

**CALIFORNIA BUILDING STANDARDS COMMISSION
MEETING MINUTES**

January 15, 2019 – 10:00 a.m.

January 16, 2019 – 9:00 a.m.

Tuesday, January 15, 2019

1. CALL TO ORDER

Vice Chair Steven Winkel called the meeting of the California Building Standards Commission (CBSC) to order at 10:05 a.m. at the California Victim Compensation Board, 400 R Street, First Floor Hearing Room, Sacramento, 95811.

Vice Chair Winkel stated he was sitting in for Secretary Batjer, who was on call for jury duty. For clarification he added he was still acting as the Vice Chair, acting in the stead of the Chair; he still remained a voting member of the Commission.

ROLL CALL

CBSC staff member Pamela Maeda called the roll and Vice Chair Winkel stated we have a quorum.

Commissioners Present: Steven Winkel, Vice Chair
 Juvilyn Alegre
 Larry Booth
 Elley Klausbruckner
 Erick Mikiten
 Rajesh Patel – Joined the meeting during the closed session
 Peter Santillan
 Kent Sasaki

Commissioners Absent: Secretary Marybel Batjer, Chair

Commissioner Booth led the Commission in the Pledge of Allegiance.

Vice Chair Winkel announced that on January 2, 2019, Governor Edmund G. Brown, Jr. reappointed Commissioners Booth and Winkel to another four-year term. The two Commissioners then freely took their oaths of service.

Vice Chair Winkel gave the instructions regarding public comments and teleconferencing.

2. CLOSED SESSION: PENDING LITIGATION

Vice Chair Winkel stated Item 2 is a closed session so the Commission may confer or receive advice from the Office of the Attorney General. The teleconference line and captioning will be muted during this time.

When the Commission reaches Agenda Item 3 the teleconference line will be live. At this time, we ask that the members of the audience please step outside while the Commission conducts its closed session.

Commissioner Santillan recused himself from the closed session.

Closed session.

A short recess was taken.

Open session resumed.

3. COMMENTS FROM THE PUBLIC ON ISSUES NOT ON THIS AGENDA

Vice Chair Winkel advised that the Commission may receive public comments on matters not on the agenda. Matters raised may be briefly discussed by the Commission and/or placed on a subsequent agenda. No action may be taken by the Commission on items raised during this agenda item.

Questions or Comments from the Public:

No questions or comments from the public.

STATE ADOPTING AGENCY RULEMAKINGS

Vice Chair Winkel stated upon approval these building standards will be codified and published in the 2019 edition of the California Building Standards Code, Title 24, of the California Code of Regulations.

4. BOARD OF STATE AND COMMUNITY CORRECTIONS (BSCC 01/18)

Vice Chair Winkel stated Item 4 contained amendments to the 2019 California Administrative Code, Part 1 of Title 24 and asked the representatives from the Board of State and Community Corrections (BSCC) to please come forward and present Item 4.

As an adopting agency, BSCC approved these regulations earlier this year. Building standards law requires the Building Standards Commission to consider the record of the proceedings by which the Board of State and Community Corrections adopted building standards for compliance with the Administrative Procedures Act and the building standards law. BSCC is requesting approval that the rulemaking process they administered meets the intent of the Administrative Procedures Act and building standards law and may be published in the 2019 edition of Title 24. Will representatives of the Board of State and Community Corrections please come forward and present Item 4.

Ginger Wolfe, of BSCC, stated the BSCC is an adopting agency responsible for promulgating minimum standards for the operation and design of detention facilities operated by local law enforcement agencies, such as sheriffs, police, and probation departments.

The amended regulations before you today are the result of three separate revision processes conducted by the BSCC. Preliminary activities included the use of executive steering committees and subject-specific work groups made up of subject matter experts, including but not limited to State Fire Marshals (SFM), architects, facility administrators, criminal justice advocates, PREA experts, and Juvenile Justice Commission members.

The three revisions were adopted by the BSCC Board at its February 2017, June 2017, and February 2018 board meetings.

The amendments were aimed at updating regulations for consistency, with protections outlined in the federal Prison Rape Elimination Act (PREA), with in-person visitation requirements approved by Assembly Bill 103 in June of 2017 and with current best practices and language determined during a regularly-scheduled revision process of our Juvenile Title 15 and 24 regulations. That regularly scheduled revision occurs approximately every two to three years.

The majority of the amendments before you today make editorial or clarification changes, such as updating code references and language for consistency.

Significant amendments include the requirement that facility design and space as it relates to security shall consider the prevention of sexual abuse and harassment. Four things must be provided where operationally and mechanically appropