rueben Clark with
22 CMI. And here's a little chronology. The
23 05-680.26 was written to correct deficiencies
24 in pool shields and that when structural steel

1 was not available to be coded, the '05 code
2 required a copper grid as an alternative when
3 structural steel was not available.

4 So pool builders generally use
5 structural steel reinforcement in pool shields.
6 So that was never an issue to them. But they
7 found a way to save 4- or \$500 dollars by
8 putting fiber -- in the pool's shell which
9 doesn't require any structural steel. So they
10 vehemently objected to any requirement for a
11 grid in the deck. So much so that they
12 influenced 17 to lower the code in '08 to allow
13 a single wire in the deck to create that
14 equipotential plane. And the sole
15 substantiation was an opinion read from the '08
16 ROP, a single -- copper conductor should be
17 sufficient so that in-ground currents circulate
18 through the pool perimeter. No tests or data
19 but prove actually lack of understanding of the
20 issue. Equipotential bonding is not collecting
21 ground currents. It's creating an
22 equipotential plane, which a single wire does
23 not do.

24 The opinions have been proven false

1 many times. And I can't understand why 17
2 continues to ignore every industry expert, the
3 TIA that's documented the industry, and the now
4 the 2021 Coast Guard report which has
5 documented for deaths that we can prove
6 could've have been prevented with a grid in the
7 deck. The issue was raised in 2011 in CAM
8 70-22 which overwhelmingly was passed by the
9 floor vote as was this CAM. But 17 states that
10 there were deaths or injuries at the time so
11 the single wire stayed in. This issue was
12 raised again in 2020 with PI-47 and others
13 resulting in three horrible optics for us.

14 I was on the task group when the Pool
15 & Hot Tub Alliance on the call had a
16 representative that stated he couldn't attend
17 the next call and asked other members, you
18 remember how to vote on this issue, correct?
19 Because this is -- that guy is trying to use
20 the NEC as his marketing department. I
21 documented that objection to the chair in an
22 e-mail. Because directing other panel members
23 how to vote before any open discussion is not
24 in the NFPA process.

1 Another violation was in 2020 at
2 second draft cycle where five subject matter
3 experts presented on why we have to eliminate
4 the single wire. One person was in support of
5 it. So the panel voted to eliminate the single
6 wire. However, the next morning after most of
7 the experts had left, Sanberg (phonetic) moved
8 to re-open the vote from yesterday. And when
9 the chair asked for the justification, he said
10 I met with some people last night who convinced
11 me it wasn't necessary. So in the light of day
12 with open debate and all of the experts, the
13 panel votes one way. But after a private
14 meeting at night, three members changed their
15 votes. That's horrible optics.

16 The third item is Dr. Jens Schoene of
17 EnerNex who authored his very own research
18 foundation report who declared that someone on
19 the task group instructed him to tone the
20 severity of the problem and remove the strong
21 statements from the conclusion. That
22 manipulation is egregious. The Pool & Hot Tub
23 Alliance actually brags on their website that
24 they benefit their members' interest, I'd say,

1 over public safety. However, the cost of this
2 copper grid is the same as installing rebar.
3 It's insignificant. It's about 3- or \$400.
4 You can do the math. But the 3-by-100-foot
5 code is 600 additional feet of copper wire at
6 36 cents a foot is \$180. That's negligible
7 labor on all -- anybody can make these grids.
8 Like rebar. It's not a proprietary or patented
9 product. It's an insignificant expense on a
10 luxury item. But we all pay higher utility
11 bills because of needless millions of dollars
12 that utilities spend on these pool deck
13 shocking incidents. And you can ask the
14 world's leading expert on this, Doug Dorr about
15 that.

16 And do I ask you to review the
17 negative comments on both the TIA and the CAM.
18 Because eight of the nine negative voters made
19 statements they didn't receive supporting
20 reports or new information. So either the NFPA
21 staff violated the process or the panel did by
22 their total disregard. The sole reason for the
23 TIA was new information to pools built in North
24 Carolina, single wiring the deck created a

1 shocking hazard. New decks that were now
2 installed with a copper grid, the shocking
3 hazard goes away.

4 And I want you to note the panel has
5 no longer asked for deaths or injuries after
6 this and the 2021 Coast Guard report. Finally,
7 I think they should recuse themselves because
8 lack of understanding and expertise on this
9 issue. They question solar resistively, GFCI
10 protections, -- contact limits, which have no
11 bearing on this matter. None. It's
12 maliciously thrown in. The council must have
13 meetings, because the CMP's only objections
14 were where are the deaths and injuries. Now we
15 have that and they still won't act. EPRI.
16 EnerNex. IEEE. Multiple utilities. The
17 industry says that actually CMP 17 has it wrong
18 on this. And the council must intervene and
19 uphold the floor vote and they have ample
20 justification to do so.

21 MR. GOLINVEAUX: Okay. Thank you.
22 Not having any speaking against the appeal,
23 I'll open this up to questions from council.

24 James Golinveaux, member of council.

1 And this question is for Mr. Clark. You spoke
2 very quickly and there's a lot of things said.
3 So I got to unwind a little bit of it. You
4 said that some members should have recused
5 themselves. Could you expand and help me
6 understand who should've recused themselves on
7 this issue.

8 MR. CLARK: Rueben Clark, CMI. My
9 contention was that they should have on this
10 issue because their comments don't demonstrate
11 an understanding of this subject matter. The
12 comments on substance that they did make
13 decisive ones because they did receive new
14 information were questioning solar
15 resistively -- contact limits, and GFCI
16 protection, which equipotential bonding of the
17 pool deck system has nothing to do with the
18 electrical circuits. And that's why I state
19 that they were just maliciously thrown in.
20 They had nothing to with equipotential bonding.
21 So I contended that they should have recused
22 themselves.

23 MR. GOLINVEAUX: Okay. James
24 Golinveaux, member of council. Just to

1 clarify, you're saying that the recusal wasn't
2 because of a financial interest or some
3 conflict of interest; it was more of their
4 understanding of the issue.

5 MR. CLARK: That's correct. Because I
6 know that the council gives great -- to the
7 technical committee, as you should. Because
8 you're relying on them to be the experts on the
9 subject matters that they cover. And in this
10 case, every industry -- every industry expert,
11 every test, every data, that's been produced --
12 and now we have real-world examples -- has
13 proven that the single wire currently in the
14 code is unsafe. And you have the world's
15 leading expert here, Doug Dorr. And, again,
16 one of the comments mentioned that IEEE should
17 do a study. IEEE has already weighed in. Matt
18 Norwalk, the chair of the stray and voltage
19 working committee has pleaded multiple cycles
20 with the committee to make this change. And
21 they still haven't done so.

22 MR. GOLINVEAUX: I'll start with
23 Mr. Quiter.

24 MR. QUITER: Jim Quiter, member of

1 council. I'm struggling to find where the
2 process issue comes into this discussion.
3 There's -- it went through the code. It went
4 through the annual meeting, the technical
5 meeting. It went back to the committee who
6 voted it down. Where really -- other than your
7 question -- you had some comments about process
8 in the earlier edition. But in the 2023
9 edition, was there a process violation that you
10 can elucidate more clearly on?

11 MR. HARTWELL: Well --

12 MR. GOLINVEAUX: Please state your
13 name.

14 MR. HARTWELL: Fred Hartwell. I don't
15 think there was an explicit violation of the
16 rules. I think there's -- on the merits, the
17 panel should have moved forward with this and
18 they didn't. And the reason escapes me. But I
19 think this falls into the category you can't
20 legislate stupid.

21 MR. GOLINVEAUX: Mike.

22 MR. CROWLEY: Mike Crowley, member of
23 council. Can you expand on your -- you made
24 three comments in here that I was little

1 concerned about. Directed votes. Optics to
2 change the vote. And then report manipulation.
3 Can you expand on that and just give us a
4 little more background on your feelings and how
5 that may have affected the technical committee.

6 MR. CLARK: Certainly. My
7 contention -- and this will speak a little bit
8 to the process in my opinion -- was I was on
9 the task group for 17 in the '20 cycle. And at
10 the end of one of the calls -- the code is
11 obviously different for the sections of the
12 code -- one of the hot tub lines representative
13 stated to the group, and I don't think he knew
14 that I was even on the call or that I was that
15 guy trying to use the NEC as its marketing
16 department. He stated he couldn't be in
17 attendance on the next call to discuss this
18 issue and stated to the other members that you
19 remember how to vote on this issue, right?
20 This is that guy trying to use the NEC as his
21 marketing department. That was prior to any
22 discussion of this topic in that task group.
23 And the task group is obviously before the
24 panel discussion. So that was something that,

1 to me, stated there wasn't a directed vote by
2 his organization. He was directing other
3 members how to vote before any discussion took
4 place in and before they could ever consider
5 the evidence put forward.

6 And the other one was on the 2020 --
7 the second draft meeting of the 2020 cycle,
8 there were five subject matter experts. The
9 IEEE chair was one of those. Doug Dorr was
10 another one that gave testimony on why the
11 single wire was dangerous and the fact that not
12 one piece of evidence has ever been presented
13 by the panel to the panel proving the single
14 wire is safe other than at that time there
15 hadn't been any documented deaths. And the
16 panel voted one way on that day. The next
17 morning, the first order of business, one of
18 the members reopened the vote. And the chair
19 asked for his justification, and he said I met
20 with some people last night who convinced me it
21 wasn't necessary. No further discussion on who
22 those people were and what was discussed,
23 technical merit or otherwise, and three of
24 those members changed their vote the next day.

1 And that's why I said the optics is just
2 absolutely horrible.

3 And the third item I mentioned was on
4 a conference call. And Doug Dorr was a witness
5 to this with Dr. Jens Schoene who at EnerNex,
6 the Fire Protection Research Foundation's own
7 report, he stated that someone on the task
8 group had seen the draft report and had
9 instructed him to remove the severity, tone
10 done the severity of the problem and remove the
11 strong statements from the conclusions. And
12 Doug Dorr after the phone call said, well, I
13 saw the draft report as an industry colleague,
14 and he's right. The final report was vastly
15 different. So the research on this task group
16 asking this expert to conduct this study
17 actually influenced and directed, whatever word
18 you want to use, the outcome and the conclusion
19 of that. And that, I just feel, is horrible.

20 MR. GOLINVEAUX: Ken.

21 MR. BUSH: Thank you, Mr. Chair.

22 Kenneth Bush, member of council. Can you --
23 it's probably a question directed to
24 Mr. Clark -- can you tell me if the chair of

1 the committee was made aware of these possible
2 optic problems that you have identified as part
3 of your testimony?

4 MR. CLARK: Yes, sir. I sent an
5 e-mail to the chair of 17 at the time objecting
6 to that disparagement by the representative on
7 the panel. And there was no response. But it
8 was documented.

9 MR. BUSH: So you received no
10 response?

11 MR. CLARK: That's correct.

12 MR. BUSH: Thank you.

13 MR. GOLINVEAUX: Any other questions?

14 MR. BUSH: Second question. Kenneth
15 Bush, member of council. Mr. Clark, do you
16 perceive any problems with the types of
17 representation or the ballots of that
18 particular code-making panel?

19 MR. CLARK: In general, no. Because I
20 personally was disappointed to hear that with
21 The Pool & Hot Tub Alliance representative
22 because he's probably the most vocal member of
23 that panel and actually does contribute a lot
24 to the NEC to the code development process. So

1 in general, no. And sitting through the task
2 group and other couple of cycles of meetings, I
3 don't necessarily have a problem with the panel
4 itself. But on this matter, I do. Because of
5 the statements that had been made. Their only
6 objections have ever been, when they do provide
7 one on substance, were there have been no
8 documented deaths or injuries. And they've
9 never produced or seen one document, one test,
10 one piece of evidence that proves a single wire
11 is safe. And it's my contention -- I used the
12 analogy to them that airbags, seat belts
13 increases the cost of cars tremendously.
14 They're completely unnecessary. It is not
15 necessary to have a seat belt or airbag in the
16 car until you have a wreck. And that is what
17 part of the NEC is for is correcting problems,
18 anticipating problems, and to make a safe
19 environment. Now, on this matter, I do have an
20 issue because I don't know that they actually
21 have an understanding of the subject matter.
22 And I do have a problem with them not
23 considering all the evidence presented.
24 Because, again, it's overwhelming. I just

1 named you ever industry organization that has
2 spoken out, written letters, issued statements
3 on this. And they continued to ignore it. And
4 now they've ignored injuries and deaths on this
5 matter.

6 MR. GOLINVEAUX: Thank you. Cathy.

7 MR. STASHAK: Cathy Stashak, member of
8 council. Do you have access or copies of the
9 reports of deaths and injuries, like maybe from
10 the Consumer Product Safety Commission? Is
11 there that kind of record out there that the
12 single wire is unsafe?

13 MR. CLARK: Yes. There are two. And
14 you have one before you with the TIA that was
15 submitted. And I understand that that
16 appellant did not request to be heard. He just
17 submitted the written documentation. But there
18 were two instances documented just recently in
19 North Carolina where pools were constructed
20 with the single wire and created shocking
21 hazards. In different locations of the state,
22 not in the same one with the same conditions
23 even. And one of those homeowners said that he
24 was so afraid of the shock and it was so bad

1 that he could not make himself to reach into
2 the skimmer to remove debris from the pool and
3 didn't know what to do. So that documents
4 right there two injuries that people have
5 incurred. And had the report that I mentioned
6 is the 2021 Coast Guard report on electric
7 shock drowning which does document deaths. And
8 I'll let Mr. Hartwell speak on that a little
9 further.

10 MR. HARTWELL: Well, I was going to go
11 back to the North Carolina. My written
12 argument includes -- and so the council, I'm
13 sure, has this -- my written argument includes
14 the EPRI report on the North Carolina pool
15 situation. So that is meticulous documentation
16 on the performance of single wire versus the
17 performance of the mesh. And the person to my
18 left here, Doug Dorr, is the person responsible
19 for that report. But I just want to say that
20 that is lost experience. That's pure lost
21 experience. Ten-volt voltage gradients in the
22 earth from the utility, gradient continues to
23 this day. Single wire, they could not use the
24 pool. I think I'm going to give the mic to

1 Doug on this. Because I think, as I recall, he
2 touched one of the rails and got belted hard.
3 And he can tell you exactly just what that was
4 like. And ten volts and that kind of a result
5 in that pool, the homeowner spent \$16,500 to
6 rip out all the concrete. Once again verified
7 that the single wire was properly installed in
8 accordance with the code. They rip it out.
9 They put in -- they replace the perimeter of
10 the pool with a mesh and that family is now
11 using the pool. And the same ten-volt voltage
12 gradient is there. EPRI has documented all of
13 that. I'll pass this on to Doug.

14 MR. DORR: Doug Dorr with the Electric
15 Power Research Institute. I can just support
16 what Fred said. I physically was at the site
17 to do the measurements and so I do have the
18 documentation of the difference. To the
19 question of deaths or serious shock injuries,
20 that's kind of a level issue. So people can
21 actually get seriously shocked and then die a
22 few days later in the hospital. So there's --
23 we really shouldn't split hairs on whether it
24 was a perceptible thing or whether it meant

1 resulting in death. They all, if the
2 conditions are right, could result in death
3 with that single wire as opposed to the
4 equipotential grid. And it shouldn't matter
5 where we put it. Whether it's on a cruise
6 ship, whether it's the top of a skyscraper, or
7 whether it's at an in-ground pool in North
8 Carolina, if we create that same thing we did
9 for the dairy farms many, many years ago with
10 an equipotential surface that can be stood on
11 and walked on, contacted in any way by a human
12 or an animal. We haven't done anything to
13 eliminate voltage. What we've done is we've
14 given the users a safe way to contact multiple
15 points at the same time and not experience
16 loss.

17 MR. GOLINVEAUX: Thank you. David.

18 MR. KLEIN: David Klein, member of
19 council. To any of you three gentlemen, was
20 the code-making panel aware of the EPRI report?

21 MR. DOOR: I've presented to the
22 code-making panel I'm going to say three to
23 four times on different tests from EPRI's
24 research facility up in Massachusetts where we

1 have a test swimming pool. So they are aware.
2 And every time we've presented results, they've
3 come back with, well, what about this? And so
4 we've come back with new results. And then
5 it's, well, what about the bodies? And so it's
6 just been a -- I'll call it a cycle of repeated
7 questions. But there's never -- they've been
8 aware that the single wire has been deficient
9 since at least 2012.

10 MR. KLEIN: David Klein, member of
11 council. As a follow-up, so I think I
12 understand in your response that you've
13 presented to the code-making panel your
14 testing. But are they aware of the specific
15 North Carolina incident?

16 MR. DORR: They are. They were
17 provided those reports with, I'm going to say,
18 the TIA and with Mr. Hartwell's material.
19 Which surprises me that they keep saying no new
20 evidence.

21 MR. GOLINVEAUX: Dawn.

22 MS. BELLIS: Dawn Michele Bellis, NFPA
23 staff. In your appeal, Mr. Hartwell, you said
24 that EPRI was about to do more testing that was

1 going to take place in close proximity to this
2 hearing. First question, has that taken place?
3 And what were the results of that testing?

4 MR. HARTWELL: I'll pass this on to
5 Doug who's in charge of that testing. But I'll
6 say the testing occurred one week ago today in
7 Lenox, Massachusetts at the EPRI facility. And
8 that we confirmed what we've found very
9 consistently over the past two years.

10 MR. DORR: That's correct.

11 MR. GOLINVEAUX: Can you introduce
12 yourself, again, just for the stenographer.
13 I'm sorry.

14 MR. DORR: Doug Dorr with the Electric
15 Power Research Institute. The testing happened
16 on August 3rd of 2022. And it did reconfirm
17 once again that when you do exactly the same
18 voltage gradients around a swimming pool and
19 compare the single wire to the grid mesh, the
20 single wire does not create a voltage -- it
21 does not create equipotential between the water
22 and the deck. And the grid mesh does create
23 that equipotential. So it just reconfirms the
24 same test we have been doing and have done for

1 the past dozen years.

2 MR. GOLINVEAUX: Dawn.

3 MS. BELLIS: Dawn Michele Bellis. A
4 follow-up up question. So based upon those
5 findings, do you have -- when you had taken
6 this information to the committee before, did
7 they ask for specific results, like certain
8 voltage they were looking for that --

9 MR. DORR: Doug Dorr with the Electric
10 Power Research Institute. The first time we
11 took it to the committee they said, well, we
12 took in some pretty severe results that showed
13 hundreds of volts generated around the pool
14 deck. And they said, well, this is a utility
15 problem, not a code problem. So the second
16 time I presented it to them, it was on
17 scenarios that were generated at homes and
18 apartments and real-world faults that happened
19 on global distribution systems. And they, at
20 that point, said, well, there are no bodies,
21 why would we need to change this if there
22 aren't any, you know, deaths being reported.
23 And then the third time, they did change it.
24 As Mr. Clark mentioned, I was at that meeting.

1 We presented the results along with four other
2 subject matter experts. Once the results were
3 presented, they voted to add that grid into the
4 pool and remove the single wire. When I left
5 the meeting that afternoon, because they were
6 on to other parts of their agenda, they had
7 already changed the code or in the second
8 revision changed it. And the next day,
9 apparently when none of the subject matter
10 experts were there, they reopened the vote and
11 changed it back. That's about as accurate as I
12 can be on this.

13 MR. HARTWELL: I just want to add my
14 understanding -- Fred Hartwell. I want to add
15 that my understanding is that that change of
16 vote occurred without a single word being
17 issued, being mentioned at the meeting, I would
18 like to change this because and substantiating
19 it. It was just, okay, we're going to change
20 this now. As I said in my argument, is that
21 against the rules? Technically, no. But, you
22 know, just imagine if the press looked at this.
23 And this could very easily go that direction.

24 MR. GOLINVEAUX: Jeff.

1 MR. FOISEL: Jeff Foisel, Standards
2 Council. Taking a look back, I think you said
3 that you were on the review and research
4 foundation report?

5 MR. DORR: This is Doug Dorr with
6 EPRI. The gentleman that created the research
7 foundation report came up to our facility in
8 Lenox, Massachusetts. And I believe he went
9 down to the only other facility in Georgia.
10 And he -- we afforded him the opportunity to do
11 the tests he wanted to see done. So he got a
12 chance to use the facility for a day and
13 understand all of the ramifications of
14 different designs of grids and other -- other
15 options, other mitigation options. So when he
16 was done, he shared with me a draft, a copy of
17 the draft. And I was surprised when I saw the
18 final report didn't look like the draft he
19 shared with me.

20 MR. FOISEL: Were the conclusions -- a
21 follow-up. Jeff Foisel, Standards Council --
22 were the conclusions drastically different, or
23 were they phrased different, or was this a
24 totally different report?

1 MR. DORR: Yeah. It was a totally
2 different report. Representing EPRI, I just
3 want to say I can't really comment on
4 drastically different versus different.
5 Because we're dealing with fact-based science,
6 and the only -- my only real qualification is
7 whether or not the tests were accurate. So
8 while the report was not the same draft that I
9 saw, I can't really comment on how different it
10 was.

11 MR. CLARK: I can answer that. Rueben
12 Clark, CMI. When we were on the call, I went
13 through several strong statements of conclusion
14 that Dr. Jens made stating that the single wire
15 was unsafe, deficient, provided not --
16 basically no protection. And when I asked him
17 point by point in various sections of the
18 report if this is true, if this is true, and he
19 said yes all along. And then I questioned him,
20 well, the conclusion doesn't state that
21 strongly enough and the panel didn't glean that
22 from your report. Why? And that's what he
23 said, well, I was instructed by a past member
24 to tone down the severity of the problem and

1 remove some of the strong statements from the
2 report.

3 MR. FOISEL: One more follow-up
4 question. Just what was the actual title and
5 date on that report from the research
6 foundation?

7 MR. CLARK: It was by EnerNex, the
8 research foundation report. And it was
9 authored by Dr. Jens Schoene. And I don't have
10 the exact title of it. But I can get that to
11 you no later than this afternoon for sure.

12 MR. KLEIN: David Klein, member of
13 council. Can you spell the name Schoene,
14 please.

15 MR. CLARK: Yes, sir. Dr. Jens,
16 J-E-N-S, Schoene. S-C-H-O-E-N.

17 MR. KLEIN: And just a follow-up
18 question.

19 MR. CLARK: Yes, sir.

20 MR. KLEIN: When you saw the draft and
21 then you saw the final report, was the data
22 presented different between the draft and the
23 final report?

24 MR. CLARK: I did not see the draft

1 report. I only saw the final report. And in
2 reading the report, I saw these statements
3 scattered throughout. Because he -- he looked
4 at the test that I was a witness to in Georgia.
5 He was witness to EPRI's report and various
6 other testing that had been published. And he
7 would make strong statements throughout the
8 report. And in the conclusion, it wasn't that
9 strong. And that's when I asked him, well, you
10 say this in this section and this and this and
11 this in these sections. The panel didn't glean
12 this because you said you believed this to be a
13 deficient code and very unsafe and we need to
14 eliminate it. And he said yes. Well, the
15 panel didn't glean that from your report. And
16 that's when he responded, oh, yes. I was
17 instructed to tone down the severity in it.

18 MR. KLEIN: Okay. David Klein with a
19 follow-up question. So I think what you're
20 saying, if I'm understanding you correctly, is
21 that there were opinions made throughout the
22 report which were changed. But my question is
23 was any data changed?

24 MR. CLARK: I don't know because I did

1 not see the first draft report.

2 MR. KLEIN: Thank you.

3 MR. CLARK: I only saw the final
4 report.

5 MR. DORR: I'd say it's unlikely any
6 data changed.

7 MR. GOLINVEAUX: Okay. James
8 Golinveaux, member of council. I want to
9 clarify this just one more time. And I
10 apologize for beating on this one. The
11 warnings and the comments were still in the
12 body of the report. In your opinion, what I'm
13 hearing, is that they were removed from the
14 summary?

15 MR. CLARK: That's correct.

16 MR. GOLINVEAUX: Just a follow-up.
17 But they were still in the body of the report;
18 they just were not in the conclusion?

19 MR. CLARK: Yes, sir. And it was
20 quite a lengthy report.

21 MR. GOLINVEAUX: Okay. Thank you. I
22 just wanted to make sure.

23 Are there any further questions from
24 council? All right. Seeing none, I'm going to

1 let you divide up the five minutes of your
2 summary argument in support of your appeal.

3 MR. HARTWELL: Thank you,
4 Mr. Chairman. Fred Hartwell. It's kind of fun
5 to do this in the City of Boston because
6 252 years ago my favorite founder, John Adams,
7 was representing the British soldiers who fired
8 on the crowd during the event we commonly know
9 as the Boston massacre. He represented those
10 men because above all else he believed in the
11 rule of law. And his speech to the jury in
12 this very city continues to inspire. This is
13 what he said to the jury: Facts are stubborn
14 things. And whatever may be our wishes, our
15 inclinations, or the dictates of our passions,
16 they cannot alter the state of the facts in
17 evidence.

18 The issues in this appeal have been
19 weighed and the recommendations supported not
20 by one, but two annual meetings and multiple
21 scientific studies. These studies have
22 resulted in the elicitation of facts capable of
23 being generated and confirmed by subsequent
24 experimentation in this case as recently as one

1 week ago. Panel 17 relies on an opinion
2 expressed in the 2018 -- 2008 cycle. The
3 facts, stubborn as they are, keep being
4 replicated in subsequent studies. Nothing will
5 be gained and great harm will likely result
6 should this CAM be kicked down the road to the
7 2026 cycle.

8 We have now reached the point where
9 this issue is readily capable of being under by
10 the lay press. The written argument for this
11 appeal is freely available, as it should be, to
12 the public. If this council acts, this issue
13 will go away and NFPA will be able to appoint
14 to the integrity of its process, as it should,
15 a process that does include this deliberation.
16 Please grant the appeal and put this behind us.

17 Thank you.

18 MR. GOLINVEAUX: Thank you. As we
19 conclude the hearing, let me inform you as to
20 what happens next. The council will deliberate
21 and reach its decision in executive session.
22 Once a decision is made, that decision,
23 including the background of any other
24 information council believes relevant will be

1 prepared by NFPA staff and published by the
2 secretary of the Standards Council on the
3 Standards Council web page www.NFPA.org/SC2022
4 and in accordance with the regulations
5 governing the development of NFPA standards.

6 Additionally, the decision will be
7 sent to the appellants and to the chair of the
8 responsible committees directly. The official
9 opinion of the decision of council is that as
10 published by the secretary and no other
11 communication shall be considered the council's
12 decision or position. Any questions regarding
13 the decision should be addressed with the
14 secretary.

15 On behalf of the NFPA Standards
16 Council, I would like to thank all of those who
17 participated into today's appeal hearing. Your
18 involvement, as well as the stakeholders', is
19 important to the NFPA standards development
20 process. This hearing is now ended. Thank
21 you.

22 I'm going to call for a ten-minute bio
23 break before we hit the next series of appeals.
24 So we'll go off the record and be back in ten

1 minutes.

2 (Recess taken.)

3 MR. GOLINVEAUX: I'm going to go back
4 on the record. I am James Golinveaux, the
5 chair of the NFPA Standards Council. I'm going
6 to ask if anybody new has joined the meeting
7 since we did self-introductions. And if they
8 have, could they introduce themselves and their
9 affiliation. So is there anybody that
10 is -- Mary. Mary, would you introduce yourself
11 and your affiliation, please.

12 MS. KOBAN: Mary Koban, AHRI. I'll be
13 speaking later this afternoon. Thank you.

14 MR. GOLINVEAUX: Very good. Thank
15 you. Is there anybody else who joined the
16 meeting that did not introduce themselves
17 earlier? Okay.

18 HEARING ON 22-8-5-Y

19 MR. GOLINVEAUX: So we are going to
20 move to the hearing related to agenda item
21 number 22-8-5-Y on NFPA 70, Section 310.3(A) on
22 CAM 70-126 and related CAMs identified as
23 70-60, 70-127, 70-128, and 70-129.

24 Before I introduce the speakers, are

1 there any members of council that need to
2 recuse themselves? Go ahead, please.

3 MR. REISWIG: Thank you. Rodger
4 Reiswig, member of council. For the record, I
5 am recusing myself on this agenda item, and I
6 will not be participating as a member of the
7 Standards Council in hearing, deliberations, or
8 voting on this matter.

9 MR. KOVACIK: Thank you, Mr. Chair.
10 John Kovacik, member of council. For the
11 record, I am recusing myself on this agenda
12 item. And I will not participate as a member
13 of the Standards Council in the hearing,
14 deliberations, or voting on this matter.

15 MR. GOLINVEAUX: Thank you, gentlemen.
16 I'm going to have the maker of motion
17 here, the appellant, introduce yourself. And
18 then I'll go across the table for
19 self-introductions. Your name and affiliation,
20 please.

21 MR. GRASER: Thank you, Council.

22 My name is Peter Graser. I am the
23 president of the American Bimetallic
24 Association and the VP of Copperweld

1 Bimetallics.

2 MR. MELLO: My name is Chuck Mello
3 with cdcmello Consulting. I am here to assist
4 Peter and will not be speaking, but will be
5 here to answer questions.

6 MR. KEELER: My name is Tim Keeler.
7 I'm an attorney with Mayer Brown law firm
8 representing Southwire.

9 MR. WATSON: Thank you, Mr. Chair.
10 This is Dave Watson with Southwire.

11 MS. HUNTER: And Chris Hunter with
12 Cerrowire.

13 MR. GOLINVEAUX: Okay. Thank you for
14 that introduction.

15 Mr. Graser, you have ten minutes to
16 support your appeal, please.

17 MR. GRASER: Thank you, sir.

18 We all love this work and the NFPA
19 process that we vowed to defend. The bottom
20 line of this appeal is a restraint to trade. A
21 group of competitors colluding to keep another
22 out. It was done in two ways. One, they
23 stacked votes on technical panel by influencing
24 organizations with voting rights on it. I've

1 included a chart in the written appeal, that
2 Mr. Mello is holding up now, that explains the
3 interconnections of these organizations. And
4 how it influences voters. And, two, by
5 executing a sham at a critical time in the
6 process that unduly influenced -- to their
7 position.

8 Let me set the stage with a little
9 background. It begins in August of 2019, when
10 this council made two formal decisions which
11 allowed the NEC correlating committee to form a
12 task group called bimetallics task group.
13 After extensive -- the task group created a set
14 of coordinated PIs for inclusion of 14-gauge
15 copper-clad aluminum or CCA aluminum in the
16 2023 NEC as a grand circuit conductor. As you
17 know, grand circuit conductors made with CCA
18 size 12 and larger have been included in the
19 NEC for over a half a century performing
20 excellently.

21 Anyway, the inputs were accepted by
22 panels 2, 9, 10, and 18. However, the lynchpin
23 commercialization rests with panel 6. We're in
24 the purview of conductor sizes and wiring

1 methods. 14 CCA was ultimately defeated by
2 panel 6, and only panel 6, by an illicit stunt.
3 Here I'll state some facts from the cycle. The
4 stunts should become pretty obvious.

5 As I mentioned, this council created a
6 bimetallics task group comprised of 13
7 technical experts of balanced interest. The
8 task group created 19 public inputs to expand
9 the use of CCA to 14-gauge based on the
10 strength of the scientific research and data.
11 In the first revision, the task group's PIs
12 carried panel 6 by a vote of 12 to 2. The
13 technical substantiation compared the
14 performance of 14 CCA to 14 copper under
15 equivalent test conditions. And please keep
16 that in mind in the absence of any test
17 standard to test against, you have to have a
18 comparable, a control. A known quantity
19 against an unknown quantity. In this case, the
20 unknown is 14 CCA; the known was 14 copper.

21 In the second revision -- now, this is
22 where the problem started -- a group of three
23 competitors and their common association
24 submitted a coordinated set of 15 public

1 comments opposing 14 CCA. The PCs were
2 substantiated by four -- four test reports that
3 all adhered to a similar template basically in
4 lock step. The test plans followed no adopted
5 standard, criteria, or procedure. In short,
6 they were nonstandard tests. In the test the
7 wires were arranged atypically laid out to
8 obtain heat rather than in the usual fashion
9 typical of branch circuits.

10 The other elements common to the four
11 reports include the following -- and I'm going
12 to read these because I want them in the
13 record. They all report wire being tested
14 under ceiling or wall insulation. By the way,
15 no industry standard tests wire that way under
16 big thick insulation. It's hard to control.
17 All were claimed to represent a real-world
18 scenario. Three, all report data on 14 CCA
19 only. Four, all failed to report the origin of
20 14 CCA, which isn't commercially available yet.
21 Reporting the origin of test samples,
22 especially in this case, is standard protocol.
23 Five, all failed to provide certificates,
24 certification that the 14 CCA is real. It

1 doesn't meet the standard. This is the actual
2 stuff. In the October debate, panel members
3 were stonewalled when they asked that question,
4 where did it come from? All reports 14 CCA is
5 overheating. That's number six. No surprise.
6 Number seven, all conclude that 14 CCA is
7 dangerous. Number eight, all four reports from
8 four different labs failed to report data on
9 14-gauge wire made from copper tested under the
10 same parameters and conditions. What is there
11 to hide?

12 So what are we to conclude? Simply
13 put, the opposition purposely withheld
14 information from the technical panel because
15 test data was upheld at a critical point in the
16 process. The ballot was unfairly influenced
17 which ultimately killed the proposals of their
18 opposition. This is the clearest violation of
19 the NFPA guide for conduct that states -- and
20 I'll read this -- quote, no participant should
21 ever attempt to withhold -- withhold -- or
22 prohibit information or points of view from
23 being presented particularly on the grounds
24 that the participant is in disagreement with

1 the information or the points of view.

2 There are two test reports from the
3 bimetallic task group, which Mr. Mello can tell
4 you about, therefore, it should stand the
5 technical substantiation for this appeal. Its
6 research was independent based upon sound and
7 scientific principles and was comparative in
8 its design. It also carried a wide consensus
9 before the violation occurred during the second
10 revision.

11 So I'll finish with this one word,
12 "helplessness." Being unable to stop a course
13 of events started by an act that was rotten to
14 its core. Watching violators get away with it.
15 Them believing to be above the rules, the NFPA.
16 And even our nation's laws. I've endured this
17 feeling since October when the stunt to buffalo
18 panel 6 occurred. This nausea I don't wish on
19 anyone. Lest we encourage more subversion, I
20 urge this council to accept this appeal.

21 Thank you, Council.

22 MR. GOLINVEAUX: Thank you. You have
23 ten minutes to respond.

24 MR. KEELER: Thank you to the council.

1 As I mentioned, my name is Timothy Keeler. I
2 am a partner with the Mayer Brown law firm here
3 representing Southwire. I'm joined by Dave
4 Watson, the principal engineer of Southwire who
5 will be available for questions.

6 Southwire disagrees with the propose
7 amendments that were presented by American
8 Bimetallic Association, the ABA. That would
9 include 14-gauge copper-clad aluminum
10 conductors and cables in the national electric
11 code for use in powered lighting circuits at
12 various -- these conductors should not be in
13 the code for power lighting circuits until more
14 testing can be done to ensure they did not
15 exceed their maximum temperatures when
16 installed in typical residential and commercial
17 insulations.

18 ABA's strategy is to argue that
19 panel 6's robust process and careful
20 deliberation which resulted in clear
21 recommendations was actually the result of some
22 conspiracy against copper-clad aluminum. It
23 alleges the -- code-making process is motivated
24 by a desire to restrain trade of copper-clad

1 aluminum products and that the ABA opponents
2 were willing to fake test results. None of
3 these assertions have merit.

4 ABA's argument relies on the faulty
5 premise that panel 6 has been corrupted by
6 industry association members that unfairly
7 wielded their influence. ABA alleges these
8 members participate in multiple industry
9 associations and, therefore, have outside
10 influence over the panel 6 vote. Contrary to
11 the ABA's assertions, these industry
12 associations are large and typically determine
13 their representatives vote on the panel through
14 member consensus, not the individual interests
15 of the panel nominee. In addition, these
16 associations are important players in the
17 industries that panels regulate. There's no
18 surprise that such experts, like those
19 qualified to sit on code-making panels, seek
20 out membership in multiple industry
21 associations. This representative voting
22 structure is routine. And the ABA only offers
23 insinuations and no evidence of that.

24 The ABA also claims its opponents seek

1 to restrain trade and keep copper-clad aluminum
2 out of the market. That assertion is absurd.
3 Copper-clad aluminum products have been allowed
4 in the NEC for decades. The opponents of ABA's
5 amendments have made no attempt to restrict the
6 use of copper-clad aluminum products for any
7 uses already permitted in the code. And the
8 NEC has welcomed their inclusion in the
9 marketplace as already permitted.

10 Other wiring cable manufacturers,
11 including Southwire, can manufacture
12 copper-clad aluminum products. We have no
13 interest in preventing these products from
14 being used in household applications. We
15 simply want to ensure the product is safe for
16 its intended use. Focusing on the ABA's
17 proposed amendments, panel 6's work was
18 thorough. It reviewed multiple test reports
19 from Southwire and other groups before making
20 its decision. In a statement, panel 6 laid out
21 an 11-point strategy for future testing of
22 14-gauge copper-clad aluminum and other
23 smaller-gauge products clearly outlining what
24 it wanted to see to ensure these products are

1 safe for their intended use before including
2 them in the code.

3 We do not believe that panel 6's
4 careful recommendations made to minimize risk
5 of a home buyer should be overturned on this
6 basis. These weak allegations of bias are not
7 sufficient to impeach the signature amount of
8 delivery process by panel 6's careful,
9 technical scrutiny of substantial evidence.
10 The truth is their allegations are baseless and
11 they fail to undermine the robust process on
12 the record before you.

13 Finally, the ABA alleges that
14 opponents to their amendments are willing to
15 fake test results to get their way.
16 Southwire's test in an accredited lab shows
17 substantial risk of 14-gauge copper-clad
18 aluminum conductors overheating at the
19 ampacities proposed by the ABA when installed
20 in insulation. Other independent credited
21 laboratories confirmed these results. Contrary
22 to the ABA's allegations, Southwire's testing
23 methodology was so clear that it was a guide
24 for Copperweld's own test. And this testing

1 methodology could not conform to any testing
2 standard because there's no standard test for
3 conductors in insulation that currently exists.
4 On the other hand, Copperweld's report,
5 submitted after the second draft meeting, did
6 not receive independent verification of their
7 results.

8 We are happy to expand on the
9 technical merits to Southwire's testing in
10 questions and answers. Southwire maintains
11 that the NFPA code-making panel here properly
12 did its job in investigating these amendments
13 and that 14-gauge copper-clad aluminum
14 conductors should not be included in the code
15 for power and lighting circuits until further
16 tests can be done.

17 Thank you.

18 MR. GOLINVEAUX: Thank you. I'm going
19 to open it up to questions from council.

20 Oh, I'm sorry. I thought --

21 MS. HUNTER: My apologies. There's a
22 few minutes left. Chris Hunter with Cerrowire.

23 MR. GOLINVEAUX: Please proceed. I'm
24 sorry.

1 MS. HUNTER: Thank you so much.

2 MR. GOLINVEAUX: If you can introduce
3 yourself. I'm sorry.

4 MS. HUNTER: Chris Hunter with
5 Cerrowire. Thank you. Just a couple of
6 clarifying statements. As a member of
7 Code-Making Panel 6 for many cycles, the issue
8 that's before us, to me, is not about the
9 metal. This is about allowing smaller branch
10 circuit conductors in the NEC, smaller than we
11 have ever allowed for branch circuit wiring.
12 Since the 1897 NEC, we have limited branch
13 circuit wiring to no smaller than 14-gauge
14 copper. When copper-clad aluminum and
15 aluminum -- well, when copper-clad aluminum was
16 added in the 1971 code, it was 12-gauge
17 copper-clad aluminum, which is equivalent
18 ampacity to 14-gauge copper. So that has been
19 our bar. We've said nothing smaller than that.

20 This proposal is to allow a smaller
21 branch circuit conductor. And to do that, we
22 have to make sure that it's safe in recognized
23 installation. Now, things have changed since
24 the very first code. We have different

1 construction methods. We have different
2 requirements for thermal insulation. And
3 Code-Making Panel 6 has looked at information
4 presented over many code cycles about wiring
5 methods in thermal insulation. Some of those
6 reports date back to the '70s and the '80s.
7 But more recently we have made changes to the
8 NEC for wiring methods based on testing in
9 thermal insulation. We have restricted the use
10 of NM cable. We have restricted the use of MC
11 cable, AC cable, and SE cable based on reports
12 very much like the reports presented during
13 this code cycle in the second draft because of
14 the overheating concerns in thermal insulation.

15 This needs to be investigated. We
16 need to make sure we come to the right
17 conclusion, whether it's installation
18 limitation or ampacity adjustment. Whatever
19 the solution is, we have to make sure we have
20 that information before we include it in the
21 NEC.

22 Thank you.

23 MR. GOLINVEAUX: Thank you. Are we
24 good? Okay. I'll open this up for questions

1 from council, please.

2 MR. KLEIN: David Klein, member of
3 council. This is for Mr. Graser. If I
4 understood what you were saying, please correct
5 me if I'm wrong, the tests that you said were
6 nonstandard gave the results for the 14 CCA but
7 did not compare them to 14 copper; is that what
8 you're saying?

9 MR. GRASER: This is Peter Graser,
10 American Bimetallic Association and Copperweld
11 Bimetallics. Yes, sir, I did say that. And,
12 in fact, none of the four tests actually were
13 comparative in nature. They were all
14 nonstandard. And they're basically fabricated.
15 And one important point to note is that
16 between -- and this is an important fact --
17 that between the final second revision debate
18 in October of last year and the days before
19 balloting reopened under checking, you know,
20 with the NFPA staff so that -- so as not to
21 violate any rules of conduct we submitted a
22 test report that duplicated one of the test
23 rates of the PCs. So it was done by Intertek,
24 which was an independent test lab. And they

1 were contracted to witness this test that
2 duplicated this rig, you know, with the
3 insulation. But it was comparative in nature.
4 It was going to report both sides. And what
5 had basically come from the testing was that --
6 and, remember, Intertek is an NRTL. I mean,
7 they're independent, right. They -- they're
8 sworn not to lie. 14 copper proved to run
9 20 percent hotter than CCA 14 under the same
10 test parameters. But have no fear -- and
11 there's no inspector community worrying about
12 problems with 14-gauge copper. We have no
13 reports -- I sit on panel 6 as well -- we have
14 no reports from contractors that sit on our
15 panel saying that 14-gauge coppers aren't
16 enough. No. None of those issues. The
17 problem is the test rig. It's a bad design.
18 It was designed to make any wire, any size of
19 wire, any type of wire overheat.

20 MR. KLEIN: Just a follow-up question,
21 this is David Klein, member of council, to
22 Mr. Keeler. Would you care to rebut the
23 statement that the test did not present -- did
24 not compare one product to the other product?

1 MR. KEELER: Chris, do you want to --
2 I'll turn it over to Ms. Hunter, if I can.

3 MS. HUNTER: If I may. Thank you.
4 Chris Hunter with Cerrowire. 14-gauge
5 copper-clad aluminum and 14-gauge copper are
6 not comparable. To test those in opposition or
7 in comparison is -- it would be like taking 500
8 kcmil copper and 500 kcmil aluminum and saying,
9 oh, let's test them next to each other even
10 though we know that they have significantly
11 different conductivities. The comparable
12 conductive values would be 14-gauge copper-clad
13 aluminum and 16-gauge copper. There is
14 16-gauge copper available in the industry to be
15 tested.

16 Code-Making Panel 6 has asked that
17 that testing be done. They've asked -- given a
18 very, very lengthy statement on how the testing
19 needs to be done to test 14-gauge copper-clad
20 aluminum and 16-gauge copper. They also asked
21 for 14-gauge copper and 12-gauge copper-clad
22 aluminum to be tested in thermal insulation as
23 well.

24 The issue is with heating and thermal

1 insulation with small conductors. It's not one
2 metal or the other. So there's no point in
3 testing a 14-gauge copper against a 14-gauge
4 copper-clad aluminum because they have
5 different resistances and different
6 conductivities.

7 So it's -- and there were no public
8 inputs and no public comments to change the
9 ampacity or the use of 14-gauge copper. So, to
10 me, it's hard to understand why we even want to
11 see 14-gauge copper compared to 14-gauge
12 copper-clad aluminum because as a wiring cable
13 person, there's no -- they don't compare.
14 They're not substitutes for each other.

15 MR. GOLINVEAUX: I'll go to Cathy and
16 I'll come back to you.

17 MS. STASHAK: Cathy Stashak, member of
18 council. You had -- I forgot the lawyer's
19 name -- Keeler. I'm sorry. I'm really
20 horrible with names. Mr. Keeler, you had
21 stated that several labs, accredited labs, had
22 confirmed Southwire's testing. Do you have the
23 name of those labs and were they present during
24 the actual testing?

1 MR. KEELER: Dave, do you want to --

2 MR. WATSON: Thank you. Dave Watson
3 with Southwire. First, a quick comment on the
4 comment made by Mr. Graser earlier. If I'm not
5 mistaken, the testing that he referred to that
6 occurred after the second revision process was
7 actually performed at Copperweld and that was
8 witnessed remotely by Intertek. I believe he
9 stated that it was actually performed at
10 Intertek. It's my understanding it was
11 actually performed at Copperweld. Furthermore,
12 in regards to that, there were two test reports
13 generated out of that. It appears to me it's
14 the same data. It's really one test report
15 that was published under two covers, if you
16 will, one for Copperweld and one for Intertek.
17 So it's just one test report actually.

18 In regards to the test labs that -- in
19 addition to Southwire -- that did the testing,
20 the Copper Development Association had
21 initiated a test by Hampton Tedder, who is an
22 accredited lab. Furthermore, Southwire
23 utilized Cable Technology Labs. CTL. Their
24 report should be in an exhibition file that we

1 sent that should be part of your package. So
2 you should have the Southwire test report
3 generated at our accredited lab facility. You
4 should also have the test report from CTL. And
5 I don't remember if there's another test report
6 in that or not so.

7 MR. KEELER: So the panel's statement
8 lists the five reports and presentations that
9 they took into account in this --

10 MR. GOLINVEAUX: David, I think you
11 had a follow-up question, I believe.

12 MR. KLEIN: If I can remember it.
13 This is David Klein, member of council. So
14 thank you for clarifying that 14 CCA is not the
15 same as 14 copper. Did the test mentioned by
16 the opposition include a comparison to any
17 copper products?

18 MS. HUNTER: Thank you. Chris Hunter.
19 The testing that was submitted after the second
20 draft panel meeting, I believe, did have some
21 testing with 14-gauge copper. At that point
22 there was nothing we could really do with it
23 because there were no PIs or PCs to adjust
24 14-gauge copper. It's been repeatedly stated

1 that the copper that they tested ran 25 percent
2 hotter under the same test parameters. But
3 that is not exactly correct. They were tested
4 under different ampacities. So if I remember
5 correctly, the CCA, the 14-gauge CCA, was
6 tested under -- at 10 amps, and the 14-gauge
7 copper was tested at 15 amps. Now, as to the
8 relative difference, I think that's something
9 that should be investigated. And if the
10 Code-Making Panel 6 direction is followed for
11 next cycle, we should get answers to those
12 questions.

13 MR. BUSH: Thank you, Chair. Ken
14 Bush, member of council. It's probably a
15 question directed to Ms. Hunter. Before in
16 your testimony, you said that the code-making
17 panel requested that these tests be conducted
18 with these materials. And my question is were
19 you aware of the fact that the code-making
20 panel, in addition to the results, was made
21 aware of the standards of these tests and was
22 aware of how these were going to be conducted
23 with these different materials?

24 MS. HUNTER: I'm sorry. Could you

1 clarify which testing?

2 MR. BUSH: You asked that testing be
3 conducted. I'm just curious as to whether the
4 code-making panel was made aware of the
5 standard of the test -- for the test in
6 addition to results of the test?

7 MS. HUNTER: Thank you. Chris Hunter
8 with Cerrowire. And there is no standardized
9 test in the industry for testing ampacity or
10 heat rise of conductors in thermal insulation.
11 We do have precedent from the National Bureau
12 of Standards, which, of course, now is NIST.
13 And we have also precedent with reports that
14 were submitted to the code-making panel for
15 previous cycles. And Code-Making Panel 6,
16 because there is no standardized test, went
17 through and gave a very detailed list of
18 parameters and testing conditions that should
19 be followed to create that test with the
20 request that this be performed by third-party
21 laboratory preferably under the purview of the
22 Fire Protection Research Foundation.

23 Did that answer the question, or is
24 there --

1 MR. BUSH: Yes. Ken Bush, member of
2 council, with a follow-up. As member of the
3 code-making panel, as you said you were, was
4 that panel convinced that the parameters were
5 satisfied with the tests that were done?

6 MS. HUNTER: Thank you. Chris Hunter
7 with Cerrowire. The majority of the
8 code-making panel did vote during the second
9 draft meeting to support that test protocol.

10 MR. BUSH: Thank you.

11 MR. GOLINVEAUX: Jim.

12 MR. QUITER: Jim Quiter, member of
13 council. I'm going to change direction here a
14 bit. You talked earlier in your presentations,
15 Mr. Graser, about the makeup of Code-Making
16 Panel 6 and some of the influences that you
17 felt were there and held up your -- your
18 graphic. Do you know for the people who are
19 representing organizations whether they have
20 directed votes or whether they're voting for
21 their own organization?

22 MR. GRASER: Thank you, Council.
23 Peter Graser with the American Bimetallic
24 Association and Copperweld Bimetallics. So, on

1 paper, obviously, it appears to be some balance
2 on Panel 6, right? Many of these organizations
3 do have directed votes. But in a case like
4 NEMA, for example, and that's just one example,
5 our competitors have five seats and a vice
6 chair on the NEMA codes committee that directs
7 votes for NEC. We have none. We're not on
8 that panel. So, you know, they are issues with
9 that. I mean, if anything, in the case of
10 copper-clad bimetals in general, I think we
11 need to look at our definition of what
12 "balanced" is. Because the world is now a
13 three-conductor world, aluminum, copper, and
14 copper-clad aluminum. All three are
15 legitimate, economic in this day and age. So,
16 again, I think the definition of how the NFPA
17 is balanced needs to be reviewed.

18 Does that answer your question, sir?

19 MR. QUITER: Partially. But it leads
20 to a follow-up, if I may.

21 MR. GOLINVEAUX: Please.

22 MR. QUITER: Okay. So I guess that
23 then leads to the question what -- if you
24 feel -- I'm not going to use word "balanced" --

1 because it is balanced -- but if you feel it's
2 unfair, what would you do to resolve that? And
3 maybe a secondary part of that question is, for
4 the other side, is do you see a similar
5 imbalance in the discussion and how things are
6 going in Code-Making Panel 6. But I'll start
7 with you.

8 MR. GRASER: So Peter Graser, American
9 Bimetallic Association and VP of Copperweld
10 Bimetallics. Sir, that question honestly is
11 probably above my pay grade to come up with a
12 new definition of how to balance organizations
13 outside of the NFPA that have voting rights on
14 how panels, technical panels, like Code-Making
15 Panel 6. If you would allow me, I could
16 certainly submit some suggestions after I --
17 after I think about how that can be done. But,
18 yes, I would encourage -- I would encourage,
19 you know, some kind of a public input, if you
20 will, maybe that's the wrong word, to come up
21 with a fair system that deals with this world
22 that we live in now that's a three-conductor
23 world. Before CCA came back into the market
24 because of high copper prices and the

1 continuing escalation of high copper prices,
2 there was no discussion about things like this
3 because the panel 6 was balanced in the old
4 world. So yeah. I think a reconstitution of
5 what it means to be balanced is probably a good
6 place to have a discussion.

7 MR. QUITER: Thank you.

8 MR. GOLINVEAUX: Okay. James
9 Golinveaux, member of council, for Mr. Graser.
10 You made a comment just a minute ago in that
11 answer that said that NEMA had five directed
12 votes on the panel. Are you specifically
13 saying that NEMA directed five of its members
14 or whoever they were representing to vote a
15 certain way?

16 MR. GRASER: Peter Graser, American
17 Bimetallic Association and Copperweld
18 Bimetallics. No, sir. That -- I'm sorry if I
19 mis --

20 MR. GOLINVEAUX: I'm just trying to
21 understand it.

22 MR. GRASER: The codes and standards
23 committee at NEMA that decides how votes are
24 directed on panel 6 has five members. Five

1 members from panel 6 and also a vice chair. We
2 don't have representation on that panel. We
3 don't have a voice. If -- you know, there's 17
4 members altogether. But, you know, we're all
5 familiar with the idea that if there's a, you
6 know, a resolute group of members, there will
7 be some following of them just because of the
8 resoluteness of their position, right? So
9 that's the situation. We don't have a voice on
10 NEMA. And there are others that we don't have
11 a voice on.

12 Does that make it a little more clear?

13 MR. GOLINVEAUX: Yeah. And I hate to
14 dig into this too much, but I just want to
15 understand. When you're talking about there
16 isn't representation on NEMA, you're not
17 talking about the code-making panel; you're
18 talking about their representation on the NEMA
19 organization -- I'm trying to understand when
20 you're speaking to one versus the other.

21 MR. MELLO: Chuck Mello, cdc_mello
22 Consulting. I'll try to help here. With NEMA,
23 there's many, many companies in NEMA, many
24 different groups and all that that represent a

1 wide spectrum of the industry. There's 17
2 members total representing those various
3 entities on the codes and standards committee
4 that do direct the vote. In that committee of
5 17 members, five are specifically codes and
6 wire specialists there. And some of these are
7 in the room today, including the vice chair.
8 Because they are the wire and cable specialists
9 in the committee, the committee tends to follow
10 what the wire and cable specialists say to do.
11 That's what we're saying.

12 MR. GOLINVEAUX: Okay. I'll let it go
13 at that. Thank you. Any -- Rich, I'm sorry.
14 I didn't recognize you earlier.

15 MR. GALLAGHER: Richard Gallagher,
16 member of council, with a question for
17 Mr. Graser. In the chart that you did share
18 with us, you showed the relationship between
19 several industry groups and the members of
20 code-making panels. And I guess my question is
21 can you help us understand if there's any
22 observations or information that you may be
23 able to share that indicates how this may have
24 led to, let's say, a voting block or any kind

1 of actual action that may have influenced the
2 outcome.

3 MR. GRASER: Thank you. Peter Graser,
4 American Bimetallic Association and vice
5 president of Copperweld Bimetallics. So in the
6 case of Code-Making Panel 5 or 6, we have a
7 situation where, for example, we've already
8 explained NEMA, we have no voice there. But
9 IEEE, our competitors, have a recent past chair
10 who's in this room of the codes committee.
11 Again, in these committees, that's where votes
12 are directed, right? We do not have a voice
13 there. The Copper Development Association, our
14 competitors have three seats on the codes
15 committee. That's three seats from Code-Making
16 Panel 6, right. I guess our invitation to the
17 Copper Development Association got lost in the
18 mail because we're not members there. Aluminum
19 Association, our competitors have four seats.
20 I'm talking competitors that -- of ours, wire
21 manufacturers, that have votes on Code-Making
22 Panel 6. Three of them do. One of them
23 doesn't. But there are four members from The
24 Aluminum Association that actually have a voice

1 on Code-Making Panel 6. We're not members of
2 The Aluminum Association either. So there's a
3 lot of influence that happens during the debate
4 that we have no control over. So that's a
5 short sketch of all of those votes. All of
6 those votes basically went in opposition of our
7 public inputs, 14 CCA.

8 MR. GOLINVEAUX: Jim.

9 MR. KLEIN: Jim Quiter, member of
10 council. In my previous question, I had also
11 asked the opinion of the opposition of the
12 fairness of the makeup of the committee. So I
13 was just hoping I could get that feedback as
14 well.

15 MS. HUNTER: If I may? Thank you.
16 Chris Hunter with Cerrowire. The expertise on
17 Code-Making Panel 6 from wiring cable
18 manufacturers does reside in the manufacturing
19 seats, as it should. And different
20 organizations are represented with directed
21 votes. With specific regard to the NEMA codes
22 and standards committee, Copperweld is a NEMA
23 member. And you have to apply to become a
24 member of that committee. I'm not aware that

1 anyone from Copperweld has applied to become a
2 member of the codes and standards committee.
3 So if they do in the future, that will be
4 considered. There is a process for that. I
5 can tell you from being on the CNS committee
6 for about ten years now, it hurts to be in the
7 minority. But it happens because you have
8 different interests from all over the
9 electrical manufacturing industry. And that's
10 that way the process works. I've not observed
11 a voting block. In the other organizations,
12 there are directed votes on each of those. And
13 to be a member company of the Copper
14 Development Association and The Aluminum
15 Association, you have to apply for membership
16 in those organizations. I'm not aware if
17 Copperweld has done that. I certainly have not
18 received my invitation to be a member of the
19 Bimetallic Association either, but I'm assuming
20 you have to apply to become a member of that
21 organization.

22 So that's the way the process works.
23 And the way that the members that represent
24 these organizations are chosen is based on

1 expertise. I work for a wiring cable
2 manufacturer. I've worked for wiring cable
3 manufacturers for over 20 years now. I have
4 significant experience as an engineer in
5 different parts of the industry. I have
6 significant experience in teaching and applying
7 the NEC. That's why I'm on that code-making
8 panel and Code-Making Panel 13. Not for any
9 other reason other than that I understand how
10 the process works and how wiring cable is
11 manufactured and should be installed.

12 MR. GOLINVEAUX: Thank you. Randy.

13 MR. KRAUSE: Randy Krause, member of
14 council. Just a question to Mr. Graser. I
15 heard, or it's been pointed to, testing that's
16 been conducted. Do you have any test that
17 validates the use of CCS as your -- that you
18 can point to.

19 MR. MELLO: Chuck Mello with cdcmello
20 Consulting. If can I answer that for you.
21 Yes. The bimetallics task group actually has
22 done extensive testing basically setting up a
23 system setup of circuit breakers, wire --
24 devices, and wiring devices in a controlled

1 laboratory environment in an independent
2 laboratory. This was overseen by the
3 bimetallic task group 14 members of it. It was
4 also witnessed remotely. It was physical, but
5 it was witnessed remotely by both the field
6 representatives that were on the bimetallics
7 task group and, ultimately, at the next
8 meeting, by all the task group members that
9 wanted to be present in that meeting with the
10 testing going on. For your last question,
11 there were people doing the testing and all
12 that.

13 Two reports were issued. One was a
14 standard heating report and one was a thermal
15 report. The timing of those was because of the
16 due dates for public inputs that the NFPA
17 requires and beyond. The reports that were
18 done as were stated between the second draft
19 meeting and the report that had already started
20 was done at the Copperweld facilities and
21 witnessed by an NRTL. So they actually had an
22 independent witness for that.

23 Again, the reason for two reports,
24 the -- meet the balloting date. To meet that

1 due date, the first date tests were done,
2 witnessed, and issued by that NRTL on their
3 letterhead. And the completed report with all
4 the tests, 16 total tests, that were done going
5 that comparison of 14 copper to 14 copper-clad
6 aluminum and some 16 copper or equivalency.

7 And I want to be real clear here.
8 The equivalency is not looking at 14 copper and
9 14 copper-clad aluminum being equal. That is
10 not the contention ever. And it's about 14
11 copper-clad aluminum had an ampacity of ten
12 amperes, which on the stairstep of the tables
13 is exactly correct to step down one size or to
14 increase one size from what the copper is. And
15 the 14 copper was used because it was, as
16 stated, the smallest branch allowed today. It
17 is readily available and has been installed for
18 100 years and used.

19 So we all agree 14 copper in
20 installation work is okay. We needed a
21 yardstick. And 14 copper was the yardstick.
22 So we can measure performance of 14 copper-clad
23 aluminum, the new guy, against the yardstick.
24 And that's why the testing was done in the

1 second round testing that was done provided to
2 the panel at balloting time for them to
3 consider that 14 copper-clad aluminum ran
4 cooler than the 14 copper in every one of the
5 tests conditions that were done.

6 With regard to the panel's 11 points
7 that were asking to be done, I do want to note
8 that failed the ballot. That second revision
9 with that statement failed the ballot of panel
10 6. So that is not a consensus decision. In
11 our opinion, it is not consensus opinion of the
12 panel at this point. And it's a matter of
13 record that it not pass that ballot. Thank
14 you.

15 MR. GOLINVEAUX: Dawn.

16 MS. BELLIS: Dawn Michele Bellis, NFPA
17 staff. This question is to Christel or whoever
18 on this topic would like to answer. What was
19 the primary reason for CMP taking out
20 copper-clad of the second draft? Was it based
21 on the concerns of the thermal
22 insulation results, or was it something else
23 completely?

24 MS. HUNTER: Thank you. Chris Hunter

1 with Cerrowire. The primary concern was based
2 on the reports that were submitted in the
3 second draft. And those reports, multiple
4 reports, showed that overheating was a concern
5 when installed in thermal insulation. Based on
6 that, 310.3(A) was modified to remove the
7 allowance for smaller branch circuit
8 conductors. And that included both 14-gauge
9 copper-clad aluminum and 16-gauge copper, which
10 was permitted by the code-making panel during
11 the first draft. So during the first draft,
12 both 14-gauge copper-clad and 16-gauge copper
13 were added to the 310.3(A) and tables 310.16
14 and 310.17. When 310.3(A) was reverted, that
15 removed the allowance for a smaller branch
16 circuit conductors. Therefore, the ampacities
17 for 14-gauge copper-clad aluminum and 16-gauge
18 copper were removed from tables 310.16 and
19 310.17 to correlate the different parts of
20 Article 310.

21 MR. GOLINVEAUX: All right. Suzanne.

22 MS. GALLAGHER: Suzanne Gallagher,
23 NFPA staff. This question is for Christel or
24 Dave Watson. When the council formed the

1 bimetallics task group back at the end of the
2 2020 cycle, it was responding in part to some
3 specific comments on the committee which
4 focused on termination and connection points.
5 This issue of insulation seemed to be a newer
6 consideration. Why was that not part of the
7 concern expressed back in the 2020 cycle when
8 the panel initially gave its reasoning behind
9 concerns for including copper-clad aluminum?

10 MR. WATSON: Dave Watson with
11 Southwire. I was not or Southwire was not a
12 part of the bimetallic task group. So Christel
13 was and I'll let her address this.

14 MS. HUNTER: Thank you. Chris Hunter
15 with Cerrowire. I was part of Code-Making
16 Panel 6 during the 2020 cycle. I don't recall
17 why that was not included in the statement. I
18 believe it should have been, especially based
19 on the actions that we took with the
20 restriction for NM, SE, and -- I'm sorry --
21 SE, MC, and AC cable in the 2020 cycle. This
22 concern was brought to the bimetallics task
23 group. Unfortunately, it was during COVID and
24 I had to do some independent testing. But I

1 did bring this concern to the task group based
2 on testing that I did and also testing that has
3 been done previous decades by other
4 organizations showing the concerns with
5 overheating of conductors in thermal
6 insulation. The bimetallics task group
7 declined to test that particular part of it.
8 And I think in part because there was no
9 standard test so they weren't exactly sure how
10 to proceed. So the bimetallics task group did
11 do testing at another electrical manufacturer
12 facility. I believe it was the Eaton facility.
13 And it was witnessed by members of the
14 bimetallics task group. But that did not
15 include any installation in the thermal
16 insulation. And since none of that testing was
17 submitted during the first draft, the testing
18 had to be performed by other parties to be
19 submitted as part of the second draft.

20 Did that answer the question?

21 MS. GALLAGHER: Yeah. But just a
22 point of clarification. So my question was
23 really why didn't panel 6 include that as part
24 of its comments? Because I think -- my

1 understanding was the bimetallics task group
2 was responding in large measure to the comments
3 from panel 6 during the 2020 cycle. So why was
4 panel 6 not including that back in that 2020
5 cycle, the piece about insulation?

6 MS. HUNTER: Thank you. Chris Hunter.
7 I would suspect it was just an oversight or it
8 just wasn't part of the conversation. Usually
9 there's limited opportunity to develop the
10 panel statements and then modify them and
11 adjust them. So I don't think it was
12 specifically not included; it just didn't
13 become part of the conversations, like
14 terminations and other concerns.

15 MS. GALLAGHER: Suzanne Gallagher,
16 NFPA staff. Follow-up question to Mr. Graser.
17 So I want to understand some of the claims
18 you've made around membership of the panel. I
19 understand that the panel presently includes in
20 terms of manufacturers, the Copper Development
21 Association, The Vinyl Institute, The American
22 Bimetallic Association, The Aluminum
23 Association, and NEMA. My further
24 understanding is that NEMA, The Aluminum

1 Association, and Copper Development are -- at
2 least are directed votes by those associations.
3 So in terms of NFPA's process, what are your
4 specific assertions around the influence that's
5 being asserted on those members in the panel,
6 understanding that you're looking for
7 membership in other associations outside of
8 NFPA. But with regard to this panel, what are
9 the specific concerns that you have around
10 membership?

11 MR. GRASER: Peter Graser, American
12 Bimetallic Association and Copperweld
13 Bimetallics. So influencing directed votes,
14 that's really where the issue is. And it's
15 almost like vote packing. So if an
16 organization that has voting rights on the
17 panel is influenced by competitors to our --
18 then -- and we don't have a voice -- then it's
19 basically a -- we're in the hole before the
20 debate even starts.

21 And there's also problems with
22 suppliers of -- for-profit suppliers to our six
23 competitors on Code-Making Panel 6 that have
24 been suppliers and in relationships for decades

1 that, you know, we don't have influence over
2 them because our account is so low. So there's
3 a situation there. Becoming chairs of the NEC
4 panels that make these types of decisions,
5 direct these types of votes, is a generational
6 thing. Ms. Hunter herself said that she's
7 worked with NEMA for ten years. You know,
8 we've been -- we've been NEMA members for two.
9 But, you know, we're not codes and standards.
10 There's a process for getting on codes and
11 standards. And, you know, we're just not --
12 we're not just part of that.

13 So that's the issue. You've got
14 outside organizations that have influence over
15 votes on these technical panels that, you know,
16 are restraining the public from products that
17 are playing by the rules, scientifically proven
18 track record, independent through the
19 bimetallics task group that this council
20 created or the decision to create happened in
21 2019. We're essentially outgunned in the
22 process. And if you do look at the record,
23 you'll see that there's a pattern there. You
24 know, again, we're the newcomer. Our products,

1 you know, are safe, reliable. But we can't get
2 through a panel.

3 MS. GALLAGHER: Suzanne Gallagher,
4 NFPA staff, with a follow-up question. So when
5 an organization participates on an NFPA panel
6 through a directed vote, I think the general
7 understanding is that they would be
8 influenced -- that vote is influenced by the
9 members of the association they're
10 representing. Is there some sort of undue
11 influence or some particular concern about
12 conduct that you're concerned about, or is it
13 the influence of members of an association on
14 their directed vote?

15 MR. GRASER: Peter Graser, American
16 Bimetallics and Copperweld Bimetallics. The
17 concern is numbers, quite honestly. And like I
18 mentioned, coming up with a new definition of
19 what balance is in a three-conductor world. It
20 might work for, you know, wiring devices or,
21 you know, splice connectors, you know, other
22 parts of branch circuits, but it doesn't work
23 for a newcomer in the wire industry. And so my
24 appeal is partly to recognize that. To

1 recognize that, you know, things have changed.
2 There's a new world. This council created a
3 technical committee, a panel, a task group, if
4 you will, to understand the differences between
5 the standard 14 copper at 15 amps, the smallest
6 circuit, and the suggested smallest circuit, 14
7 copper-clad aluminum at 10. It doesn't seem
8 like it or might not, but in the electrical
9 world, those are apples to apples. You would
10 run a 15-amp lighting circuit with copper 14
11 just like you would 14 CCA at 10 amps. So it's
12 apples to apples. That's how the whole
13 parameter was set up.

14 So what you're seeing is a willful
15 campaign to keep out a viable product from --
16 for example, an LED lighting circuit, that's
17 what you're seeing. This is a corrupt --
18 corrupt process here.

19 Thank you.

20 MS. GALLAGHER: Follow-up question.
21 What is corrupt? What is the process that was
22 corrupt?

23 MR. GRASER: Let me rephrase that. It
24 is an unfair process that employers position

1 their employees on organizations that have
2 voting rights or influence on panel votes on
3 balloting. That's what I'm talking about here.
4 There's a -- there are two problems with this
5 cycle. That's one of them. And then the other
6 one, of course, is the sham testing that took
7 place in the second revision debate that
8 influenced panel members. Information was
9 withheld at a critical time in the process to
10 influence the vote. And that's what this
11 appeal is all about. It's fabricated. All
12 right. Thank you.

13 MR. GOLINVEAUX: Dawn.

14 MS. BELLIS: Just to follow up a bit
15 on what you just testified. I'd like the panel
16 members or this side of the hearing to give me
17 a feeling about or give me your opinion on what
18 exactly were the concerns during the second
19 draft. Again, was it a fire safety concern?
20 What was the concern that caused the panel to
21 reverse action of the first draft?

22 MS. HUNTER: Chris Hunter, Cerrowire.
23 Yeah. Fire safety is the biggest concern
24 there. Any time you have overheating

1 conductors, especially hidden in concealed
2 spaces, the concern is that the overheating
3 will become so severe that it will degrade the
4 insulation, the jacketing materials, and
5 potentially create a fire and/or shock hazard.
6 A fire hazard if it ignites combustible
7 materials. A shock hazard if it degrades the
8 insulation and the sheathing material on the
9 cable itself and someone comes into contact
10 with it, perhaps like someone working in that
11 space.

12 MS. BELLIS: Can I follow up?

13 MR. GOLINVEAUX: Yes, please.

14 MS. BELLIS: Dawn Michele Bellis, NFPA
15 staff. Follow-up question. So based on that
16 fire safety concern, was there concern with the
17 panel that the 14-gauge copper, and
18 understanding they're not apples to apples, was
19 there concern with its temperature, again, for
20 the same reasons that fire safety -- there's
21 fire safety concerns within the insulation.

22 MS. HUNTER: Chris Hunter, Cerrowire.
23 I can't speak for the entire panel. We did not
24 have that particular subject in front of us

1 from either a PI or PC. From my perspective, I
2 would like to see 14-gauge copper and 12-gauge
3 copper-clad aluminum tested under the same
4 conditions. I've been researching this. And
5 I've found references, for example, in Fire &
6 Arson Journal and previous studies that were
7 done from governmental agencies that suggest
8 that we should investigate small conductors in
9 thermal insulation beyond just the new
10 conductors that are being proposed.

11 MS. BELLIS: A follow-up. Dawn
12 Michele Bellis. So to clarify, looking at what
13 has been historically in the NEC and has been
14 adopted, looking at those as well to confirm or
15 dispel the facts of their safety efficacy.

16 MS. HUNTER: Chris Hunter with
17 Cerrowire. Yes, exactly. Just to make sure
18 that the changes in the building codes and the
19 thermal insulation requirements, the changes in
20 loading on branch circuits and within homes and
21 other locations where these wiring methods are
22 permitted, make sure that what we have allowed
23 in the past is still suitable for today and
24 doesn't pose any risk.

1 MR. GOLINVEAUX: Okay. Suzanne.

2 MS. GALLAGHER: Suzanne Gallagher,
3 NFPA staff. Christel, you mentioned that the
4 panel has proposed inclusion of 16-gauge
5 copper. What testing did the panel use to
6 substantiate that inclusion?

7 MS. HUNTER: Chris Hunter, Cerrowire.
8 No testing was deemed necessary. 16-gauge
9 copper has been included in the NEC since the
10 very first NEC. So there is significant field
11 experience with 16-gauge copper in other
12 applications. Flexible cords. Fixture wires.
13 Controlled circuits. So we're very well aware
14 of terminations and installations with the
15 exception of thermal insulation which should be
16 investigated.

17 MS. GALLAGHER: Follow-up question.
18 So you mentioned earlier that copper-clad
19 aluminum is also used in other areas of the
20 code. So what makes this situation different
21 in terms of that pattern you described that no
22 testing was deemed necessary for copper?

23 MS. HUNTER: Chris Hunter, Cerrowire.
24 14-gauge copper-clad aluminum has never been

1 allowed in the NEC at any point ever. Until --
2 my apologies -- until the 2020 code when it was
3 permitted for control conducts and MC cables
4 and tray cable.

5 MS. GALLAGHER: A follow-up question.
6 So to clarify, is it allowed or it isn't
7 allowed? I'm sorry.

8 MS. HUNTER: It was put into the 2020
9 NEC. I don't know if it's ever actually been
10 manufactured or produced or installed. So it
11 could be -- it could be approved by UL as part
12 a listed MC cable or tray cable as a controlled
13 conductor, not as a branch circuit conductor.

14 MS. GALLAGHER: Would that be the same
15 for copper? The copper -- the 16-gauge copper,
16 it was also approved as a branch circuit?

17 MS. HUNTER: Chris Hunter, Cerrowire.
18 16-gauge copper has been approved for those
19 uses since the 1800s.

20 MR. GOLINVEAUX: James Golinveaux,
21 member of council. Just a question on the
22 balance. And you've used a couple of terms and
23 then changed them from corrupt to restriction
24 of trade. Help me understand how it got

1 through the first draft if the committee, in
2 your opinion, was so stacked or so much against
3 copper-clad, how did it get approval in the
4 first draft before new information came in with
5 the second draft if the balance was so off in
6 your opinion?

7 MR. GRASER: This is Peter Graser.
8 American Bimetallic Association and Copperweld
9 Bimetallics. The only two votes against the
10 PIs in the first draft came the Copper
11 Development Association and The Aluminum
12 Association. The vote was 12 to 2. The vote
13 in the public input stage is a vote when
14 essentially the data from the bimetallics task
15 group was reviewed by the panel. And as we had
16 mentioned, that information was solid. It was
17 comparative in nature. It was scientifically
18 based. It was a third-party lab. There were
19 13 members of bimetallics task group that
20 oversaw that test. There was a member from UL.
21 There was a member from ETL. Members from the
22 CEA and The Aluminum Association. Mr. Mello
23 was a member. I was a member. Branch circuit
24 experts like Tom Koninovich(phonetic), he was

1 a member. And so these were credible people
2 and this was a credible study. So in the first
3 revision, the chips are not down, right.
4 You're reviewing the data and you're coming up
5 with first draft text. When the chips are
6 down, that's when the knives come out. That's
7 when you realize -- that's when they realized
8 that something has to be done. To come up with
9 a series of four tests basically in lock step
10 that showed the same thing and withheld
11 information on copper right at the most
12 critical time during the debate in the second
13 revision withholding information on copper that
14 showed that it overheated 20 percent more than
15 the test of, you know, 14 CCA for that same
16 application. Again, lighting circuits, right.
17 Big, big market.

18 So they have the test rigs built. Why
19 didn't they just test 14 and report it? They
20 didn't because they wanted to confuse the
21 panel. That's exactly why they didn't. And
22 the vote ended up 7 to 7, right. So, I mean,
23 I've -- I'm probably using terms that you might
24 not hear all the time. But in the second

1 revision, they circled the wagons, they got the
2 influence brokered, and that's how they did it.

3 Does that answer your question, sir?

4 MR. GOLINVEAUX: Good enough for me.

5 Thank you.

6 Are there any further questions from
7 council? Seeing none, I would like to offer
8 you both five minutes to summarize your appeal
9 and your arguments. So please proceed.

10 MR. GRASER: Again, Peter Graser,
11 president of the ABA and VP of Copperweld. A
12 validated alternative has been explicitly
13 denied inclusion into the NEC by commercial
14 interests that oppose it. The violators took
15 two paths. One, commercial competitors
16 influence balloting by imbedding their
17 employees within multiple associations that
18 have voting rights on panel 6. They persuaded
19 those associations to direct their votes to
20 their positions. Most members of the NEC
21 committees at these organizations are
22 disinterested in wiring cable. They could care
23 less. So they vote along with the flow or
24 however the powers are being brokered. We've

1 all seen this type of thing. Most times these
2 organizations follow the voices of those
3 members with the loudest voices, the longest
4 tenure, or of a resolute group of members
5 promoting their position.

6 The following is an example -- and
7 some of this is old information -- the
8 following is an example of the unfairness at
9 organizations with voting rights on panel 6.
10 NEMA. Our competitors have five seats and a
11 vice chair on the NEMA codes committee where
12 directed votes are decided. We have known. No
13 opposing voice. IEEE. Our competitors have a
14 recent past chair of the codes committee --
15 again, where directed votes happen -- who is
16 still very active in the process there. We
17 have no one. Copper Development Association.
18 Our competitors have three seats on their codes
19 committee. We have none. The Aluminum
20 Association. Our competitors have four seats
21 on their committee. None. UL LLC. This
22 dynamic is a bit different, but the outcome is
23 the same. UL LLC is a for-profit business and
24 is a major long-term vendor of listing and

1 laboratory services to our six competitors on
2 panel 6. Millions of dollars per year in trade
3 between them. Strong relationships over
4 decades. To UL, our pitiful account is the
5 lesser --

6 All of these organizations have votes
7 on panel 6. All have been influenced. When a
8 vote really matters and the chips are down, the
9 bimetallics industry is outnumbered 5 to 1
10 before the debate even starts. And, of course,
11 the clearest violation, number 2, the sham test
12 reports in the second revision debate by a
13 coordinated group of competitors that clearly
14 violated the guide for conduct of participants.
15 They withheld vital information from the
16 technical panel at the most critical time in
17 the process. They did it for their employer's
18 market share and to keep 14 CC out. These two
19 factors does not address or continue to tip the
20 scale from the public interest. It might be
21 balanced, but it's unfair.

22 By design it should be a rare
23 occurrence that the council grants appeal that
24 overturns the work of a technical panel. Only

1 in the defense of the integrity of the process
2 itself should it be one. But this is one of
3 those rare cases. Granting this appeal will
4 send a clear message to all panel participants
5 that panels cannot be duped and the process
6 cannot be gained. Thank you, Council.

7 MR. GOLINVEAUX: Thank you. And who
8 wants to give the final speech?

9 MR. KEELER: I'll have two quick
10 comments as well. This is Tim Keeler with
11 Mayer Brown law firm on behalf of Southwire.
12 As you heard today, the ABA is just making wild
13 accusations. Allegations and violations of the
14 NFPA regulations. Using inflammatory language,
15 illicit, sham, duped, and asked that valid test
16 is ignored. Testing that addresses the
17 relevant use of 14-gauge copper-clad aluminum
18 in insulation is not included. There's no
19 allegation of unexplained action by the panel
20 unlike the last hearing. The panel's
21 recommendations and underlying reasoning is
22 clear. The record underlying it is
23 substantial. And under the guidance of panel
24 8, it determined its views is clear and well

1 reasoned. It calls for testing of both
2 14-gauge copper-clad aluminum, 16-gauge copper,
3 and smaller gauges as well. We think that this
4 record that should easily be upheld.

5 MS. HUNTER: May I? Thank you. Chris
6 Hunter with Cerrowire. Listening to some of
7 the comments today, it sounds like being
8 involved and participating in the codes and the
9 standards process is somehow a bad thing. And
10 I don't think that it is. Many of us serve on
11 many committees and we bring that knowledge to
12 the different organizations and the different
13 codes and standards development processes.

14 There is no reason to think in this
15 case that the fact that we have representatives
16 from the Copper Development Association, The
17 Aluminum Association, and the Bimetallic
18 Association, one from each association on the
19 panel that is most concerned with these
20 conductors is somehow unfair. And the other
21 comment that I would like to address is that
22 somehow there's an assertion that the chips
23 were down. But if you look at the results of
24 the first draft, 16-gauge copper was approved

1 by Code-Making Panel 6 along with 14-gauge
2 copper-clad aluminum. There was comparity.
3 And when we got to the second draft, the
4 concerns for overheating were applied to both
5 equally. Thank you.

6 MR. GOLINVEAUX: Okay. Thank you. As
7 we conclude the hearing, let me inform you as
8 to what happens next. The council will
9 deliberate and reach its decision in executive
10 session. Once the decision is made, that
11 decision, including the background or any other
12 information the council believes relevant, will
13 be prepared by NFPA staff and published by the
14 secretary of the Standards Council on the
15 Standards Council website www.NFPA.org/SC2020
16 and in accordance with the regulations
17 governing the development of NFPA standards.

18 Additionally, the decision will be
19 sent to appellants and the chair of the
20 responsible committees directly. The official
21 opinion or decision of the council is that as
22 published by the secretary and no other
23 communication shall be considered the council's
24 decision or position. Any questions regarding

1 the decision should be addressed with the
2 secretary.

3 On behalf of the NFPA Standards
4 Council, I'd like to thank all of those who
5 participated in today's appeal hearing. Your
6 involvement, as well as the stakeholders', is
7 important to the NFPA standards development
8 process. This hearing is now ended. Thank
9 you.

10 HEARING ON 22-8-5-AA-1

11 MR. GOLINVEAUX: We are moving on to
12 the related agenda item number 22-8-5-AA-1 in
13 regards to NFPA 70, table 310.16, CAM 70-128
14 and with the related -- see the related appeal
15 of 22-8-5-1.

16 MR. GRASER: We were understanding
17 that that was wrapped into this debate here
18 as --

19 MR. GOLINVEAUX: I'm sorry. Say that
20 one more time.

21 MR. MELLO: Mr. Chair, is this item
22 already discussed as part of the previous
23 appeal, or is this for appeal of copper-clad
24 aluminum today? Apparently it shows two line

1 items because one of those items failed ballot
2 in the annual meeting one past, the annual
3 meeting, and it failed ballot committee. So it
4 looks we have two lines, but it's one appeal.

5 MR. GOLINVEAUX: Bear with us one
6 second. So with this on the agenda, we're
7 looking for a confirmation from the appellant
8 that 22-8-5-AA-1 would be a similar decision by
9 council to 22-8-5-Y and you would be willing to
10 accept that?

11 MR. GRASER: Peter Graser, ABA,
12 Copperweld Bimetallics. Yes. I'll make your
13 job easy.

14 MR. GOLINVEAUX: Any dissension
15 from --

16 MR. WATSON: That's acceptable to
17 Southwire.

18 MS. HUNTER: And Cerrowire.

19 MR. GOLINVEAUX: Okay. Thank you.
20 That was our fastest one. Moving on.

21 HEARING ON 22-8-5-J

22 MS. GOLINVEAUX: This hearing is
23 related to the agenda item number 22-8-5-J in
24 regards to NFPA 70, Section 250.62, CAM 70-61.

1 At this point, I will ask for recusals of
2 council.

3 MR. REISWIG: Rodger Reiswig, member
4 of council. For the record, I am recusing
5 myself on this agenda item, and I will not
6 participate as a member of Standards Council in
7 the hearing, deliberations, or voting on this
8 matter.

9 MR. KOVACIK: Thank you, Mr. Chair.
10 John Kovacik, member of council. For the
11 record, I am recusing myself on this agenda
12 item, and I will not participate as a member of
13 the Standards Council in the hearing,
14 deliberations, or voting on this matter.

15 MR. GOLINVEAUX: Thank you, gentlemen.
16 So I'll go through the
17 self-introductions here. Mr. Graser.

18 MR. GRASER: Yes. Peter Graser, ABA
19 and VP of Copperweld.

20 MR. MELLO: Chuck Mello, cdcmello
21 Consulting. I am sitting here to assist with
22 questions only.

23 MR. GOLINVEAUX: Okay. And I don't
24 see anyone sitting to oppose the appeal. So,

1 Mr. Graser, please begin by introducing
2 yourself and proceed with your opening
3 statement in support of your appeal.

4 MR. GRASER: Peter Graser, president
5 of ABA and vice president of Copperweld.
6 Copperweld is a business that, like the NFPA,
7 has carried on its mission for over a century.
8 A lot can be learned in 100 years. For
9 example, in a relatively short span of
10 66 years, humanity took a flying machine in
11 Kitty Hawk, North Carolina that was less
12 sophisticated than the common powered bicycle
13 of today and from that foundational experience
14 created machines that could not only fly people
15 across oceans, but could also land them on the
16 moon in only 66 years. No doubt standard
17 setting behind the scenes played a -- in that
18 pace. At the turn of the last century, when
19 the men and women of the early days of the NFPA
20 were laying down the bedrock experience on the
21 rules of conduct, regulations and processes was
22 necessary to build reliable standards, the
23 founders of Copperweld began to build their
24 knowledge of electrical grounding and the

1 nature of fault current. Our company invented
2 the copper-clad ground rod in 1915, which was
3 then a clad product rolled in a mill from a
4 poured bimetallic billet. The center of the
5 billet's mold held molten steel and the copper
6 was poured around it only after the metal had
7 hardened. So we started making ground wire
8 from copper-clad steel, or CCS as it's known, a
9 few years later. We drew wire from rod, rolls
10 rolled in the very same bimetallic billet.
11 Since then we shipped literally millions of
12 tons of CCS wire and cables to electrical
13 utilities around the world. All around to the
14 very utility systems that bring AC power to
15 your home and to your business. Of course,
16 technology evolves and our process and
17 understanding of fault current improved with
18 time. But as our nation's space program can
19 attest, a lot can change in less than a
20 century. 66 years.

21 So the fact that after 107 years
22 Copperweld still makes CCS ground wire and
23 cable for grounding is a testament to how well
24 the product works within AC power

1 installations, its equipment and the connectors
2 that terminate it. The grounding of buildings
3 is not as different as utilities as some would
4 lead you to believe. So I apologize for the
5 history lesson. You probably needed the break
6 and world history to help you out. But it
7 should be relevant to this discussion.

8 At this point, allow me to state a few
9 facts concerning this appeal. CCS wiring cable
10 for electrical grounding has been standardized
11 for many decades by foundational standards such
12 as ASTM and IEEE. It's widely used in
13 electrical utilities worldwide. CCS is
14 referenced by name in the NEC Article 800 for
15 use as a grounding electrical conductor, the
16 grounders we are here for today. Here they
17 ground electrical installations for
18 telecommunications equipment. CCS is not
19 referenced at all by Article 250 in the NEC,
20 which is under the purview of panel 5. Article
21 250 is a general grounding article in the main
22 body of the code. Most AHJs that regulate
23 grounding are used in Article 250. So CCS is
24 effectively kept out of the market.

1 Proposals to add CCS to Article 250
2 were made in cycles 2014 and 2023. Both times
3 the proposals failed first revision. And the
4 '23 failed to even reach the ballot in the
5 first revision. In 2014, the panel decided
6 that lack of technical substantiation as the
7 reason for rejecting the proposals. The fact
8 that the CCS conductors have been grounding
9 electrical utilities for decades was given no
10 credence. In '23, despite submitting an
11 overabundance of very relevant technical
12 reports and studies drawn from a century of
13 experience in the field, insufficient or
14 inadequate technical substantiation was given
15 for a reason to reject all -- and this is
16 important -- 24 proposals. Grounding
17 conductors removed by theft pose a serious
18 threat of shock and electrocution to the
19 public, be that installed from a utility pole
20 or from a shopping plaza, under the purview of
21 the panel 5.

22 The proposals highlighted this fact.
23 CCS 40 percent is a very effective depth
24 component. It -- depth by its low scrap value

1 and high shear strength. If they let you
2 undercut it before their arms break, there's no
3 value in that. Our utility customers state
4 this message over and over again. And it gains
5 application the higher the copper prices get.
6 CCS 40 percent is the highest grade of CCS
7 manufactured by Copperweld. And CCS 40 percent
8 was the only grade submitted in this cycle for
9 all of these applications.

10 Finally, copper is extended at 40
11 percent CCS is the lowest cost alternative for
12 grounding in times of high price copper like
13 today. So what can we conclude from these
14 facts? For one, panel 5 has dismissed a
15 century of history as well as the technical
16 merits of copper-clad steel. Two, many of the
17 panel's committee positions point to lack of
18 understanding of materials of the nature of
19 fault current magnitudes and durations
20 pertinent to grounding electrical conductors.

21 In the first revision of this cycle,
22 the recommendations and the task group assigned
23 to debate the proposals quashed any broader
24 panel debate by design. The task group's

1 opinion leaders represent organizations whose
2 positions opposed bimetals for commercial
3 reasons. That's suspicious.

4 For a technically proven material like
5 copper-clad steel to be effectively killed at
6 the public input stage in two separate cycles
7 six years apart, which would have been so
8 widely used by the electrical utility industry,
9 this points to a -- I won't say it --
10 unfairness. On paper the panel might appear
11 balanced, but its actions towards 40 percent
12 CCS copper-clad steel demonstrate otherwise.

13 I would like the council to consider a
14 voting membership for the America Bimetallic
15 Association on panel 5. In addition to acting
16 to accept the text that's written in CAM 70-61.
17 This will be the first small step towards
18 correlating CCS for grounding of all NEC
19 articles. Remember, it appears already in the
20 NEC, Article 800. These actions will both
21 broaden the debate on panel 5 essentially
22 testing it's balance or fairness as well as
23 give AHJs, the people we really are serving, a
24 tool to defend their municipalities against

1 theft beginning next year.

2 It's pathetic when a copper scrap
3 within a grounding electrical conductor is
4 worth more to a thief than a life lost to
5 electrocution due to pilfered ground wires.
6 It's especially sad when the proven material
7 with a long track record of excellence in
8 performance against theft is excluded from an
9 entire market by the recommendations of the
10 powerful few and can't even make a ballot in
11 the first revision. Something needs to change.

12 With such obvious benefits, panel 5
13 should want CCS in our Article 250 in
14 buildings. How could it not work? It's worked
15 outside and underground in buried soil for over
16 a century. So I ask that you grant this appeal
17 and that you take a small step today to accept
18 it so that the AHJs may take a giant leap next
19 year towards protecting the public from the
20 hands of thieves. As our nation's history of
21 men in flight has proven, the first small
22 courageous step can make everything possible.

23 MR. GOLINVEAUX: Thank you very much.
24 Not having anyone opposing the appeal, are

1 there any questions from council?

2 MS. STASHAK: Cathy Stashak, member of
3 council. So by voting membership, you're
4 specifically asking to be able to have a seat
5 on CMP 5 and not a directed vote? Or can you
6 clarify what you're asking?

7 MR. GRASER: Peter Graser, American
8 Bimetallic and Copperweld. Yes, ma'am. We're
9 asking for a vote membership on panel 5. That
10 would be a voting member and an alternate. And
11 we've already applied for that -- that seat.

12 MR. GOLINVEAUX: I'm going to ask a
13 quick follow-up to that. You've applied. Have
14 you received an answer? I probably have the
15 record, but just to --

16 MS. GRASER: No, we have not. No, we
17 have not. Peter Graser, American Bimetallics.

18 MR. GOLINVEAUX: Okay. Thank you.

19 MR. QUITER: Mr. Chair, for the
20 record, it is on our agenda for later in this
21 meeting.

22 MR. GOLINVEAUX: Okay. Thank you. I
23 knew there'd be a record. Ken, you had your
24 hand up.

1 MR. BUSH: Thank you, Mr. Chair.
2 Kenneth Bush, member of council. I think,
3 Mr. Graser, you made several indications that
4 the proposal failed to make ballot. Was that
5 because of the fact that it didn't receive an
6 affirmative vote in the meeting by the members
7 of the committee, or was it a failure to the
8 system?

9 MR. GRASER: Peter Graser of American
10 Bimetallic and Copperweld. It was the first.
11 It failed to make ballot. The task group
12 recommendation was that it be rejected. All --
13 I believe there were 17 public inputs followed
14 by, you know, a set of public comments. And
15 but 17 public inputs and in every -- in every
16 case, the recommendation by the task group was
17 to reject it. And the committee followed.
18 There wasn't a very robust debate. That upset
19 me and disturbed me, that a material with these
20 qualifications couldn't -- couldn't receive a
21 more substantial debate.

22 MR. BUSH: Thank you.

23 MR. CROWLEY: Michael Crowley, member
24 of council. Did you follow up for the second

1 revision with the public comment on your first
2 submittal?

3 MR. GRASER: Peter Graser, American
4 Bimetallics. Yes, we did. There were, let's
5 see, I guess, eight. I believe there were
6 eight public comments. Twenty-five proposals
7 in total in this cycle.

8 MR. GOLINVEAUX: Okay. Thank you.
9 Rich.

10 MR. GALLAGHER: Richard Gallagher,
11 member of council. The question is once again
12 there's a chart provided with this appeal
13 showing relationships between industry
14 organizations and members of the panel. And I
15 just wanted to clarify from you, is it a case
16 where you feel there is some kind of an
17 organized effort that is at work here, or is it
18 more a case where you feel that this request to
19 have membership on the CMP would actually be
20 the solution that you're looking for rather
21 than --

22 MR. GRASER: Peter Graser, American
23 Bimetallic Association and Copperweld. It's
24 more of a lack of representation. It's -- the

1 way the system works now is not conducive to
2 the introduction of a alternative metal like
3 copper-clad steel. And the organizations that
4 have votes on panel 5 that control the fate of
5 copper-clad steel for grounding have members
6 that are coalesced together that sort of form a
7 resolute group. And they convince people on
8 those code-making NEC, you know, committees to
9 vote a certain way. They persuade them to
10 their position. I call it power brokering. I
11 mean, that's a word that I use. But they are
12 influenced and, you know, that's how this
13 situation works. So, like I said, they've
14 made -- probably are balanced from the
15 definition that you have now. But in the way
16 it's working for bimetals, it doesn't seem so.

17 MR. GOLINVEAUX: David.

18 MR. KLEIN: David Klein, member of
19 council. You mentioned there were 17 PIs and
20 the task group recommended against all 17.
21 Could you clarify, did you submit all 17, or
22 were they from various submitters?

23 MR. GRASER: Peter Graser, American
24 Bimetallic and Copperweld. I submitted 17.

1 They were my PIs as a member of the American
2 Bimetallic Association and as Copperweld.

3 MR. GOLINVEAUX: Thank you. Are there
4 any -- Jim.

5 MR. QUITER: Jim Quiter, member of
6 council. In our documents that I presume you
7 got, there is a sort of summary of what
8 happened at the committee level. And one thing
9 it says is that the task group contains members
10 of several groups. It also included a former
11 member of CPM 5 who's currently working as a
12 consultant for the appellant, which I gather is
13 you. And was that you, Mr. Mello, who was part
14 of that task group?

15 MR. MELLO: Chuck Mello with cdc_mello
16 Consulting. Yes, I was a member code panel 5
17 for 21 years. Upon my retirement from UL, I
18 was off the panel because of change of
19 employment. But I was allowed to be on the
20 task group during the 2020 code because of my
21 past experience. Again, if we didn't be made
22 into a task group, then the collusion of the
23 task group majority was to reject the public
24 inputs and public comments with the panel --

1 MR. GOLINVEAUX: A follow-up.

2 MR. QUITER: Since you were there, did
3 you feel it got proper discussion before the
4 vote went the negative direction, or did you
5 feel it was slipped over?

6 MR. MELLO: I believe there was robust
7 debate. I believe that there were points that
8 were made about that the task group made
9 conclusions that were really weren't
10 substantiated in the task group. As for
11 certain aspects that they included in the panel
12 statement, I objected to those. And in my --
13 against those aspects there. So I do believe
14 there's some preconceived notion with the task
15 group for some of the members.

16 MR. FOISEL: Jeff Foisel, member of
17 council. The same articles that you just
18 referred to also said that the CMP was looking
19 for no technical substantiation on the use for
20 grounding this application proposed on the
21 telecommunication side. What technical
22 information was provided?

23 MR. MELLO: So I'm clear on the
24 question, sir, this was the technical -- I'm

1 Chuck Mello with cdcmello Consulting -- the
2 technical information being provided in the
3 public input or provided from the
4 communication? I'm unclear.

5 MR. FOISEL: Yeah. This was looking
6 at the task group's input. And the CMP's
7 statement was that it reaffirms that there was
8 no technical substantiation that was provided
9 in the expected conditions of use. The copper
10 layer does not laminate the steel course
11 fitness and strengths sufficient to prevent
12 failure.

13 MR. MELLO: There was test reports
14 provided that were done by an independent
15 testing laboratory out of a region of Canada
16 showing the viability of the copper-clad steel
17 compared against copper. There was information
18 provided from the ASTM standard for the
19 manufacturing of copper-clad steel and it
20 specifically addresses lamination. There was a
21 test required. Actually, samples of the
22 material were provided to some of the task
23 group. Again, one of the unfortunate factors
24 of COVID was we could not meet in person so

1 were doing this all virtually, trying to send a
2 sample to somebody and then have them handle
3 it. And in all efforts -- we did make an
4 effort to do that. There are one or two
5 individuals who were concluding their opinion
6 on public samples as opposed to being able to
7 present it to the panel.

8 MR. GRASER: I would like to add
9 that --

10 MR. GOLINVEAUX: State your name
11 again, please.

12 MR. GRASER: Peter Graser, American
13 Bimetallic Association and Copperweld
14 Bimetallics. I'm trying to remember exactly
15 how many tests that we submitted with these PIs
16 and PCs. This was definitely on record. But
17 we submitted corrosion tests. If they had a
18 question about corrosion, we gave them a
19 50-year study of copper-clad steel underground.
20 GECs don't go underground. They connect to a
21 ground rod, you know, 18 inches off the ground.
22 So 40 percent copper-clad steel this 50-year
23 study was 40 percent copper-clad steel under
24 conduction purpose under a substation. And we

1 presented that information.

2 And we've submitted data on high
3 frequency -- as Mr. Mello suggested from a lab
4 in British Columbia that basically mimics
5 lightning, the power that a lightning strike
6 would have. And we tested again comparatively
7 the same size copper against copper-clad steel
8 and presented that.

9 And, by the way, copper at 25,000 amps
10 blows up. And copper-clad steel, although it
11 gets red, it stays in place. So we submitted
12 that. We submitted low conductivity reports.
13 And we also submitted some testing to UL
14 standards.

15 Mr. Mello, can you recall any of
16 those?

17 MR. MELLO: No. The testing of the UL
18 standard was called out. And one of the
19 comments of the panel was that the testing
20 current that we used did not correct for
21 copper, trying to make equal with copper.
22 Again, we're trying to provide alternative as a
23 bimetal conductor, not as a fault current
24 carrying wire.

1 MR. GRASER: Peter Graser, Copperweld,
2 ABA. I have made a comment that, you know,
3 there was a lack of understanding or curious
4 responses as to the understanding of fault
5 current for a GEC and that, you know, the panel
6 members didn't understand the magnitude or the
7 duration of fault currents that affect GECs.
8 And these are all high-frequency currents.

9 We also submitted data for
10 low-frequency currents, you know, 60 hertz
11 stuff, that, you know, might have a little leak
12 or whatever. But those are not really wires
13 behind the GEC. You have a GEC to ground your
14 system, to give it earth base. So there was a
15 curious misunderstanding. And all these people
16 are brilliant. So when curious
17 misunderstandings happen, I start getting
18 suspicious.

19 Mr. Mello, anything else?

20 MR. GOLINVEAUX: Okay. Thank you for
21 covering that question. Are there any -- yes,
22 Suzanne.

23 MS. GALLAGHER: Suzanne Gallagher,
24 NFPA staff. Mr. Graser, in your opening

1 comments, you mentioned that panel 5 has
2 addressed this particular topic in Article 250
3 multiple times. I don't see a record of PIs on
4 this in Article 250, copper-clad steel, in the
5 2020 cycle. Can you please explain what you
6 meant by that.

7 MR. GRASER: Peter Graser, American
8 Bimetallic and Copperweld. If I misspoke, I
9 apologize. It's the 2014 cycle. So the 2014
10 cycle and the 2023 cycle, this cycle.
11 Mr. Mello was on the Code-Making Panel 5. Let
12 him --

13 MR. MELLO: Yes. Chuck Mello,
14 cdcmello Consulting. Yes. In the 2014 cycle,
15 there were public inputs submitted to panel 5
16 for copper-clad steel. Panel 5 rejected those
17 with a substantiation -- insufficient
18 substantiation asking for additional data. And
19 that cycle was not provided with any kind of
20 comment stage on that point. And then the new
21 PIs came in 2020 from Mr. Graser which
22 different individuals submitted there and with
23 all the public comments in the 2014 cycle.

24 MR. GALLAGHER: Suzanne Gallagher,

1 NFPA staff. So I want to go back to the
2 membership issue that you were raising. So you
3 mentioned that there are many members on this
4 panel that have influential voting in multiple
5 organizations. It's not clear to me from your
6 written submission what's the particular
7 specific concern around the particular panel
8 members at NFPA.

9 MR. GRASER: Okay. Peter Graser,
10 Copperweld and American Bimetallic Association.
11 So this is sort of the chart that shows panel
12 5, panel 5 members, and how they interconnect.
13 And I believe there's certain organizations --

14 MS. GALLAGHER: Can I just -- this is
15 Suzanne Gallagher. Can you just explain
16 influence. It looks like there may be members
17 with those associations. But can you explain
18 what you mean by influence.

19 MR. GRASER: So the people on
20 Code-Making Panel 5 that are members of these
21 organizations are known as experts in
22 grounding, right. So they're already coming
23 into these organizations as the knowledge,
24 right, as the people to listen to. Add tenure

1 and, you know, numbers on top of that and you
2 get a situation where you can -- you can grab
3 the disinterest vote just because they don't
4 care about wiring cable. They'll just go along
5 to, you know, be your friend or get a favor
6 down the road.

7 So that's what I mean by influence.
8 These members on Code-Making Panel 5 that
9 belong to these organizations go into those
10 organizations already the experts. And when an
11 expert walks into the room, you know, the
12 tendency of human beings is to follow the
13 direction of that expert, especially if they're
14 well known. That's what I mean by "influence."
15 Again, by the rules, it looks like that's
16 balance. But when it comes to bimetals, a
17 newcomer to Article 250, it's not working out.
18 It's hard to get to the cycle.

19 MS. GALLAGHER: I do have a follow-up
20 question. Suzanne Gallagher, NFPA staff. Are
21 there -- are you suggesting there are members
22 of panel 5 who are not interested in the
23 subject matter or don't have expertise to be on
24 panel 5?

1 MR. GRASER: Peter Graser, American
2 Bimetallic and Copperweld. I would say
3 disinterested. There are some -- I would say
4 the opinionators are disinterested. Their
5 motivation, I think, I've made clear. There
6 are also some that, on panel 5, that might not
7 understand the exact nature of the fault
8 current that goes through a GEC, right. They
9 might have expertise somewhere else, right.
10 They might be contractors that, you know --
11 I'll give you an example. I mean, I deal with
12 contractors all the time. That's our primary
13 base. If you go and ask ten contractors where
14 60 hertz current, 60 hertz that controls all
15 this power, where it runs, I guarantee you that
16 eight of the ten will say, oh, it runs on the
17 skin. No. 60 hertz power runs through the
18 core of a conductor. So there's a lot of
19 misunderstanding out there about the nature of
20 electricity, especially the nature of fault
21 currents. And so it's not inconceivable that
22 there are people that sit on panel 5 right now
23 that don't understand the basics of what we're
24 talking about. So they cede to the

1 opinionators.

2 MR. GOLINVEAUX: Cathy.

3 Q. Cathy Stashak, member of council. Do
4 you have any examples of CMP members accepting
5 favors for their votes?

6 MR. GRASER: Peter Graser, American
7 Bimetallic and Copperweld Bimetallics. No, I
8 do not.

9 MR. GOLINVEAUX: Okay. Are there any
10 further questions from council? Not seeing
11 any, you have five minutes to summarize your
12 support of your appeal.

13 MR. GRASER: Thank you. Peter Graser,
14 president of ABA and vice president of
15 Copperweld. As I've made clear today in my two
16 appeals, one for copper-clad aluminum and one
17 for copper-clad steel, it's a very tough road
18 to home for bimetals in the NEC process. Two
19 different grades of bimetal and applications
20 that cannot make it through this process
21 despite both having been proven safe and
22 reliable by their performance throughout
23 history as well as from legitimate scientific
24 inquiry. How is it possible? Where is the

1 problem? In the case of 14 copper-clad
2 aluminum, it's clear that the problems in this
3 cycle stem from violations of the guide for
4 conduct of participants in addition to a
5 continuing commercial imbalance on panel 6.

6 But in the case of the copper-clad
7 steel for grounding, the problem is singular.
8 A panel imbalance or unfairness, let's define
9 the word however we'd like, despite the
10 appearance of none, there is no valid technical
11 argument that 40 percent copper-clad steel
12 can't be used as a grounding electric conductor
13 inside of buildings. After all, it already
14 appears in the NEC as one. It's been used as
15 such by utilities since the early days of last
16 century. Just not in Article 250 where it
17 really counts for the public.

18 What is lacking is a powerful voice on
19 the panel to make sure that the message gets
20 heard. And as I explained in my previous
21 appeal, competitors to bimetals have embedded
22 their employees over multiple associations with
23 voting rights on technical panels. This
24 amplifies their influence over balloting. They

1 convince disinterested members of their
2 associations in NEC committees to direct votes
3 against bimetal proposals or, by the way, any
4 others that threaten them. They also persuade
5 commercial allies to their positions.

6 Suppliers, for example, that might have voting
7 rights on technical panels.

8 In my written appeal for this case,
9 I've also included this chart of how power is
10 brokered. The actors are primarily the same as
11 they are in the 14 CCA case. Copper and
12 aluminum manufacturers that compete against
13 bimetals do not want this product to crack into
14 the building and construction market. It poses
15 an enormous threat. They will pull every
16 string to kill it. But half a billion
17 people -- and I used to represent all of Latin
18 America -- living within NEC-regulated
19 municipalities, and most of them are,
20 throughout the Americas, shouldn't have to be
21 exposed to electrocution due to a stolen ground
22 wire simply because a few task group members
23 say that you'll have to prove it to be more.
24 Better luck next cycle. So where does it stop?

1 So members of the council, I ask
2 that you feel my frustration, but with clear
3 eyes grant my appeal. Only you can stop this.
4 The process can still work for this cycle if
5 you step in. Your action will send a clear
6 message to those participants whose mission is
7 to stack the deck. It must stop. Thank you.

8 MR. GOLINVEAUX: Thank you. As we
9 conclude the hearing, let me inform you as to
10 what happens next. The council will deliberate
11 and reach a decision in executive session.
12 Once the decision is made, that decision,
13 including the background or any other
14 information council believes relevant, will be
15 prepared by NFPA staff and published by the
16 secretary of the Standards Council on the
17 Standards Council web page,
18 www.NFPA.org/SC2022, and in accordance with the
19 regulations governing the development of NFPA
20 standards.

21 Additionally, the decision will be
22 sent to the appellants and the chair of the
23 responsible committees directly. The official
24 opinion and decision of the council is that

1 published by the secretary and no other
2 communication shall be considered the council's
3 decision or position. Any questions regarding
4 the decision should be addressed to the
5 secretary.

6 On behalf of the NFPA Standards
7 Council, I want to thank all of those involved
8 who participated in today's appeal hearing.
9 Your involvement, as well as the stakeholders',
10 is important to the NFPA standards development
11 process. This hearing is now ended. Thank you
12 very much.

13 MR. GRASER: Thank you, Council.

14 MR. GOLINVEAUX: We are going to take
15 a one-hour lunch break. We will convene at
16 three o'clock.

17 (Recess taken.)

18 MR. GOLINVEAUX: Okay. Good
19 afternoon. My name is James Golinveaux. It is
20 my distinct pleasure as the chair of the NFPA
21 Standards Council to welcome you. I am going
22 to call this hearing to order. In a moment, I
23 want everyone to introduce themselves by
24 stating their name and affiliation. Before we

1 do that, I want to remind everyone that we have
2 a stenographer in the room with us today who is
3 recording these hearings. So from this
4 standpoint, it is important that each of you,
5 when you make your remarks, state your name and
6 affiliation so the stenographer may accurately
7 capture the information for the record. In
8 addition to those who will be speaking, if you
9 haven't already done so, forward your name as
10 you wish it to appear in the record as well as
11 your affiliation to Mary Maynard at
12 www.mmaynard@nfpa.org so that we can spell your
13 name correctly in the record.

14 Appeal hearings are scheduled for
15 today, August 10, 2022. And the plan is to
16 move from one hearing to the next with some
17 breaks throughout the day as necessary. If we
18 can't get through all of the hearings today, we
19 will start again tomorrow morning, August 11,
20 and will continue until we conclude the
21 hearings.

22 We'll start with the introduction of
23 council members followed by the NFPA staff.
24 And, finally, I recognize the appellants and

1 other guests planning to speak for a specific
2 appeal to themselves. Following breaks, I will
3 go through the introduction again and ask for
4 introductions of those who have joined since
5 the start of appeals this morning. If you're
6 merely attending as a guest and not speaking on
7 any items, please be certain to sign with Mary
8 Maynard at the table outside the hearing room.

9 We'll begin by the introduction of
10 council. Jim, I'll start with you.

11 MR. QUITER: James Quiter, member of
12 council.

13 MR. GALLAGHER: Richard Gallagher,
14 member of council.

15 MR. CROWLEY: Michael Crowley, member
16 of council.

17 MR. KOVACIK: John Kovacik, member of
18 council.

19 MR. REISWIG: Rodger Reiswig, member
20 of council.

21 MS. GALLAGHER: Suzanne Gallagher,
22 NFPA staff.

23 MS. BELLIS: Dawn Michele Bellis, NFPA
24 staff.

1 MR. FOISEL: Jeff Foisel, member of
2 council.

3 MR. KRAUSE: Randy Krause, member of
4 council.

5 MR. KLEIN: David Klein, member of
6 council.

7 MS. STASHAK: Cathy Stashak, member of
8 council.

9 MR. BUSH: Kenneth Bush, member of
10 council.

11 MR. GOLINVEAUX: I'll move to staff.
12 I'll begin with Mr. Dubay.

13 MR. DUBAY: Christian Dubay, NFPA
14 staff.

15 MR. CHASE: Barry Chase, NFPA staff.

16 MR. DUFFY: Chad Duffy, NFPA staff.

17 MS. VECCHIARELLI: Tracy Vecchiarelli,
18 NFPA staff.

19 MR. BAKAJ: Patrick Bakaj, NFPA staff.

20 MS. CASSELS: Nicole Cassels, NFPA
21 staff.

22 MS. GREENFIELD: Amy Greenfield, NFPA
23 staff.

24 MR. HOLLAND: Ken Holland, NFPA staff.

1 MR. HANNAH: Corey Hannah, NFPA Staff.

2 MR. HOHENGASSER: Erik Hohengasser,
3 NFPA staff.

4 MR. SARGENT: Jeff Sargent, NFPA
5 staff.

6 MS. SISCO: Jennifer Sisco, NFPA
7 staff.

8 MR. GOLINVEAUX: Okay. Thank you.
9 And we'll introduce the guests. Let's start on
10 the front row. Dave, it's going to be you, and
11 we'll work our way through the --

12 MR. WATSON: Dave Watson, Southwire.

13 MR. MOELLMANN: James Moellmann,
14 Maxivolt.

15 MR. WINGATE: Chris Wingate, Maxivolt.

16 MR. ANDRE: Joe Andre, consultant.

17 MR. MELLO: Chuck Mello, cdcmello
18 Consulting.

19 MR. TIMMONS: Bill Timmons, Electrical
20 Wiring Systems.

21 MR. WOYCZYNSKI: Greg Woyczynski,
22 Association of Home Appliance Manufacturers.

23 MR. LEHR: Ed Lehr, ACCA.

24 MR. KOFFEL: Bill Koffel, Koffel

1 Associates.

2 MS. KOBAN: Mary Koban, representing
3 Air-Conditioning Heating and Refrigeration
4 Institute.

5 MR. GOLINVEAUX: Okay. From a process
6 standpoint, the general approach we will take
7 today is to allow ten minutes for each side to
8 make opening remarks. And then we'll open the
9 floor to questions from council members. For
10 those of you who have requested and granted
11 additional time for opening remarks, those
12 approvals will be honored. Please wait for me
13 to recognize you before speaking to ensure that
14 all comments and questions are heard for
15 accurate recording. Once all questions are
16 addressed to satisfaction of council, we'll
17 move to closing remarks. Five minutes have
18 been allocated for closing remarks for each
19 side. Following closing remarks, the hearing
20 will conclude.

21 Does anyone have any questions at this
22 point? Seeing none, let's get this going.

23 HEARING ON 22-8-5-P

24 MR. GOLINVEAUX: This hearing is

1 related to an agenda item number 22-8-5-P, as
2 in Paul, in regards to NFPA-70, Section
3 215.18(E) and 215.18, and CAM 70-89 and CAM
4 70-109. So those who are going to be speaking
5 can work their way to the table. And are there
6 any council members recusing from this agenda
7 item?

8 MR. REISWIG: Thank you, Mr. Chair.
9 Rodger Reiswig, member of council. For the
10 record, I am recusing myself on this agenda
11 item, and I will not participate as a member of
12 the Standards Council in the hearing,
13 deliberations, or voting on this matter.

14 MR. KOVACIK: Thank you, Mr. Chair.
15 John Kovacik, member of council. For the
16 record, I am recusing myself on this agenda
17 item, and I will not participate as a member of
18 the Standards Council in the hearing,
19 deliberations, or voting on this matter.

20 MR. GOLINVEAUX: Thank you, gentlemen.
21 So begin with introductions. James, I believe.

22 MR. WINGATE: Chris.

23 MR. GOLINVEAUX: Chris. Okay.

24 MR. WINGATE: Chris Wingate, Maxivolt.

1 MR. MOELLMANN: James Moellmann,
2 Maxivolt.

3 MR. GOLINVEAUX: You are James. Okay.
4 All right. I don't see anyone representing the
5 opposition. So at this point, James, are you
6 going to be speaking, or Chris are you going to
7 be speaking on the --

8 MR. MOELLMANN: We both intend on
9 speaking.

10 MR. GOLINVEAUX: Okay. I will
11 recognize you. And please begin by introducing
12 yourself and proceed with your opening
13 statement in support of your appeal.

14 MR. WINGATE: My name is Chris Wingate
15 with Maxivolt. I appreciate the council
16 granting us this hearing. I have six key
17 points I want to make, explaining why I believe
18 it's impractical and if it's upheld, it will
19 have negative consequences. The first point is
20 this puts NFPA on an island. IEEE SPDC wrote a
21 letter opposing this revision of the code
22 saying that CMP 10's use of IEEE 52 as the only
23 substantiation for this revision is a misuse of
24 the document. NEMA filed a NITMAM opposing

1 this requirement. And this requirement
2 contradicts the UL standard for 249. It also
3 contradicts the IBC standard, 61643. And,
4 additionally, it contradicts another part of
5 the NEC Article 242, which permits devices with
6 3k nominal discharge currents to be installed
7 in the locations in question. So The Engineer
8 Society, The Manufacturers' Association, and
9 both of the worldwide standard go against
10 what's being proposed. And my second point is
11 concerns about the code of conduct. In reading
12 the technical meeting transcript, the chairman
13 of CMP 10 stated IEEE standard 652.41.12
14 characterizes the service entrance as being
15 typically exposed, surges break up the 10KA.
16 So in the CCC 2 where the 10k nominal discharge
17 current tests waves and the values are
18 mentioned, it is for this scenario. It's
19 for -- it's called scenario one. The event of
20 a lightning flash not directly involving a
21 structure in high lightning exposure areas,
22 generally considered to be Florida, the
23 southeast coastline.

24 I wouldn't characterize those

1 scenarios as being typical to service entrance
2 panel. A typical service panel is not in a
3 high light exposed area and it's not subjected
4 to nearby lightning strikes typically.

5 Further, the test that determines what this
6 rating is actually introduces this level
7 impulse to the device 15 times. So that may be
8 even more atypical to think that a service
9 entrance can be subjected to 15 nearby
10 lightning strikes in this high-density area.

11 My third point is related to the law
12 of diminishing returns. Proponents of this
13 code change contended that it is needed to
14 increase the durability of currently allowed
15 circuit breakers devices, yet no evidence was
16 submitted that the devices currently allowed
17 over the last several decades and installed
18 safely have had any excessive failure rates or
19 durable concerns. They're literally hundreds
20 of thousands, if not millions of devices with
21 nominal discharge current ratings of 3k or less
22 that have been installed in field for decades
23 safely and effectively performing. So why --
24 why is it there was no data brought to say we

1 have a durability issue with surge protector
2 devices? The probable answer is that there is
3 no data to support that stance. An analogy
4 citing safety concerns, city ordinances
5 typically require fencing of four foot or
6 higher to be installed around swimming pools.
7 This is reasonable safeguarding, as the NFPA
8 states in its mission, of the public for risk
9 of drowning. This proposed revision is akin to
10 city ordinances requiring 16-foot fencing to be
11 installed around a swimming pool. It's well
12 beyond reasonable safeguarding.

13 My fourth point, unintended
14 consequences if this is passed through is
15 essentially the NFPA will be deeming safe,
16 functionally and highly durable devices as
17 being insufficient code violations. It will
18 cost consumers millions of dollars to comply
19 with this unreasonable requirement. It will
20 put hundreds of thousands of
21 non-environmentally friendly components and
22 devices in landfills. It will waste unknown
23 amounts of energy to manufacture, distribute,
24 market, sell, and install replacement products

1 for the products that are already perfectly
2 safe, effective, durable, and functionally
3 built. It will create an opportunity for
4 dangerous defective devices to replace safe
5 functional devices, citing a recent recall of
6 47,020KA SPVs due to fire hazards.

7 My fifth point. New information that
8 came in process begs this matter to be
9 reconsidered. For the majority of the code
10 cycle, the document of the mission before IEEE
11 C62 was used as a the primary justification.
12 Just prior to the technical meeting, it was
13 discovered that the document was being used out
14 of line according to IEEE SPC. They wrote this
15 letter that I mentioned before.

16 So in light of this new information,
17 NEMA, who supported the change throughout the
18 rev one and rev two processes, rescinded their
19 support and actually filed NITMAMS opposed to
20 this change. So, to me, it's obvious that all
21 facts were not on the table throughout the
22 entire process and, at bare minimum, it needs
23 to be reconsidered by the code-making panel.

24 One last point, SPVs began being

1 mandated in the NEC protect life-saving
2 equipment. So if one of these rare 10KA events
3 occurs in this location that we're discussing
4 today, what happens to that life-saving
5 equipment? The fact of the matter is is that
6 in all likelihood that life-saving equipment
7 will fail regardless of the 10KA device being
8 in place. So the whole point of getting this
9 into the code to begin with was we're not able
10 to protect it at those levels anyway. So we
11 would have life-saving live equipment that's
12 failed, but an SPV that has not failed
13 essentially. So I believe it's missing the
14 original intention. That's all I got, James.

15 MR. MOELLMANN: James Moellmann,
16 Maxivolt. So just to clarify a couple of
17 things Chris brought to the table. From the
18 beginning of this process, we have asked for
19 the data, we have asked for information, we
20 have asked for substantiation about why the
21 existing products in the field are not
22 suitable. We are still getting no information
23 back. And that's the process we're struggling
24 with. There's no information being presented

1 to demonstrate why this change from what's an
2 acceptable level of 3,000 amps to 10,000 amps
3 is being required.

4 Looking through all the research that
5 we have and all, you know, some of the main
6 resources, IEEE, UL, CSA, NEMA, NIST, EPRI,
7 there's no information to support this
8 proposal. They're not bringing up a safety
9 concern saying that, you know, the current
10 devices aren't safe so we see no reason for the
11 safety behind this proposal. And so from that
12 standpoint, we're struggling to understand why
13 NFPA is not following the process. In the
14 regulations in Section 3.3.6 it basically
15 states the following guidelines are going to be
16 used, and it specifically mentions research
17 data and engineering fundamentals. There's
18 been no research done or presented where
19 engineering fundamentals demonstrate the need
20 for this change. To that point, you have
21 hundreds of thousands of these devices
22 installed today that are being used. Why is
23 the change necessary? You know, what is making
24 it? And there's no data to support this

1 change. So we're struggling to understand what
2 the justification is and why NFPA as a safety
3 organization is promoting a change that has no
4 basis.

5 The second point is to help reiterate
6 and to illustrate, if I can, very quickly here
7 the principles behind what we're talking about.
8 And I'm not going to make this technical. So
9 I'm going to try to do this simply. You guys
10 are familiar with water. I have a water tank.
11 It's a 10,000-gallon water tank so there are
12 10,000 amps of current. You have to discharge
13 or empty a water tank of 10,000 amperes in less
14 than one millionth of a second. You got to
15 make 10,000 gallons go from the water tank into
16 a specific location. How are you going to do
17 that? Are you going to put a three-inch valve
18 on a water tank and expect 10,000 gallons to go
19 through the water tank in less than a second?
20 You can't do it. What could you do? You could
21 open the bottom of the tank and to try to flush
22 the water out and hope to get it out instantly.
23 But you still can't move 10,000 gallons in less
24 than a second. It takes too long.

1 So from this standpoint, and in
2 particular this appeal is dealing with Articles
3 215.18 for a feeder circuit. A feeder circuit
4 is the main location, not the service entrance.
5 It's a connection from the service entrance to
6 another location in the system. So now we're
7 having the 10,000 gallons go to the service
8 entrance, but I also have to get it to go
9 through the feeder circuit in less than a
10 second. It's just a physical impossibility.

11 The physics are what we're struggling
12 with here with the proposal. And, you know, we
13 appreciate what code panel 10 is doing. We
14 agree wholeheartedly that you don't want to
15 install a device that's beyond it's capability
16 or beyond it's abilities. That's not what this
17 is about. We have hundreds of thousands of
18 these devices installed. They're performing
19 well and there's nothing that's been brought to
20 the code panel to say they're inappropriate or
21 they're not acceptable. And so this is kind of
22 where we're coming from. We don't see the
23 justification. We don't understand the change.
24 From our standpoint, there's no reason for the

1 change. There's no rational explanation from
2 research being presented. There's no
3 engineering or fundamental principles here that
4 apply. As a matter of fact, the fundamental
5 principles go against what's being asked. So
6 we simply ask the panel to remove this
7 requirement. Thank you.

8 MR. GOLINVEAUX: Okay. Thank you.
9 And not having anyone opposing this appeal,
10 I'll open it up for questions from council.
11 Jeff.

12 MR. FOISEL: Jeff Foisel, member of
13 council, you said that this contradicts UL
14 standards and other entity standards. Is that
15 a contradict, or is that an exchange to the
16 requirements? Like, there's no way you can
17 comply to both, or is it that the one is simply
18 more strict?

19 MR. WINGATE: Chris Wingate, Maxivolt.
20 So in the UL standard for the location that's
21 being discussed here for an SPV to be
22 installed, it calls for a type one or type two
23 device. A type two device can have nominal
24 discharge current rating of 3KA. So according

1 to the standard UL 1449, you can install a 3KA
2 nominal discharge current in the locations that
3 we're discussing.

4 MR. GOLINVEAUX: Good. Okay.

5 MR. WINGATE: Did you want to speak on
6 that, James?

7 MR. MOELLMANN: Yeah. If I can.

8 MR. GOLINVEAUX: You may.

9 MR. MOELLMANN: James Moellmann,
10 Maxivolt. So to Chris's point, not only in UL,
11 UL allows the current listed devices that are
12 at a much lower level. IEEE standards, which
13 is one of the things that we've been contesting
14 with from the beginning, state specifically do
15 not use this standard as the mandatory
16 requirements. One of the reasons for that is
17 simply because the IEEE standards, the basic
18 standards for voltage protection, have about
19 320 pages to it. And they specifically state
20 don't apply to mandatory ratings because
21 there's a lot of factors that need to be taken
22 into account. And from that standpoint, the
23 current guidelines in Section 242 have worked
24 well. There's lots of these devices installed

1 in multiple locations around the country. And
2 Article 242 works. Its list allows these other
3 devices.

4 MR. GOLINVEAUX: Okay. Jim.

5 MR. QUITER: Jim Quiter, member of
6 council. As I understand it -- well, first of
7 all, one of the things we generally look at is
8 process and whether the process worked. And I
9 understand it your two processes issues are,
10 one, sort of the mischaracterization of what is
11 typical, and the other would be no technical
12 substantiation for the changes. Am I missing
13 something, or are those the two issues?

14 MR. WINGATE: Chris Wingate, Maxivolt.
15 I believe those are the primary issues. Unless
16 the panel sees something else that we mentioned
17 that could justify the process.

18 MR. GOLINVEAUX: James Golinveaux,
19 member of council. As a follow-up to that
20 question on the code of conduct claim on the
21 chair of CMP 10, is it your understanding it
22 wasn't a thorough answer or it was incorrect
23 completely?

24 MR. WINGATE: I believe, you know,

1 it's not a black-and-white statement. What's
2 typical for you might not be typical to me or
3 someone else. So typical is vague language. I
4 think that in that room when people hear, in
5 general, when people hear "typically exposed,"
6 I'm going to think that's every day, perhaps
7 every week. You know, something on a regular
8 basis. Where, in this case, the test wave that
9 the ratings that are being referenced and using
10 that standard is justification for, they're
11 talking about very atypical scenarios. So I'll
12 leave this up for translation.

13 MR. MOELLMANN: Let me just add to
14 that.

15 MR. GOLINVEAUX: Just introduce
16 yourself again, please.

17 MR. MOELLMANN: James Moellmann,
18 Maxivolt. So one of the things that becomes
19 critical here is when you mention the word
20 "typical," it also denotes an expected level of
21 event. If this is expected, if this is normal,
22 if this is taking place currently, where are
23 all the failures for these devices that don't
24 meet that rating. There's been no evidence, no

1 data that's presented to demonstrate this issue
2 that the device is not performed adequately.
3 So we're struggling with the word "typical"
4 here because it doesn't make sense. It
5 doesn't -- there's no data to back it up.
6 Thank you.

7 MR. GOLINVEAUX: Suzanne.

8 MS. GALLAGHER: Suzanne Gallagher,
9 NFPA staff. One of the points that you make is
10 that this is inconsistent with a requirement
11 put forth by IEEE. But on panel 10 there is a
12 member of IEEE who voted to support the change.
13 Do you have a sense of the inconsistency
14 between the position that you've brought forth
15 at the technical meeting on a letter versus the
16 position that the IEEE representative who I
17 believe participates pursuant to a directed
18 vote. Thank you.

19 MR. MOELLMANN: Thank you. James
20 Moellmann, Maxivolt. Yes. And, specifically,
21 I appreciate the question because it is very
22 good in understanding this process. The IEEE
23 organization has 428,000 members. The IEEE
24 member on code panel 10 has a directed vote

1 from a specific narrow piece of that
2 organization.

3 One of the challenges we face is that
4 our products, these devices, multi protection
5 surge protection is not represented by that
6 IEEE group. There's an IEEE group specifically
7 called SPDC, surge protective devices
8 committee, that represents these topics.
9 There's no voice from our chair or from this
10 group in other IEEE group. So his directive
11 vote was by another community that doesn't know
12 anything about these products.

13 And so from that standpoint, I've
14 talked to the member. We tried to help make
15 our point known and we were unsuccessful in
16 giving him any data. Because the challenge we
17 faced here was this proposal went forward and
18 has been accepted with no rationale. So we
19 produce rationale to show something that
20 doesn't exist. And that's kind of the trap we
21 ran into. Thank you.

22 MR. GOLINVEAUX: Okay. Are there any
23 further questions from council?

24 MS. BELLIS: Dawn Michele Bellis, NFPA

1 staff. Just to go back and clarify something
2 that you said in your opening statement
3 regarding IEEE as well. You said that this
4 letter came to light. I'm not sure of the
5 timing. Did the letter come to light from IEEE
6 after second draft was completed or prior to
7 the second draft?

8 MR. WINGATE: Chris Wingate, Maxivolt.
9 This actually was brought -- we received this
10 letter from chairman of IEEE a number of days
11 before the technical meeting. I don't know
12 exactly. But it was not brought to -- it was
13 not introduced in the process until the
14 technical meeting.

15 MR. MOELLMANN: James Moellmann,
16 Maxivolt. Just let me clarify that a little
17 bit. To the point of when we went to code
18 panel 10 in the beginning of the PIs and
19 substantiation process and asked for
20 justification, they came back with a statement
21 of IEEE C62 supports this. As we tried to show
22 that IEEE doesn't support this, it was not
23 accepted. We went to IEEE SPDC to get
24 confirmation of their position and that's where

1 the letter came from. So it came out after
2 this process started. Thank you.

3 MR. GOLINVEAUX: Are there any further
4 questions? Seeing none, you have five minutes
5 to summarize your remarks in support of your
6 appeal.

7 MR. MOELLMANN: James Moellmann,
8 Maxivolt. Again, we appreciate the panel's
9 time here, the council's time, and we
10 appreciate the work that NFPA is doing. We
11 appreciate the work that Code-Making Panel 10
12 is doing. We see them doing lots of good
13 things. But when it comes to having the
14 ability to understand a very technical and very
15 complicated issue, they need to do more
16 research. They need to be able to understand
17 and justify this position.

18 In particular, what we're struggling
19 with is there are hundreds of thousands of
20 devices installed today that don't meet this
21 requirement. And there's nothing going
22 forward, there's nothing in this proposal to
23 require a change to what's existing. So if
24 it's good enough now and it's going to be good

1 enough for 20 or 30 years, where is the
2 justification? Where is the rationale that
3 says it must be changed? If there's nothing
4 wrong, if they're not causing fires, why does
5 this need to be changed? And that's the
6 process violation we're struggling with. We
7 don't see the process being upheld to show the
8 rationale, to show any data, to show any
9 engineering fundamentals that support this
10 position. Thank you.

11 MR. GOLINVEAUX: Thank you. As we
12 conclude the hearing, let me inform you as to
13 what happens next. The council will deliberate
14 and reach its decision in executive session.
15 Once the is decision made, that decision
16 including the background and any other
17 information council believes relevant will be
18 prepared by NFPA staff and published by the
19 secretary of the Standards Council on the
20 Standards Council web page,
21 www.NFPA.org/SC2022, and in accordance with the
22 regulations governing the development of NFPA
23 standards.

24 Additionally, the decision will be

1 sent to appellant and the chair of the
2 responsible committees directly. The official
3 opinion and decision of the council is that as
4 published by the secretary and no other
5 communication shall be considered the council's
6 decision or position. Any questions regarding
7 the decision should be addressed with the
8 secretary.

9 On behalf the NFPA Standards Council,
10 I'd like thank all of those who participated in
11 today's appeal hearing. Your involvement, as
12 well as the stakeholders', is important to the
13 NFPA standards development process. This
14 hearing is now ended. Thank you, gentlemen.

15 MR. MOELLMANN: You're welcome.

16 HEARING ON 22-8-5-0

17 MR. GOLINVEAUX: Okay. I'm going to
18 move on to the next related agenda item number
19 22-8-5-0 and related to NFPA 70, Section
20 225.42(E) and CAM 70-88. Okay. As speakers
21 are making their way to the microphone, I'm
22 looking for any council members that need to
23 recuse.

24 MR. REISWIG: Thank you, Mr. Chair.

1 My name is Rodger Reiswig, member of council.
2 For the record, I am recusing myself of this
3 agenda item, and I will not participate as a
4 member of the Standards Council in the hearing,
5 deliberation, or voting on this matter.

6 MR. KOVACIK: Thank you, Mr. Chair.
7 John Kovacik, member of council. For the
8 record, I am recusing myself on this agenda
9 item. And I will not participate as member of
10 the Standards Council in the hearing,
11 deliberations, or voting on this matter.

12 MR. GOLINVEAUX: Thank you, gentlemen.
13 And if you'd introduced yourself before, I'd
14 like you to reintroduce yourself for the record
15 on this motion if you'll be speaking in favor
16 of the appeal.

17 MR. MOELLMANN: James Moellmann,
18 Maxivolt.

19 MR. WINGATE: Chris Wingate, Maxivolt.

20 MR. GOLINVEAUX: All right. And not
21 seeing anyone opposing the appeal, you have ten
22 minutes to support your case. You can divide
23 up the time as you see fit.

24 MR. WINGATE: Chris Wingate, Maxivolt.

1 This is the exact same stipulation just in a
2 different part of the code. It's just related
3 outside branch circuits as opposed to the
4 feeders. Honestly, I'll just read the same
5 thing again. Do I need to do that? I'm sorry
6 to ask this type of a question, but --

7 MR. GOLINVEAUX: If you want to state
8 on the record that your previous testimony is
9 the same and applicable to this, I would be
10 more than willing to accept it.

11 MR. WINGATE: Yes, sir. My previous
12 testimony is applicable to this appeal as well.

13 MR. GOLINVEAUX: Okay. And we will
14 transpose that into this. And were there any
15 questions by council that may differ to this
16 appeal that you would be aware of?

17 MR. WINGATE: I'm not aware of any.

18 MR. GOLINVEAUX: Okay. James.

19 MR. MOELLMANN: I do have a couple
20 points I'd like to bring up for this issue. As
21 this is an --

22 MR. GOLINVEAUX: Could you introduce
23 yourself again.

24 MR. MOELLMANN: James Moellmann,

1 Maxivolt. Thank you. Again, to this issue,
2 when we talk about different areas of
3 electrical protection, there are three parts
4 that we're addressing here where this code has
5 been proposed to be modified. One is at the
6 service entrance, one is at the feeder
7 circuits, and the third is outside branch
8 locations or branch feeder circuits.

9 So from that standpoint, again, I want
10 to help reiterate why we see the physics and
11 the irrational justification for this proposal.
12 Again, I'll go back to the water tank. I have
13 10,000 gallons of water. I am trying to
14 discharge and move, which is similar to a surge
15 event. I've got to make sure that this event
16 gets stopped and doesn't go and damage
17 electrical equipment.

18 So if I'm at the service entrance,
19 it's got direct exposure. And the feeder
20 circuit, I have to go through the first 10,000
21 gallons to get to the feeder circuit, now I
22 have to go to the next area and get the 10,000
23 gallons to go into the outside branch circuits.

24 So by physics it's a pretty difficult

1 assumption to think you're going to move all
2 that current, that voltage, through the system
3 in millionths of a second. Because if these
4 devices don't respond in millionths of a
5 second, the damage is done. They're
6 ineffective and they don't work. And so that's
7 kind of the point with what we're driving all
8 this home to, and what we're trying to help
9 illustrate is that effective use of these
10 devices depends on how they're installed, where
11 they're installed, and the rating of the
12 device.

13 The devices currently installed are
14 sufficient. They're in all these locations
15 today. They're at service entrances. They're
16 at branch circuits. They're at feeder
17 circuits. And they're rated at 3,000 amps.
18 Nobody's made any data; nobody's made any
19 rationale. There's no engineering science
20 behind the justification for this change.

21 So our point is simply this: Why is
22 the code being changed? Where's the
23 justification? Where's the rationale? Where's
24 the engineering science? Where's the data that

1 drives this point? We've seen all the -- we've
2 asked for data. We know the standards. We're
3 involved with all standards organizations,
4 IEEE, CSA, UL, NEMA, NIST, EPRI. Again, all
5 these organizations representing no data, no
6 information that justifies this change.

7 So we simply ask the council members
8 to withdraw this proposal as it does not follow
9 the NFPA guidelines and NFPA process. If
10 there's no rationale, if there's no engineering
11 science behind it, if there's nothing wrong
12 with the existing products in the field, why is
13 the change made? Thank you.

14 MR. GOLINVEAUX: Okay. With that, I
15 think we opened up the session to new questions
16 that may be appropriate for council. Is there
17 any questions from council? Seeing none, do
18 you have a summary? I'm trying to go through
19 the process here.

20 MR. WINGATE: Yeah. Just to amuse
21 everyone, I believe it's impractical. It has
22 negative consequences that goes well beyond the
23 point of diminishing returns and the stated
24 intent of the National Electrical Code, which

1 is practical safeguarding.

2 MR. GOLINVEAUX: Thank you. As we
3 conclude the hearing, let me inform you as to
4 what happens next. The council will deliberate
5 and reach its decision in executive session.
6 Once the decision is made, the decision,
7 including the background or any other
8 information that council deems relevant, will
9 be prepared by NFPA staff and published by the
10 secretary of the Standards Council on the
11 Standards Council web page,
12 www.nfpa.org/SC2022, and in accordance with the
13 regulations governing the development of NFPA
14 standards.

15 Additionally, the decision will be
16 sent to the appellants and the chair of the
17 responsible committees directly. The official
18 opinion of the decision of council is that
19 published by the secretary and no other
20 communications shall be considered the
21 council's decision or position. Any questions
22 regarding the decision should be addressed with
23 the secretary.

24 On behalf of the NFPA Standards

1 Council, I want to thank all of those who
2 participated in today's appeal hearing. Your
3 involvement, as well as all the stakeholders',
4 is important to the process of NFPA standards
5 and development process. This hearing is now
6 ended. Thank you.

7 HEARING ON 22-8-5-Q

8 MR. GOLINVEAUX: Moving on to the next
9 agenda item 22-8-5-Q. This is in regards to
10 NFPA 70, Section 230.67E, CAM 70-90. And I am
11 going to ask for recusal statements of council.

12 MR. REISWIG: Thank you, Mr. Chair.
13 My name is Rodger Reiswig, member of council.
14 For the record, I am recusing myself on this
15 agenda item, and I will not participate as a
16 member of the Standards Council in the hearing,
17 deliberations, or voting on this matter.

18 MR. KOVACIK: Thank you, Mr. Chair.
19 John Kovacik, member of council. For the
20 record, I am recusing myself on this agenda
21 item. And I will not participate as a member
22 of the Standards Council in hearing,
23 deliberations, or voting on this matter.

24 MR. GOLINVEAUX: Thank you, gentlemen.

1 So, to begin, I'm looking where the microphone
2 is pointed, I'm going to assume Chris. Chris,
3 if you could please begin by introducing
4 yourself and proceed with your opening
5 statement in support of your appeal.

6 MR. WINGATE: Chris Wingate, Maxivolt.
7 And, again, I'm going to exercise the option
8 that you gave me to let my testimony from the
9 first appeal stand for this one as well.

10 MR. GOLINVEAUX: And it shall be
11 transferred over to this record. So thank you.

12 MR. MOELLMANN: James Moellmann,
13 Maxivolt. I do have a couple of other points
14 to help understand the position of this
15 proposal. So this proposal deals with Article
16 230.67, item E. Again, it's mandating the
17 minimum 10 amp level of voltage and surge
18 protection at the service entrance point. We
19 support the panel, code panel 10, and their
20 efforts to promote and to increase the safety.
21 However, for this item, we fail to see the
22 justification and the rationale to support this
23 change to the NEC.

24 From that standpoint, let's go back to

1 our example again. I have a service entrance
2 that's exposed. What's its biggest exposure?
3 It's connected to the electrical system and
4 it's exposed to lightning. So from a service
5 entrance perspective, we understand that
6 lightning can be a concern in some locations
7 around the U.S. The challenge was putting this
8 proposal in as this is a national mandate.
9 You're now making it required for every single
10 location in the U.S. to have a lightning
11 protection requirement at a service entrance.
12 Again, the same issue we've had all along still
13 applies.

14 When you look through the standards,
15 all the guidelines, all the engineering studies
16 through IEEE, UL, all the different
17 organizations that put together this
18 information, the experts throughout the world,
19 it's been mentioned by the panel that the
20 justification for this was IEEE C62 41.2 the
21 standard does do a good job of helping to
22 classify, at least segregate and give
23 appropriate installation guidelines.

24 What has been mentioned here before is

1 the rare opportunity for these events to take
2 place doesn't happen very often. To the point
3 of the same devices that we've been talking
4 about are installed today. There's been no
5 evidence, no data presented to the council that
6 demonstrates the need for this change.

7 If this is about lightning, where is
8 the need for lightning protection in the NEC?
9 We agree that lightning is a concern. But
10 lightning is handled in the NFPA standard NFPA
11 780. 780 is appropriate for those locations
12 that have a lightning concern. It's not a
13 global or a U.S.-wide concern for lightning
14 across the U.S. But by mandating this proposal
15 into the NEC, you're now making lightning
16 protection a requirement for every single
17 location from homes to apartments, anything
18 that has a service entrance point.

19 So without data, without research,
20 without, again, engineer fundamentals, why this
21 change is needed we ask for and we sincerely
22 ask that the council look into and understand
23 that if the existing products work, where is
24 the justification for the change. And if

1 there's no failures taking place, and there's
2 no safety issues being presented, why should
3 this proposal be adopted as a national
4 requirement for every single location in the
5 United States? And so from that standpoint,
6 again, we ask that this item 230.67(E) be
7 removed from the 2023 code. Thank you very
8 much.

9 MR. GOLINVEAUX: Okay. Thank you.
10 Any there questions from council? Go ahead.

11 MS. STASHAK: Cathy Stashak, member of
12 council, was NFPA 780 brought into or asked
13 about maybe a conflict between the two or no?

14 MR. MOELLMANN: James Moellmann,
15 Maxivolt. Thank you. There have been
16 discussions. And to code panel 10's diligence,
17 they did have task force meetings to address
18 this. There were several items brought to the
19 attention of the code panel. NFPA 780 was
20 brought up. And, again, it's not appropriate.
21 Code panel 10 did not support the justification
22 of NFPA 780 being used in this case as they did
23 use that as part of their substantiation; they
24 only used an obscure reference to IEEE 662.1.2.

1 So it was brought up. There have been lots of
2 discussions about lightning protection and
3 lightning damage. And, again, it doesn't
4 belong in NFPA 70. Lightning protection is
5 part of 780. Thank you.

6 MR. GOLINVEAUX: Okay. Are there any
7 further questions from council? Seeing none,
8 you have five minutes for summarizing your
9 support of your appeal.

10 MR. WINGATE: Chris Wingate, Maxivolt.
11 Again, I'll just reiterate this is akin to
12 requiring a 16-foot fence around an aboveground
13 pool. It's well beyond the idea of practical
14 safeguarding. What's next? In the next code
15 cycle, are we going to say we need 20KA,
16 because, after all, that's a little bit better
17 than 10. So it's like where does it end? And
18 it's not practical to bring it up to that
19 level, that test literally saying the service
20 entrance is going to be subjected to 15 nearby
21 lightning impulses. That is above practical
22 safeguarding.

23 MR. GOLINVEAUX: Okay. Are we
24 concluded? Thank you. As we conclude the

1 hearing, let me inform you as to what happens
2 next. We've heard this before. The council
3 will deliberate and reach its decision in
4 executive session. Once the decision is made,
5 that decision, including the background of any
6 other information council believes relevant
7 will be prepared by NFPA staff and published by
8 the secretary of the Standards Council on the
9 Standards Council website www.NFPA.org/SC2022,
10 and in accordance with the regulations
11 governing the development of NFPA standards.

12 Additionally, the decision will be
13 sent to the appellants and the chair of the
14 responsible committees directly. The official
15 opinion and decision of council is that as
16 published by the secretary and no other
17 communication shall be considered council's
18 decision or position. Any questions regarding
19 the decision should be addressed with the
20 secretary.

21 On behalf of the NFPA Standards
22 Council, I'd like to thank all of those who
23 participated in today's appeal hearing. You're
24 involvement, as well as all the stakeholders',

1 is important to the NFPA standards development
2 process. This hearing is now ended. Thank
3 you, gentlemen.

4 MR. MOELLMANN: You're welcome.

5 MR. WINGATE: You're welcome.

6 HEARING ON 22-8-5-R

7 MR. GOLINVEAUX: Moving on to the next
8 hearing. If the appellants want to report
9 their way to the table. And anyone speaking
10 against the appeal move to the table for me.
11 This hearing is related to agenda item number
12 22-8-5-R in regards to NFPA 79, Section
13 210.8(A) and CAM 70-94. Are there any members
14 of council that need to recuse themselves?

15 MR. REISWIG: Thank you, Mr. Chair.
16 Rodger Reiswig, member of council. For the
17 record, I am recusing myself of this agenda
18 item. And I will not participate as a member
19 of the Standards Council in the hearing,
20 deliberations, or voting on this matter.

21 MR. KOVACIK: Thank you, Mr. Chair.
22 John Kovacik, member of council. For the
23 record, I am recusing myself on this agenda
24 item. And I will not participate as a member

1 Standards Council in the hearing,
2 deliberations, or voting on this matter.

3 MR. GOLINVEAUX: Thank you, gentlemen.
4 Greg?

5 MR. WOYCZYNSKI: Yes.

6 MR. GOLINVEAUX: Okay. So let's start
7 with self-introductions, Greg. And then we'll
8 work our way to here.

9 MR. WOYCZYNSKI: Sure. Greg
10 Woyczynski from AHAM, the Association of Home
11 Appliance Manufacturers.

12 MR. DOLLAR: Randy Dollar, Siemens.

13 MR. MANCHE: Alan Manche, Schneider
14 Electric.

15 MR. GOLINVEAUX: Okay. Thank you.
16 So, Greg, please begin by introducing yourself
17 and proceed with your opening statement in
18 support of your appeal.

19 MR. WOYCZYNSKI: Greg Woyczynski, from
20 AHAM, the Association of Home Appliance
21 Manufacturers. Thank you to the Standards
22 Council for hearing this appeal. You all have
23 a tall task over the next few days and it may
24 be tempting to go through a checklist placing

1 certain appeals in one bin or another based on
2 the NFPA regulations. For AHAM's appeal, we
3 urge you to think longer term and question the
4 roots of those regulations, to whom are
5 existing the procedures beneficial, who is
6 effectively excluded, and most importantly,
7 should existing procedures remain in place.

8 AHAM's appeal points out where the
9 existing regulations were not followed and
10 where the existing regulations and procedures
11 need to be changed. According to clause 112.1
12 of the regulations governing the development of
13 NFPA standards, the Standards Council, you all,
14 may adopt new regulations supplemental to those
15 already in place. We'll get into the specifics
16 on the appeal. But, again, Home Appliance
17 Manufacturers believe a fundamental change is
18 needed in the NFPA standards process. And the
19 rules make clear that you, the Standards
20 Council, have the ability to make that change.

21 The process leading to CAM 70-94
22 started with the second revision public comment
23 submitted by AHAM on August 19, 2021, these
24 comments are informative only suggesting that

1 Code-Making Panel 2 reject other comments
2 seeking to expand to GFCI. The basis for
3 AHAM's comment because of nuisance tripping
4 GFCIs are due for a much needed modernization.
5 And until these devices are modernized, GFCI
6 expansion should be paused. These comments
7 were disregarded during Code-Making Panel 2
8 meetings. One year later, we now have a total
9 of 23 states that have modified their state
10 electrical codes creating exception to the GFCI
11 requirements in the NEC recognizing the
12 importance of GFCI upgrades before further GFCI
13 expansion.

14 Despite objections from Home Appliance
15 Manufacturers and multiple other stakeholders,
16 Code-Making Panel 2 moved forward with
17 expansion or this expanding of locations in
18 which a GFCI must be installed. At the time of
19 the code-making panel's decision, there was no
20 official representation from end product
21 manufacturers while there was significant
22 representation by GFCI manufacturers and
23 parties which they may have significant
24 influence over. At the time of second revision

1 ballots, three GFCI manufacturers sat as
2 principals on CMP 2 with official
3 representation from end product manufacturers
4 who, without a doubt, are materially affected
5 parties.

6 The process continued with AHAM
7 submitting a CAM seeking to reject second
8 revision 7956. The CAM noted a desperate need
9 for GFCI modernization before further expansion
10 for the sake of consumer safety. Today the
11 standard governing GFCI tripping is outdated
12 with language mandating trip and no trip
13 thresholds based only on 60 hertz. The world
14 has moved on from single frequency operation
15 with virtually every modern consumer electrical
16 product having components that operate at a
17 frequency other than 60 hertz.

18 The CAM made a point that GFCI
19 manufacturers are unlikely to modernize the
20 products until given an incentive to do so
21 within the NEC. Halting GFCI expansion within
22 the NEC is that incentive. Despite against
23 comments and support from other industries, the
24 technical meeting vote failed. Although there

1 was a record of those for and against, there
2 was not a record of who was voting.

3 So what is AHAM asking from the
4 Standards Council in this appeal? The first
5 thing AHAM is requesting is to overturn the
6 technical meeting ballot which would be the CAM
7 70-94. There are two ways that second revision
8 7956 violated the NFPA process. When CMP 2 was
9 voting on second revisions, the code-making
10 panel was not truly in balance. There was no
11 representation from end product manufacturers
12 or installers. There was, however, significant
13 representation from GFCI manufacturers.

14 Another way the second revision 7956
15 violated the NFPA process is by lack of
16 attempts towards resolution. The National
17 Electrical Code is the American national
18 standard and therefore is subject to ANSI's
19 essential requirements which are referenced
20 throughout NFPA's regulations. These essential
21 requirements dictate attempts toward
22 resolution.

23 Code-Making Panel 2 did not make
24 attempts towards resolution. Every person who

1 voted for second revision 7956 heard objections
2 from Home Appliance Manufacturers concerned
3 with safety of critical appliances being
4 subject to nuisance tripping. Each one of
5 those panelists proceed to vote SR7596 without
6 comments, making no attempts towards resolution
7 of the safety risk. The Standards Council can
8 resolve these concerns by reversing the
9 technical meeting vote and accepting CAM 70-94.

10 The second thing AHAM is asking of
11 Standards Council is a revisitation and update
12 of procedures governing the NFPA technical
13 meeting. The process of registration and
14 tallying votes at the technical meeting is
15 standards process decision. There are several
16 ANSI essential requirements that are not
17 properly considered at the technical meeting.
18 Among them are openness and lack of dominance.
19 Openness requires there be no undue financial
20 barriers.

21 Only NFPA members who attend the
22 meeting in person can vote on CAMs. There's a
23 travel cost to attend a technical meeting
24 person and there is a cost for NFPA membership.

1 If some companies can afford 20, 30 votes or
2 more at the technical meeting and other
3 companies can afford one or two, then openness
4 has not been achieved.

5 Lack of dominance requires no
6 dominance by any single interest category
7 individual or organization. At this time,
8 dominance at the technical meeting cannot be
9 proven or disproven since no records of the
10 technical meeting voters are kept and made
11 public. We only have hearsay and anecdotal
12 evidence of dominance. For example, AHAM has
13 heard that some companies are participating in
14 bulk registration for the technical meeting.
15 These companies are bringing so many people
16 that certain stakeholders are submitting entire
17 spreadsheets for registration at the technical
18 meeting.

19 AHAM would like to suggest a couple
20 solutions for this issue. These are not
21 mutually exclusive. The first suggested
22 solution, make public who is voting at the
23 technical meeting. When walking into the
24 technical meeting, attendees have to show a

1 badge or register at tables just outside the
2 meeting. All this solution would require is
3 keeping a list and posting that list online
4 with names and the associated organizations.

5 As with any step in the safety
6 standards development process, whether it be a
7 consensus body or a membership body,
8 transparency is critical. By not keeping track
9 of and releasing attendee information, NFPA is
10 improperly prioritizing privacy over
11 transparency.

12 Although, this does not solve AHAM's
13 immediate issue of passing CAM 70-94, this
14 information is invaluable to the Standards
15 Council in making sure that the technical
16 meeting meets openness requirements and lacks
17 dominance from any one interest. The second
18 suggested solution, keep the technical meeting
19 vote to one vote per organization represented.
20 The same requirement is used in the code-making
21 panel process today.

22 It is AHAM's understanding that
23 imbalance of a technical meeting is not a new
24 issue. In response to previous concerns, NFPA

1 instituted a six-month rule. Only people who
2 have been NFPA members for six months or more
3 are allowed to vote at the technical meeting.
4 This does nothing to prevent buzzing in by any
5 stakeholder who wishes to do so. Many of the
6 issues discussed at the technical meeting are
7 perennial. GFCIs have been a highly debated
8 issue for many code-making cycles and will be
9 an issue for years to come. Knowing this, some
10 stakeholders can plan ahead to dominate the
11 meeting. I'll close my opening comments there.

12 MR. GOLINVEAUX: Thank you. And
13 who's -- are you going to split the time or --
14 Randy, you have ten minutes to respond with
15 your statement.

16 MR. DOLLAR: Randy Dollar, Siemens.
17 Being one of the companies identified in the
18 written appeal by name as buzzing people in, I
19 really don't know where that comes from. But I
20 just want to point out a few things is that
21 Siemens goes through great lengths to ensure
22 that all public inputs, public comments,
23 NITMAMs, and any other proposal is very well
24 vetted and well substantiated in addition to

1 being clear and concise. You know, we pride
2 ourselves and put a lot of effort into that.
3 We work with other members in the industry that
4 represent other interest groups to get feedback
5 on them so we can polish those inputs before we
6 submit them.

7 I fully expect seeing this proposal to
8 get a better success rate than a standard
9 proposal because we do a tremendous amount of
10 homework to try to make those proposals a much
11 better quality than the standard proposal. We
12 also take care when we're proposing or
13 suggesting those proposals for industry
14 associations. We were called out as having, I
15 think, an 80 percent pass rate at the technical
16 meeting, but Siemens actually didn't submit any
17 CAMs. They were submitted by American Circuit
18 Breaker Manufacturers Associations and I had to
19 speak on behalf of that. But they weren't
20 actually submitted by Siemens.

21 And I wanted to go through the points
22 that they made specifically. They said that a
23 typical NEC proposal had 168 votes for it.
24 Proposals by Schneider or Siemens had 250

1 votes. That is an 82-vote difference. There
2 were about 550 votes on each CAM. So that's
3 about a 14.9 percent difference in the vote
4 that could possibly be impacted. CAM 70-94,
5 which is the one that's the topic of this
6 appeal, was actually voted down 69 to 492. So
7 it was a 423-vote difference.

8 And I appreciate it. That's all I
9 got.

10 MR. MANCHE: Alan Manche with
11 Schneider Electric. And I appreciate the
12 opportunity to present here today. I'm going
13 to read this so I get the references right.
14 I'm here today representing Schneider Electric
15 since we were named in the appeals 70-105 and
16 70-70. The appeal calls into question the
17 dominance of circuit breaker manufacturers,
18 okay, and that's really why I wanted to address
19 the council today.

20 I'm here to assert that the circuit
21 manufacturers were not a dominant factor. And,
22 for the record, point the council to the voting
23 record on 70-105 and 70-70 at the technical
24 session. So I will repeat those. 70-105 and

1 70-70 at the technical session. In 105 there
2 is a request to require AFCI protection for
3 bathroom circuits with a delayed effective
4 date, meaning, you know what, if the product is
5 required, it would go in at a later date,
6 right. That passed ballot by the NFPA
7 technical session. A similar CAM, 70-70, which
8 was requested by the American Circuit Breaker
9 Association, the circuit breaker people, right,
10 was a request to require the same requirement
11 be passed without an effective date, meaning
12 move it in -- make it effectively immediately
13 the first day the code becomes effective. And
14 guess what? That CAM failed. Okay. So if the
15 Circuit Breaker Manufacturers Association and
16 the circuit breaker manufacturers were lined up
17 to support such an event from a dominance
18 perspective, then why did the that one fail?
19 All right.

20 So the assertion that the NFPA process
21 does not meet ANSI essential requirements due
22 to dominance is inaccurate and false. Thank
23 for you time and consideration for this
24 comment. And, quite frankly, this will be, for

1 the record, for 22-8-5-R and 22-8-5-S. Thank
2 you.

3 MR. GOLINVEAUX: Thank you. Are there
4 any questions from council?

5 MS. STASHAK: Cathy Stashak, member of
6 council. Greg, in your submittal, written
7 submittal, you said that Code-Making Panel No.
8 2 is skewed. And can you just explain that
9 further.

10 MR. WOYCZYNSKI: Sure. So at the time
11 of second revision, zero representation from
12 end product manufacturers, who are certainly
13 materially affected parties by Code-Making
14 Panel 2's decision, and no representation from
15 end product installers. The same can't be said
16 for GFCI manufacturers and GFCI installers.

17 MR. GOLINVEAUX: Ken.

18 MR. BUSH: Thank you, Mr. Chair. Ken
19 Bush, member of council. Question for
20 Mr. Woyczynski. You alluded in your testimony
21 that AHAM participated in the process with the
22 code-making panel. But could you let me know
23 or tell me formally what was submitted by AHAM?
24 Were they just comments? Were they public

1 inputs? Were they public comments? Was
2 anything officially done? Or how was that
3 participation made?

4 MR. WOYCZYNSKI: Yes. Thank you for
5 your question. So AHAM submitted a second
6 revision comment. It was informative only and
7 advising the panel of home appliance
8 manufacturers for certain other public comments
9 or against certain other public comments.
10 Within that informational comment that AHAM
11 submitted, we also included a white paper
12 showing that normal appliance operation can
13 still cause a GFCI to trip.

14 MR. GOLINVEAUX: Okay. Rich.

15 MR. GALLAGHER: Rich Gallagher, member
16 of council. I have a question for Mr.
17 Woyczynski. You mentioned that, I guess, you
18 were concerned about the current state of the
19 GFCI products and the need for modernization.
20 Do you have any sense of the time frame needed
21 for modernization to occur? Is that something
22 that is off in the distant future? Do you have
23 a time frame for it?

24 MR. WOYCZYNSKI: It's not in the

1 distant future. It's needed now. And what I
2 would point you to is the cumulative regulatory
3 burden that appliance manufacturers are under.
4 This is available for anybody to look up. You
5 can go to regulations.gov and you can search
6 for the acronym EPCA, E-P-C-A, Environmental
7 Protection and Conservation Act. Home
8 appliances are mandated to be more energy
9 efficient, normally on a cycle of every seven
10 years. So we have to incorporate new
11 technology into our products to legally sell
12 them without civil penalties. So amongst the
13 things done to meet those new standards are
14 incorporation of components which operate on
15 frequencies other than 60 hertz. Not just
16 variable speed drives, ECM motors, switch mode
17 power supplies, LED drivers, all basic
18 components of modern electrical -- not just
19 appliances, but consumer electrical products in
20 general.

21 And, specifically, I'll point you to
22 the latest proposed rule for room air
23 conditioners which the EOE proposed earlier
24 this year. And they are setting levels of

1 required efficiency which virtually require
2 implementation of a variable speed drive. So
3 all room air conditioners likely will soon have
4 to have a variable speed drive. Critical that
5 those appliances are in use and can maintain
6 operation, especially for the most common users
7 of those appliances, typically underserved
8 communities, folks with lower income. We need
9 to make sure those folks are protected. And
10 that's happening right now.

11 MR. GOLINVEAUX: Follow-up?

12 MR. GALLAGHER: And I guess what I'm
13 most interested in is do you have any sense
14 when the product, the GFCI product itself,
15 would be available to be compatible with these
16 new requirements for the equipment?

17 MR. WOYCZYNSKI: I don't have a
18 prediction on that.

19 MR. GALLAGHER: Can I also ask, do you
20 have any sense when GFCI would be more
21 compatible with the home improvement?

22 MR. DOLLAR: Randy Dollar speaking.
23 Specifically speaking for Siemens appliances,
24 we've not gotten one single reported nuisance

1 trip from a GFCI we've tested. Many of these
2 devices we believe to very robust. But we
3 believe it's --

4 MR. MANCHE: You know, we have a
5 similar -- I guess I'll say we have a similar
6 situation. And I guess what we're looking for
7 is --

8 MR. GOLINVEAUX: You got to introduce
9 yourself.

10 MR. MANCHE: Okay. Alan Manche,
11 Schneider Electric. I think we've -- I feel
12 like we were hit out of the blue here a little
13 bit, right, with regard to the appliance side.
14 And as we look forward, we need to understand
15 what they believe -- where they're headed with
16 the appliances, right, and where does it need
17 to go. Because we're not seeing -- we're not
18 getting those phone calls. We're not seeing
19 that today. And I think it's the apprehension
20 of where they're going tomorrow. And so that
21 coordination needs to happen between AHAM and
22 NEMA probably to understand what should we be
23 looking for and for something that they're
24 seeing that we need to address looking forward.

1 MR. GOLINVEAUX: Greg, I think you
2 wanted to respond to that question. I'll let
3 you go ahead.

4 MR. WOYCZYNSKI: Yeah. Thank you very
5 much. Greg Woyczynski, AHAM. So one example
6 we can take from this CAM is the addition of
7 GFCI requirements everywhere in the kitchen.
8 So this would now apply to the refrigerator.
9 What is a refrigerator? A refrigerator is a
10 compressor, an expansion valve, a condenser,
11 and a evaporator. The same basic components
12 that we see in an air-conditioning system. The
13 same energy efficiency savings technology is
14 used in an refrigerator as in an air
15 conditioner. So I think the instances of
16 problems with air conditioners have been well
17 established. We're going to see those things
18 exist in home air conditioners and household
19 refrigerators.

20 MR. GOLINVEAUX: Okay. Jim.

21 MR. QUITER: Jim Quiter, member of
22 council. There with a couple things that you
23 asked for overturning the action on the floor,
24 and I wanted to ask a question about each of

1 them. You talked about not true balance and
2 the fact that there's three manufacturers of
3 GFCI and none of appliances. And you mentioned
4 that somebody has now applied. But have people
5 applied before and been turned down, or is this
6 the first time that appliance manufacturers
7 have applied?

8 MR. WOYCZYNSKI: No. So -- and this
9 relates a little bit to the next CAM. Greg
10 Woyczynski at AHAM. The GFCI requirements for
11 specific appliances have always been in chapter
12 4. So we have appliance representation on CMP
13 17 which covers chapter 4. The need for
14 appliance representation on CMP 2 is a new
15 thing.

16 MR. QUITER: Okay. A follow-up?

17 MR. GOLINVEAUX: Please.

18 MR. QUITER: So the second thing you
19 talked about is no attempt to resolve. I
20 think -- I think I'd like a little more fact on
21 that. You mentioned nobody changed their
22 comment, but that doesn't mean nobody thought
23 about it. So is there more that you can give
24 us in the no attempt to resolve part of your

1 request?

2 MR. WOYCZYNSKI: Yeah. Thank you for
3 that question. So AHAM submitted a TIA almost
4 two years ago. And some of the comments back
5 were that it lacks technical substantiation.
6 We've now done that work. Updated the UL 858
7 as an example. Provided technical
8 substantiation on a white paper. And now
9 submitted this references to CMP 2. There were
10 no comments from those who voted to accept. So
11 we met the criteria from the negative comments
12 on the TIA. There's no path forward. No
13 attempt towards a resolution on this latest
14 ballot.

15 MR. GOLINVEAUX: Okay. Jeff.

16 MR. FOISEL: Jeff Foisel, member of
17 council. You mentioned about the financial
18 hurdles involved. Can you take me through the
19 steps of the process and where specifically
20 there would've been financial hurdles, like all
21 the way back to the initial public comment.

22 MR. WOYCZYNSKI: Sure. So the
23 financial hurdles are with the technical
24 meeting. So the purchase of travel to Boston.

1 Purchase of NFPA membership.

2 MR. GOLINVEAUX: Okay. James
3 Golinveaux, member of council. In your
4 testimony, the dominance claim that you
5 referred to was on the floor and it was a
6 question of whether there was dominance and not
7 necessarily a statement of there was dominance.
8 Am I correct in that statement or your summary
9 of what you said?

10 MR. WOYCZYNSKI: That's right. Greg
11 Woyczynski, AHAM. And the point that we make
12 in this appeal is why keep guessing? Why keep
13 guessing is there dominance, is there not
14 dominance? Let's collect the numbers. Let's
15 make them public so we can make improvements to
16 the procedure.

17 MR. GOLINVEAUX: Okay. Thank you. I
18 just want to clarify that.

19 Does anyone else have a question?
20 Jeff.

21 MR. FOISEL: Just this one follow-up.
22 For the technical meeting, was the online
23 system -- I'm sorry. Jeff Foisel, member of
24 council. For the technical meeting, was the

1 online tools, online being able to submit
2 comments done by anyone?

3 MR. WOYCZYNSKI: Could you clarify?

4 MR. FOISEL: The feature available
5 from the NFPA site for the technical meetings
6 included online capabilities to be able to be
7 part of the dialogue, part of the discussion
8 about attending. Was that done as part of the
9 submission?

10 MR. WOYCZYNSKI: We had no trouble
11 filing the CAM electronically. But the burden
12 here is not with filing written comments, it's
13 with placing the vote at the technical meeting.

14 MR. GOLINVEAUX: Okay. Are there any
15 further questions from council? Seeing none,
16 Greg, I give you five minutes for summarizing
17 your support of the appeal.

18 MR. WOYCZYNSKI: Greg Woyczynski,
19 Association of Home Appliance Manufacturers.
20 In closing, I would highlight that just because
21 GFCI expansion has helped to protect people in
22 the past, does not mean GFCIs can adequately
23 protect people now. Just because the procedure
24 of the NFPA technical meeting has been deemed

1 fair in the past, does not mean that technical
2 meeting procedures do not require maintenance.
3 Thank you.

4 MR. GOLINVEAUX: Thank you.

5 Randy, are you going to start this off
6 for five minutes?

7 MR. DOLLAR: I have no comments.

8 MR. GOLINVEAUX: No comments. Okay.
9 Thank you. As we conclude the hearing, let me
10 inform you as to what happens next. The
11 council will deliberate and reach its decision
12 in executive session. Once it's made, that
13 decision, including background or any other
14 information council believes relevant, will be
15 prepared by NFPA staff and published by the
16 secretary of the Standards Council on the
17 Standards Council web page,
18 www.NFPA.org/SC2022, and in accordance with
19 regulations governing the development of NFPA
20 standards.

21 Additionally, the decision will be
22 sent out to the applicants and the chair of the
23 responsible committees directly. The official
24 opinion of the decision council is that as

1 published by the secretary and no other
2 communication shall considered the council's
3 decision or position. Any questions regarding
4 the decision should be addressed with the
5 secretary.

6 On behalf of the NFPA Standards
7 Council, I'd like to thank all of those who
8 participated in today's appeal hearing. Your
9 involvement, as well as the stakeholders', is
10 important to the NFPA standards development
11 process. This hearing is now ended. Thank
12 you, gentlemen.

13 HEARING ON 22-8-5-S

14 MR. GOLINVEAUX: The next agenda item
15 number 22-8-5-S, as in Sam, regarding the NFPA
16 70, Section 210.8(D) and CAM 70-95. Are there
17 any members of council that need to recuse?

18 MR. REISWIG: Thank you, Mr. Chair.
19 Rodger Reiswig, member of council. For the
20 record, I am recusing myself on this agenda
21 item, and I will not participate as a member of
22 the Standards Council in the hearing,
23 deliberations, or voting on this matter.

24 MR. KOVACIK: Thank you, Mr. Chair.

1 John Kovacik, member of council. For the
2 record, I am recusing myself on this agenda
3 item, and I will not participate as a member of
4 the Standards Council in the hearing,
5 deliberations, or voting on this matter.

6 MR. GOLINVEAUX: Thank you, gentlemen.
7 So, Greg, please begin by introducing yourself
8 and proceed with your opening statement in
9 support of your appeal.

10 MR. WOYCZYNSKI: Greg Woyczynski with
11 the Association of Home Appliance
12 Manufacturers. I won't go through and repeat
13 each of the points of the previous appeal, but
14 please know that AHAM's written appeal contains
15 a similar history to the previous CAM and the
16 safety concerns are the same points about lack
17 of proper balance on CMP 2 as well as the 2023
18 technical meeting. Please be sure to consider
19 this in your deliberations.

20 This appeal relates to CAM 70-95,
21 which failed the technical meeting ballot.
22 AHAM is seeking to return 210.8(D) to text from
23 the previous edition. There's one major
24 difference between this appeal and the previous

1 one. This appeal seeks to address a decision
2 by CMP 2 that is outside its mandated scope.
3 According to the NFPA 70 committee scope and
4 responsibility document, the responsibility of
5 CMP 2 covers annex D, Article 210 and Article
6 220. And the second revisions specifically
7 SR7966, CMP 2 copied text verbatim from chapter
8 4 and made changes they saw fit.

9 AHAM is not questioning the purview of
10 the CMP 2 in regards to GFCI locations, such as
11 rooms in a dwelling. Those requirements have
12 always been in chapter 2. In fact, chapter 4
13 has a note that states for GFCI locations, see
14 chapter 2. Similarly in the 2020 NEC chapter 2
15 contains text that states for GFCI protection
16 on circuits containing specification
17 appliances, see chapter 4.

18 GFCI protection on circuits containing
19 specific appliances, including branch circuit
20 protection, has always been in the purview of
21 CMP 17. For CMP 2 to copy and paste the
22 relevant section of chapter 4 into chapter 2
23 and now say it's CMP 2 scope is a clear
24 violation of NFPA regulations. During the

1 second revision CMP 17 had end product
2 manufacturer participation. To avoid this, CMP
3 2 moved the chapter 4 requirements and asked
4 for a ballot on a panel which did not have any
5 end product representation at the time. So in
6 closing, I'll reiterate the request to return
7 210.8(D) to previous edition text. Thank you.

8 MR. GOLINVEAUX: Thank you. Greg, I
9 assume you're going to start this off?

10 MR. DOLLAR: Randy.

11 MR. GOLINVEAUX: Randy. I'm sorry.

12 MR. DOLLAR: That's fine. Randy
13 Dollar with Siemens. I would just ask that all
14 of my comments that I've made for appeal
15 22-8-5-R be copied over and carried over. And
16 I would just add one thing to that is to --
17 even though it was stated in the documents
18 where they have identified 82 votes in the
19 written appeal, CAM 70-95 was actually defeated
20 by the vote of 134 to 424, which is a 290-vote
21 difference. Thank you.

22 MR. GOLINVEAUX: Thank you. And, for
23 the record, we will transfer over your original
24 statement.

1 MR. MANCHE: Alan Manche, Schneider
2 Electric. And I would ask the same thing, that
3 may statement be transferred over from the
4 previous comments. I will add one other thing
5 is -- potentially Greg doesn't have this
6 history -- is I've served as a member of code
7 panel 2 for a number of cycles now. And one of
8 the things that the panel has to make a
9 decision on, whether it's in an appliance or
10 whether it's in the branch circuit, is the
11 electrocution hazard an appliance issue or is
12 it a cord and plug connection potential issue
13 with regard to the hazard. And so you end up
14 with requirements. You end up with
15 requirements in 210 and you end up with
16 requirements back in 422.

17 And that's the reason that the debate
18 unfolds between those two committees is because
19 the hazard can resolve -- if I'm laying under
20 the sink going to unplug the aerator or the
21 garbage disposal and I'm laying in water, the
22 discussion that then unfolds is, well, guess
23 what, there's a shock hazard potentially with
24 water there when you're doing that. So can you

1 put it in the appliance, or does it need to be
2 in the branch circuit or in the receptacle
3 requirement of 210?

4 So those are the kind of discussions
5 that unfold in panel 2 so that you can
6 understand that this isn't about pulling stuff
7 out of panel 4. It used to always reside in
8 panel 2 and then we added -- you know, we
9 actually moved some of the appliance
10 requirements to 4. And that discussion
11 revolved around, back in panel 4, that came
12 from vending machines. Because vending
13 machines get rebuilt. And when vending
14 machines get rebuilt, they put new cords on.
15 The cords get beat up. They get moved around.
16 You don't know if they're going to get plugged
17 into a GFCI receptacle in the building. So
18 they put them on the floor, but they put cord
19 so that all of the vending machines that get
20 transported all over the place and abused have
21 GFCI protection.

22 So there are very distinct reasons for
23 having the GFCI requirement at the appliance
24 versus potentially at the receptacle in that

1 part of the code. So I just want to make sure
2 that that was understood and there's a debate
3 and a discussion that takes place with regard
4 to that. Thank you.

5 MR. GOLINVEAUX: Okay. Thank you.
6 I'm going to open it up for questions from
7 council. Jeff.

8 MR. FOISEL: Jeff Foisel, member of
9 council. Can you help me understand -- I think
10 I'm hearing two different messages -- was it
11 the text copied from 4 to 2, or was the text
12 moved from 4 to 2?

13 MR. WOYCZYNSKI: The text was copied.
14 Greg Woyczynski at AHAM. The text was copied.
15 The original text in chapter 4 in the 2023
16 draft is still there.

17 MR. FOISEL: So this is more just an
18 extract?

19 MR. WOYCZYNSKI: Copied and pasted.
20 And then changed in Chapter 2.

21 MR. FOISEL: Okay. Thank you.

22 MR. GOLINVEAUX: Okay. Jim.

23 MR. QUITER: Jim Quiter, member of
24 council. That last thing is what I was worried

1 about. Copied and pasted and then changed. So
2 I think what we need to understand is what was
3 the change? The change was to take it from
4 applying to the building systems and applying
5 it to appliances? Is that what the change was?
6 Or what really was the change?

7 MR. WOYCZYNSKI: Good question. Greg
8 Woyczynski at AHAM. So two big changes. One
9 is the list of additional specific appliances
10 clearly under the purview of CMP 17 specific
11 appliances. The other is chapter 4 gives you
12 options. You can have GFCI protection, and I'm
13 looking at it right now, within the branch
14 circuit of a current device, a device or outlet
15 within the supply circuit, an integral part of
16 the attachment plug within the supply cord
17 factory installed within the appliance. The
18 copy and paste to chapter 2 removed all of
19 those options but one, only requiring a
20 breaker.

21 MR. GOLINVEAUX: Okay. Any further
22 questions from council? Yes. Suzanne.

23 MS. GALLAGHER: Suzanne Gallagher,
24 NFPA staff. You mentioned just now,

1 Mr. Woyczynski, that -- you said something
2 about there was a lack of proper balance on CMP
3 2. Is that -- is your assertion there the same
4 as it was in your last appeal which was that
5 there were not end product manufacturers
6 represented on the panel.

7 MR. WOYCZYNSKI: Greg Woyczynski at
8 AHAM. That's correct.

9 MS. GALLAGHER: Okay. Thank you.

10 MR. GOLINVEAUX: Any further questions
11 from council? Seeing none, Greg, five minutes
12 for your final support of the appeal.

13 MR. WOYCZYNSKI: Greg Woyczynski,
14 Association of Home Appliance Manufacturers.
15 If the Standards Council allow these 2023
16 changes, the council is condoning that any
17 code-making panel can copy text from anywhere
18 in the standard, place the text into an article
19 within the panel's scope, and make changes.
20 That should not be allowed. Thank you.

21 MR. GOLINVEAUX: Randy.

22 MR. DOLLAR: Nothing.

23 MR. MANCHE: Alan Manche, Schneider
24 Electric. The only thing I would want to

1 correct is when Greg said when you move it into
2 panel 2 it requires it to be a breaker. And
3 that's not accurate. It could be a circuit
4 breaker. It could be receptacle. It could be
5 a lot of different embodiments that permits it
6 to be there. So by moving it -- by having the
7 option back in 422, what that ultimately does
8 is say are we okay with the shock hazard where
9 it plugs in and we can put it within one foot
10 of cord, which means now we can apply it to the
11 cord instead of having to go in the receptacle
12 or the breaker in the infrastructure. So I
13 just want to be clear since we've called out on
14 the circuit breaker side that this is not a
15 requirement for a circuit breaker. Thank you.

16 MR. GOLINVEAUX: Okay. Thank you. As
17 we conclude the hearing, let me inform you as
18 to what happens next. The council will
19 deliberate and reach its decision in executive
20 session. Once the decision is made, the
21 decision, including background or any other
22 information council believes relevant, will be
23 prepared by NFPA staff and published by the
24 secretary of the Standards Council on the

1 Standards Council web page,
2 www.NFPA.org/SC2022, and in accordance with the
3 regulations governing the development of NFPA
4 standards.

5 Additionally, the decision will be
6 sent to the appellants and the chair of the
7 responsible committees directly. The official
8 opinion and decision of council is that as
9 published by the secretary and no other
10 communication shall be considered the council's
11 decision or position. Any questions regarding
12 the decision should be addressed with the
13 secretary.

14 On behalf of the NFPA Standards
15 Council, I would like to thank all of you who
16 participated in today's appeal hearing. Your
17 involvement, as well as the stakeholders', is
18 important to the NFPA standards development
19 process. This hearing is now ended. Thank
20 you, gentlemen.

21 All right. So if we can get the next
22 people at the table.

23 MR. MANCHE: Mr. Chairman?

24 MR. GOLINVEAUX: Yes, sir.

1 MR. MANCHE: I would like to ask you a
2 question. Right now I'm signed up to
3 participate. After review of the record up
4 until this point, I don't see a need for me to
5 participate on the opposing side. Would it be
6 possible if -- I looked at it and I sort of
7 signed up realizing that the same comments I
8 had supplemented on the topic. And I don't see
9 a need to participate at this point so.

10 MR. GOLINVEAUX: It is your choice.
11 Even though you're signed in, if you feel that
12 you do not want to participate, that is your
13 choice. So if you don't sit at the table, I
14 won't call on you.

15 MR. MANCHE: Thank you.

16 MR. GOLINVEAUX: Thank you for
17 clarifying.

18 HEARING ON 22-8-16-D

19 MR. GOLINVEAUX: All right. The next
20 hearing is related to agenda item number
21 22-8-16-D, as in David, and in regards to NFPA
22 70, Section 210.8(F) and Exception No. 2 (new)
23 and TIAs 1653, 1654, 1656, and 1657. Let's
24 start with introductions. Oh, I will start

1 with recusals of council.

2 MR. REISWIG: Thank you, Mr. Chair.
3 Rodger Reiswig, member of council. For the
4 record, I am recusing myself on this agenda
5 item. And I will not participate as a member
6 of the Standards Council in the hearing,
7 deliberations, or voting on this matter.

8 MR. KOVACIK: Thank you, Mr. Chair.
9 John Kovacik, member of council. For the
10 record, I am recusing myself on this agenda
11 item. And I will not participate as a member
12 of the Standards Council in the hearing,
13 deliberations, or voting on this matter.

14 MR. GOLINVEAUX: Thank you, gentlemen.

15 MS. STASHAK: Cathy Stashak, member of
16 council. For the record, I am recusing myself
17 on this agenda item. And I will not be
18 participating as a member of the Standards
19 Council in the hearing, deliberations or voting
20 on this matter.

21 MR. GOLINVEAUX: Thank you, Cathy.

22 So we'll start off with introductions.
23 Bill, could you please start with the
24 introduction.

1 MR. KOFFEL: William Koffel, Koffel
2 Associates. This afternoon I am representing
3 Leading Builders of America. In the interest
4 of full disclosure, I have also provided
5 consulting services to AHRI on this issue.

6 MS. KOBAN: Mary Koban, representing
7 AHRI.

8 MR. LEHR: Ed Lehr, representing ACCA.
9 I'm a contractor, a electrical safety
10 contractor and a member of ACCA.

11 MR. GOLINVEAUX: Okay. And prior to
12 the meeting on this particular issue, the
13 appellants had asked for 15 minutes to state
14 their support of the appeal and that was
15 granted. So you have 15 minutes from the time
16 that we get going. I assume we're going to
17 start with Mr. Koffel. Are we going to start
18 with you?

19 MR. KOFFEL: That is correct.

20 MR. GOLINVEAUX: So, Mr. Koffel,
21 please begin by introducing yourself and
22 proceed with your opening statement in support
23 of your appeal.

24 MR. KOFFEL: Bill Koffel, Koffel

1 Associates, representing LBA. Also a
2 consultant to AHRI, but not representing them
3 here this afternoon. I am also the submitter
4 of the 1653 and 1654. However, I want to fully
5 recognize that that was submitted on behalf of
6 the task group that was requested by the
7 Standards Council. The TIA merely has my name
8 because I was the one tasked to prepare, along
9 with a smaller sub task group of the task
10 group, to prepare the TIA.

11 What I think you will hear today,
12 either in the written documentation or in the
13 testimony here this afternoon is that although
14 there was not a consensus in the task group
15 that you had to have appointed resulting in TIA
16 1653 and 1654, the task group did eventually
17 reach consensus. CMP 2, however, is influenced
18 by representatives of the GFCI industry and
19 their closest allies. Data has been submitted
20 to CMP 2 that supports expanding the TIA
21 through all HVAC equipment. No data or
22 research has been submitted supporting the GFCI
23 industry's claim as to the number of
24 fatalities. The CMP 2 members and GFCI

1 manufacturers were well aware of the conflict
2 in the standard when the requirements were
3 first placed in the NEC in 2020. The conflict
4 applies to all HVAC equipment, not just power
5 conversion equipment. And, lastly, some
6 participants have not followed the NFPA guide
7 for the conduct of participants in the NFPA
8 standards development process.

9 So let me first address the issue of
10 GFCI influence. I am a member of the life
11 safety technical committee on fire protection
12 features. That is the committee that
13 establishes fire stop requirements in the life
14 safety code just like the NEC establishes the
15 GFCI requirements. There are -- 31 percent of
16 that committee are manufacturers as compared to
17 25 percent on CMP 2. However, there's only one
18 fire stop manufacturer and there is one fire
19 stop installer. I represent six percent of the
20 committee membership. With CMP 2, there are
21 three GFCI manufacturers and three installers.
22 That represents 38 percent of the committee
23 membership. I wonder what NFPA 101 would look
24 like if there were seven fire stop

1 manufacturers and five installers on that
2 technical committee. There are five negative
3 votes on TIA 1653 and 1654. Three are GFCI
4 manufacturers. One is a special expert who was
5 previously employed by a GFCI manufacturer and
6 maintains close ties in the GFCI industry. And
7 the last is UL. And it was a UL representative
8 involved in testing GFCI equipment.

9 Now I raised issues a year ago before
10 this council with regard to CMP 2 member -- you
11 just heard that on some previous appeals as
12 well. At the time, I was told or you heard
13 that NEMA should not be considered a GFCI
14 manufacturer. That is a group of 325 members.
15 That statement was not made until the final
16 closing comment by opposition which did not
17 give me chance to respond to that. So I would
18 like to respond to that today.

19 According to the NEMA website, there
20 are 11 members of the ground fault personnel
21 protection product group. Eight of those
22 members are members of the NEMA codes and
23 standards committee, including the chair and
24 vice chair. There are 19 members of the NEMA

1 codes and standards committee. They simply
2 need a majority of those present to take a
3 position.

4 So that means eight GFCI manufacturers
5 plus two other people established a NEMA
6 position. And, in fact, the NEMA codes and
7 standards committee does not allow nonmembers
8 to participate in their deliberations. I was
9 granted an allowance a year ago to provide an
10 informational presentation to the codes and
11 standards committee.

12 Looking at the IEEE vote, the chairman
13 of the IEEE told me that they established a
14 position based upon the recommendation of their
15 representative who, again, was previously
16 employed by the GFCI manufacturer. GFCI
17 manufacturers were present at their meeting
18 although they did not vote. There was no HVAC
19 interest represented at that meeting.

20 I want to talk a little about the task
21 group. So the first meeting of the task group,
22 I and others felt there's no way this group is
23 ever going to reach consensus on this issue.
24 The group was so diverse and the positions

1 coming into that vote meeting were so far apart
2 it just seemed like this was going to be
3 fruitless. However, under the excellent
4 leadership of the task group chair, we did in
5 fact reach consensus. A very strong consensus.

6 That task group is far more balanced
7 than CMP 2 is with regard to this issue. In
8 fact, there were times during the task group
9 meeting that the chair said I want to take a
10 poll of just CMP 2 members because I know this
11 has to pass CMP 2. And, in fact, one of those
12 resulted in a date in the TIAs that are being
13 addressed here this afternoon. The AHRI
14 members don't think a date should be in there.
15 But they were willing to accept a date to move
16 this forward.

17 Eventually we reached consensus. As I
18 said, I was asked to chair a task group, a sub
19 task group, to write the TIAs in the supporting
20 statement. There were multiple requests by
21 myself and the task group chair for GFCI
22 representatives to be part of that task group
23 and none accepted the invite. UL had
24 representation on that task group, but that

1 individual was not able to participate in any
2 of the task group meetings. At the end of the
3 day, the task group you asked to be appointed
4 voted to support these TIAs with only two
5 negative votes. At that meeting, a GFCI
6 representative said but we can submit a
7 competing TIA, correct? Obviously they can.
8 And that was the answer they were given.

9 What is LBA's concern? The GFCI
10 industry created this problem in the second
11 revision to the 2020 edition of the NEC based
12 upon a single fatality. The compatibly issues
13 were known at that time by both CMP 2 members
14 and the GFCI industry. Despite that, has CMP 2
15 ever requested research be done? Has NEMA
16 every initiated any research to address this
17 issue? Despite that, NEMA's position is that
18 they fully expect HVAC manufacturers and
19 certification bodies to implement necessary
20 actions without further HVAC requests for
21 sunset date extension of a permissive
22 allowance. Why is it everybody else's issue to
23 deal with? Why does the GFCI industry not feel
24 that they should be part of the solution?

1 And with regard to the date, the task
2 group has clearly, in our supporting statement,
3 recognized that September 2026 may not be long
4 enough. To a question that was asked in the
5 last appeal, UL has mentioned it's going to
6 take five to six years to achieve compatibility
7 between the standard for GFCI and HVAC
8 equipment.

9 Let me just summarize for now the
10 points I want to make and then I'll yield to
11 others. As a committee member, NFPA technical
12 committee member, I appreciate the fact that
13 the council typically defers to their technical
14 committees. However, in this instance, you
15 asked for a balanced task group to address
16 issue and submit technically supported TIAs.
17 The task group did that. With a multipage
18 supporting statement with a bibliography of the
19 technical references that would be considered
20 by the task group. The competing TIAs, 1656
21 and 57 have absolutely no technical support
22 submitted for those TIAs.

23 The correlating committee has voted
24 that there's no correlation with 1653 and 1654.

1 If a task group report had been presented at
2 the second draft meeting of CMP 2 -- and task
3 group activities were deferred until after the
4 second draft meeting -- but if that report had
5 been submitted to CMP 2 and the voting was the
6 same as it was on the TIAs, there would've been
7 a second revision consistent with the TIAs.
8 Because the TIA passed by more than two-thirds
9 but did not achieve 75 percent.

10 I don't want to repeat things that
11 you've heard in the AHAM appeal. But you
12 already did hear some comments that I think are
13 relevant. Twenty-three states have already
14 spoken on this issue and has modified the
15 requirements of the NEC. GFCIs are only
16 evaluated at 60 hertz. I think you're going to
17 hear that that is part of the problem the task
18 group did.

19 So it's time for me to encourage you
20 to issue TIA 1653 and 1654, and do not issue
21 TIA 1656 and 57 unless you don't issue the two
22 we've requested you to issue. And if you do
23 issue 1656 and 1657 just as last year, that is
24 simply going to be a partial solution to the

1 problem.

2 MS. KOBAN: Mary Koban, representing
3 AHRI. AHRI strongly recommends that the
4 Standards Council move forward with TIA 1653
5 and 1654. Why? There the four reasons why and
6 I'd like to highlight those. First, the
7 incompatibility issue notified the Standards
8 Council last fall. The Standards Council
9 directed the NFPA staff to form a task group to
10 address the issue, right. So this broad-based
11 task group came together with a strong
12 consensus with TIA 1653 and 1654.

13 However, Code-Making Panel 2 chose to
14 ignore the task group and issue an nonconsensus
15 TIA. What was the rationale for this step?
16 Why did the NFPA Standards Council appoint a
17 task group to determine consensus if
18 Code-Making Panel 2 ignores that group. What
19 is the point of that group coming together? My
20 members are very frustrated by trying to
21 understand that rationale.

22 Second, the historical safety of
23 properly installed and listed and labeled HVAC
24 equipment for more than 40 years equipment to

1 UL 1995 does not indicate the need for
2 additional GFCI protection until these
3 compatible issues are resolved. Listed HVAC
4 equipment the manufacturers' installation
5 instructions have been proven safe as evidenced
6 by more than 120 million units currently in
7 service. And we're talking about one incident
8 of a fatality with a improperly installed unit,
9 right. So we're talking one incident and more
10 than 120 million units currently in service.

11 Third, GFCI standards are not
12 consistent with regards to when the GFCI may
13 trip or must trip. And this is really a key
14 point, right. UL 943, this is the standard
15 that governs GFCI protection, is not even close
16 to completion. That standard is not able to
17 sufficiently address high-frequency GFCIs.
18 Therefore, it's erroneous to imply that GFCIs
19 are ready for prime time, right. The HVAC
20 equipment is not going to be compatible and be
21 able to intersect with this standard because
22 that standard is not done yet. So how will the
23 equipment manufacturer move forward if the UL
24 943 is not together.

1 One other thing I would like to note
2 is Mr. Reyes (phonetic), the UL member to NFPA
3 task group, noted that the resolution of the
4 standard as seen here in this ballot is likely
5 to take more than five years. So that gives us
6 that point of reference, why we're saying at
7 least five years. So how can my AHRI members
8 make the equipment when standards still in
9 flux? The lead time to get new HVAC products
10 through completion is still several years.

11 And, finally, CMP 2 continues to
12 ignore the nuisance field trip data associated
13 with six feet of equipment. Data was presented
14 by HVAC manufacturers and installers and it was
15 discounted while other unsubstantiated data
16 appears to be overly weighted. Unfortunately,
17 CMP 2 is losing credibility, and we hope that
18 NFPA Standards Council can rectify this issue.
19 Therefore, we ask the Standards Council to
20 please do the right thing. Move forward and
21 issue the TIA 1653 and 1654. And I want to
22 hand it over now to Ed who, I think, has some
23 real-world experience to share with you.

24 MR. LEHR: I'm a rookie here. So bear

1 with me. This is my first NFPA participation.

2 I was a member --

3 MR. GOLINVEAUX: Introduce yourself
4 for the record.

5 MR. LEHR: Ed Lehr, representing ACCA.
6 I am a HVAC contractor master, a HVAC
7 contractor master electrician, and a registered
8 professional engineer in Pennsylvania. I
9 wanted to cover the task group, the
10 unenforceable situation we'll have if 57 and 58
11 become the NFPA rule, how common ECMS are and
12 how much more common they're going to be by the
13 start of next year due to higher efficiency
14 standards. What a nightmare this will be for
15 the people who participate in construction as
16 well as the customers. The nature of the
17 single stage and multistage HVAC equipment is
18 much different than the types of items that
19 were referred to as not being a problem in
20 GFCIs. And if I knew I could get the money
21 back for every GFCI I took out that
22 malfunctioned, I would have kept them instead
23 of throwing them in the dumpster. And
24 air-conditioning is not a luxury. People take

1 refuge in their homes. They have medical
2 conditions and they need the air-conditioning.
3 We deal with a lot of emergencies that prove
4 that.

5 So with respect to the task group,
6 great experience, a wide variety of use. The
7 first session was who are you and what do you
8 do and what do think about this. And based on
9 that, I agree with Bill, never would have
10 thought that would've been an agreement. But
11 we ended up with 1653, 1654. We voted on that.
12 There where are only two negative votes from
13 the GFCI manufacturers when that vote was
14 taken. So the reason that there was a
15 consensus reached is there was a lot of data
16 exchanged and is attached to the TIAs. A lot
17 of people's experience. The inspectors talk
18 about what their job would be like if they were
19 working with the electrical contractors, et
20 cetera. So that's how these came to be.

21 And I'm disappointed that Code Panel 2
22 agreed at a 69 percent level but because of the
23 timing of the result of the task group, we were
24 confronted with a 75 percent hurdle. And Bill

1 talked about how difficult that would be.

2 The 57 and 58, if I got those numbers,
3 right. 56 and 57. They limit the exception to
4 power conversion equipment for speed control
5 for compressors. The bad news is there are
6 already units out with compressors with power
7 conversion equipment and it's not for speed
8 control. But the physics doesn't know that
9 only speed control application is exempted. So
10 these units will trip off for the same reason
11 that there was agreement that power conversion
12 for speed control should be exempted.

13 In addition to that, the fan motors on
14 the outdoor units are ECM motors in many cases
15 because those motors provide the same -- do the
16 same job using less electricity. And the new
17 standard that takes effect January 1, 2025, one
18 of the tools that manufacturers have to get
19 there is to start using the more expensive ECM
20 motors than the permanent split capacitor
21 motors that they use in general now.

22 So that has -- that means over
23 60 percent, 50 to 60 percent of the outdoor
24 units sold starting in next year, 2023, will

1 have power conversion equipment, but we're only
2 excluding eight to ten percent. So a lot of
3 the units are going to be tripping. I want to
4 talk about the single stage and two stage. The
5 problem with the compressors that are power
6 conversion equipment is they trip so often it's
7 like a -- it's like thunder when somebody's
8 trying to talk. You can't realize what's
9 happening with the single-stage units because
10 the flood of complaints is so great from the
11 units that are tripping all the time that have
12 the power conversion equipment.

13 We submitted from the Texas group
14 statistics on the tripping of single-stage
15 units. One of the reasons that that may happen
16 is that the compressors in outdoor units, they
17 sort the power at the point of application.
18 The inrush gets so high on those that in a lot
19 of the existing homes the lights dim when the
20 air conditioners come on. Well, there's no
21 data that says that that won't disturb the
22 performance of the GFCI. In fact, the task
23 group requested the data that justified the
24 original adoption of this section and there was

1 no test data. And that's part of the record of
2 the task group so.

3 MR. GOLINVEAUX: Thank you. With no
4 one opposing the appeal, any questions from
5 council? I'll start with Jim.

6 MR. QUITER: Jim Quiter, member of
7 council. This is a real simple one. Sometimes
8 task groups are small, and sometimes they're
9 big. We heard there were two negative votes.
10 You never said how many positive votes there
11 were.

12 MR. LEHR: I believe it was 16. I
13 think there were 18. It might have been 14 to
14 2 or 16 to 2. I don't remember exactly.

15 MR. KOFFEL: Bill Koffel, Koffel
16 Associates. There is no formal record of that
17 vote since it was done at this task group
18 meeting, but it was an overwhelming majority.

19 MR. LEHR: Because it looked so
20 impossible at the start, that's why I was
21 clearly surprised that there were only two
22 negative votes. I remember that clearly.

23 MR. GOLINVEAUX: Rich.

24 MR. GALLAGHER: Rich Gallagher, member

1 of council. A question for Mr. Koffel. Would
2 you be able to characterize the membership of
3 the task group as compared to Code-Making Panel
4 2, how the makeup was different and may have
5 resulted in different outcomes.

6 MR. KOFFEL: Bill Koffel, Koffel
7 Associates, representing LBA. I'm not going to
8 get the exact numbers correct. But what I can
9 tell you is that there were three members of
10 the HVAC equipment manufacturers. I believe
11 there were three GFCI manufacturers. As Ed
12 indicated, there were HVAC contractors. There
13 were electrical contractors. UL was
14 represented. CPSC was represented. Leading
15 Builders of America was represented. National
16 Association of Homebuilders was represented.
17 There were some other interested parties from
18 CMP 2 and I think the correlating committee.
19 But I would have to go back to the original
20 task group list to give you exact numbers.

21 MR. GOLINVEAUX: Follow-up?

22 MR. GALLAGHER: Yes. Rich Gallagher,
23 member of council. Just a follow-up. How does
24 that compare against the CMP 2 in the makeup of

1 the committee?

2 MR. KOFFEL: Bill Koffel, Koffel
3 Associates, representing LBA. At the time of
4 the second draft meetings as you heard in
5 previous appeal, there were three manufacturer
6 representatives on CMP 2. They were all GFCIs.
7 Since that time, and this occurred before the
8 TIAs were processed, Greg from AHAM was
9 appointed to CMP 2. So there are now four
10 manufacturers, one of which is Greg who
11 represents AHAM. I think there's an
12 application for an AHRI member that you will be
13 potentially considering at this meeting. There
14 were, to the best of my knowledge, no HVAC
15 contractors on CMP 2. There are three
16 electrical contractors on CMP 2. National
17 Association of Home Builders is on both.
18 Leading Builders of America is only on the task
19 group.

20 MR. GOLINVEAUX: Okay. I'll go to Ken
21 first.

22 MR. BUSH: Thank you, Mr. Chair. Ken
23 Bush, member of council. Somewhere along in
24 the testimony, a statement was made that they

1 thought that the TIAs 1656 and 57 were
2 unenforceable. Could someone expand on that
3 point for me as to why that statement was made
4 as those being unenforceable.

5 MR. LEHR: Because -- Ed Lehr,
6 representing ACCA -- because it only excludes
7 power conversion equipment for speed control of
8 compressors. There's power conversion
9 equipment for compressors that is not there for
10 speed control. There's ECM fan motors that are
11 not there for speed control of compressors. In
12 package units, which are used in the southwest
13 and with mobile homes, there's also ECM blower
14 motors, which do not meet that definition. So
15 the code authority who will try to enforce it
16 won't be able to identify what exactly is
17 speed -- power conversion for speed control of
18 the compressor and will be confronted with
19 other power conversion and will actually,
20 according to the rule, the way it's written,
21 have to force them to put GFCI on equipment
22 that has a higher leakage current than the
23 GFCIs tolerate. So these things will trip and
24 the code official will be confronted with

1 having to take it on himself to do something
2 other than the written code, which is a
3 liability issue nobody wants to be in.

4 Same situation with air-conditioning
5 contractors and electrical contractors. They
6 won't be calling the township office that's
7 closed on the weekend; they will be calling
8 contractors and insisting that their unit
9 doesn't function and want action taken. But by
10 the letter of the law, we will not be able to
11 do that. And that's where there was a
12 reference to the fact that homeowners will now
13 be tempted to go in and bypass these devices.
14 So that's what the enforceability situation is.

15 The presence of ECM motors is not part
16 of the submittals of equipment. So code
17 reviewers -- plan reviewers won't know it.
18 Builders won't know it. Contractors won't know
19 it, even HVAC contractors. ECM motors are used
20 in some capacities in model one; they're not
21 used in other capacities in model one. You get
22 the version with ten digits that ends in an A,
23 and it has the ECM. If the one that comes to
24 you ends in a B, they may have taken the ECM

1 out and done something else. So it's -- it's a
2 nightmare.

3 MR. GOLINVEAUX: Okay. Follow-up?

4 MR. BUSH: A follow-up real quick.
5 Ken Bush, member of council. Does the TIA 1653
6 and 54 address that issue and clarify it?

7 MR. LEHR: They exclude listed HVAC
8 equipment. And it's because of this nightmare
9 with the power conversion as well as the
10 statistics that show that there is a tripping
11 issue with single-stage and two-stage
12 equipment. And there have not been tests done
13 to identify exactly what those issues are. But
14 the problem is there.

15 MR. BUSH: Thank you.

16 MR. GOLINVEAUX: And I'll have you
17 introduce yourself after the conclusion of
18 that.

19 MR. LEHR: This is Ed Lehr,
20 representing ACCA. I'm the person that doesn't
21 identify myself.

22 MR. GOLINVEAUX: Okay. Thank you.
23 We'll get there. Jeff.

24 MR. FOISEL: Jeff Foisel, member of

1 council. Mr. Koffel, can you help me out a
2 little bit here and go back over where you were
3 talking about the balance of CMP 2. I jotted
4 down you said like 38 percent were influenced
5 or GFCI-related. And can you help me reconcile
6 that with the voting.

7 MR. KOFFEL: Bill Koffel, Koffel
8 Associates representing Leading Builders
9 America. CMP 2 is balanced according to the
10 NFPA definition of balanced. There were three.
11 There are now four manufacturers. That is
12 25 percent of the membership of CMP 2. The
13 point that I was trying to make is the
14 influence that GFCI manufacturers have on CMP 2
15 between three manufactures, three installers,
16 which represents 38 percent of CMP 2 and a
17 special expert who has had past and continues
18 to have close ties with the GFCI industry.

19 MR. GOLINVEAUX: Follow-up?

20 MR. FOISEL: So quick follow-up.
21 Looking at the voting members, five against and
22 then you just named seven.

23 MR. KOFFEL: Bill Koffel, Koffel
24 Associates representing the LBA. One of the

1 interesting things that happened with the task
2 group is that the electrical contractors who
3 had previously opposed the TIAs now supported
4 TIA 1653 and 1654 both in the task group and in
5 CMP 2. We had five negative votes from three
6 GFCI manufacturers, one special expert with
7 past and current ties to GFCI industry, and a
8 UL representative.

9 MR. GOLINVEAUX: Mr. Quiter.

10 MR. QUITER: Jim Quiter, member of
11 council. Just for the record, it's been
12 brought up a couple times there is an
13 application on our agenda. And that is indeed
14 true. There is an application on our agenda
15 that we'll be dealing with later in this
16 meeting. Thank you.

17 MR. GOLINVEAUX: Are there any -- yes.
18 Suzanne.

19 MS. GALLAGHER: Suzanne Gallagher,
20 NFPA staff. Mr. Koffel, you mentioned that you
21 had raised concerns about CMP previously. Can
22 you elaborate on that?

23 MR. KOFFEL: Bill Koffel, Koffel
24 Associates, representing Leading Builders of

1 America. That concern was expressed last
2 August during the appeal hearing on the TIAs
3 that were under consideration at the council
4 meeting at that time.

5 MS. GALLAGHER: Thank you.

6 MR. GOLINVEAUX: Dawn.

7 MS. BELLIS: Going back to the
8 negative effect --

9 MR. GOLINVEAUX: Introduce yourself.

10 MS. BELLIS: Sorry. Dawn Michele
11 Bellis, NFPA staff. What would be the negative
12 impacts -- you've talked about if the TIA
13 passed, if those go in, there's an effective
14 date. Could you again clarify what the
15 negative impact would be if those were issued
16 by council.

17 MR. KOFFEL: Bill Koffel, Koffel
18 Associates, representing LBA. I believe there
19 is a consensus amongst the task group members
20 to go ahead and issue it with the effective --
21 the date effective September 2026. In our
22 supporting statement, we state that we may have
23 to revisit the issue. But the data is in there
24 for two reasons.

1 First off, the strong hold taken of
2 the CMP 2 members who were on that task group
3 and that they all -- I don't know if they
4 all -- but there was a strong consensus that a
5 date had to be in there for the past CMP 2.
6 Secondly, as stated in our supporting
7 statement, there was an interest in including a
8 date to encourage all parties, not just the
9 HVAC manufacturers, but all parties to try to
10 come to a resolution on this issue. But we
11 clearly state and the task group clearly stated
12 we may have to revisit this in 2026.

13 MS. KOBAN: Mary Koban. May I just
14 respond to that? Because let me just show with
15 you -- share with you what I tell my members,
16 right. So let's just kind of do a walking time
17 line. UL 943, which is the standard that
18 governs the GFCI is five years. So let's just
19 write that down. Today is, what, 2022, plus
20 five. Right there that's 2027. Now, my
21 members, they can't automatically on a dime
22 pull a project all the way through the standard
23 process, right. So they have to do their
24 supply chain and everything. So the quickest

1 they can do anything is 18 months.

2 Now I'm already in 2027, 2028. That's
3 just basic math. That's not even this UL 943
4 matched up with a large equipment standards.
5 UL 943 will have to match with UL 1995 because
6 that equipment is until December 31st of 2023.
7 It will also have to match up with UL 2-40,
8 which is the main standard for HVAC equipment
9 because we're switching over. And it will also
10 have to match up to AHAM's equipment, UL 2-24.
11 And then UL 2-89, which is refrigeration. So
12 it's going to have to fluctuate with all of
13 those.

14 In my best estimate, right now, we're
15 at 2028 to 2029. That's if my members are
16 lickety-split and get everything done in
17 12 months after these are all correlated. So
18 that's an issue right there. And you have it
19 verbatim that the UL representative said that
20 these standards are not going to be ready for
21 five years or more. How in the world people
22 make equipment when they don't have the
23 standards for five years? That's impossible.
24 Sorry. I'm a little bit passionate about that.

1 MR. GOLINVEAUX: Okay. Are there any
2 further questions from council? Mr. Quiter.

3 MR. QUITER: Sorry. I have one more.
4 Jim Quiter, member of council. You had
5 concerns about the membership of Code-Making
6 Panel 2. Since then one person has been added
7 and another one is on our agenda. And I don't
8 know which way that will go. But if they are
9 added, does that take away your concerns, or do
10 those concerns sill exist?

11 MR. KOFFEL: Bill Koffel, Koffel
12 Associates, representing LBA. I think that
13 will help. I think part of the concern is the
14 scope of CMP 2. It is challenging to get
15 interest from HVAC contractors and HVAC
16 manufacturers to participate in CMP 2. But
17 that will certainly help.

18 MR. GOLINVEAUX: All right. Dawn.

19 MS. BELLIS: Just a follow-up on Jim's
20 question. Are there specific groups we should
21 be -- you mentioned HVAC contractors. Are
22 there specific other groups that we should be
23 recruiting to CMP or reaching out to those
24 organizations or groups?

1 MR. KOFFEL: Bill Koffel, Koffel
2 Associates, representing LBA. I guess I might
3 encourage you to at the membership of the task
4 group and to see if there are parties there
5 that might be interested in also serving on CMP
6 2.

7 MR. GOLINVEAUX: Are there any further
8 questions from council? Seeing none, I am
9 going to ask you to, since there was no
10 opposition to the motion, if you could
11 summarize in a five-minute time frame, if
12 that's possible.

13 MR. KOFFEL: Bill Koffel, Koffel
14 Associates, representing LBA. I have nothing
15 further to say than my written statement and
16 what I said today.

17 MR. GOLINVEAUX: Thank you.

18 MR. LEHR: Ed Lehr, representing ACCA.
19 I'd just like to remind the council that the
20 CM2, Code-Making Panel 2, did vote 69 percent
21 in favor of 1653 and 1654. But due to the
22 timing of the process, we had a -- that's it.

23 MR. GOLINVEAUX: Okay. Thank you. As
24 we conclude the hearing, let me inform you as

1 to what happens next. The council will
2 deliberate and reach its decision in executive
3 session. Once the decision is made, that
4 decision, including the background or any other
5 information council believes relevant, will be
6 prepared by NFPA staff and published by the
7 secretary of the Standards Council on the
8 Standards Council web page,
9 www.NFPA.org/SC2022, and in accordance with the
10 regulations governed by the development of NFPA
11 standards.

12 Additionally, the decision will be
13 sent out to the appellants and the chair of the
14 responsible committees directly. The official
15 opinion and decision of the council is that as
16 published by the secretary. No other
17 communication shall be considered the council's
18 decision or position. Any questions regarding
19 the decision should be addressed with the
20 secretary.

21 On behalf of the NFPA standards
22 council, I would like to thank all of those who
23 participated in today's appeal hearing. Your
24 involvement, as well as all the stakeholders',

1 is important to the NFPA standards development
2 process. This hearing now ended. Thank you
3 very much for your time.

4 MR. KOFFEL: Thank you.

5 MR. GOLINVEAUX: Council is going to
6 go into executive session here. I believe the
7 next hearings were not showing up so there's no
8 official hearing requested. So we will go into
9 executive. For all the guests that have beared
10 with us the entire day, thank you for your time
11 and your involvement with the NFPA process. We
12 appreciate you being here. Thank you for your
13 time.

14 (Whereupon the hearing was adjourned
15 at 5:10 p.m.)
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CERTIFICATE

Commonwealth of Massachusetts.
Middlesex, ss.

I, LAUREN M. BUZZERIO, a Certified Shorthand Reporter and Notary Public in and for the Commonwealth of Massachusetts, do hereby certify: that the proceedings hereinbefore set forth were duly transcribed by me, and that such proceedings are a true record taken to the best of my stenographic ability.

I further certify that I am not a relative or employee or counsel or attorney for any of the parties, or a relative or employee of such counsel or attorney, nor am I financially or otherwise interested in the outcome of the action.

IN WITNESS WHEREOF, I have hereunto set my hand and notarial seal this 25th day of August, 2022.



LAUREN M. BUZZERIO

My commission expires
on January 18, 2024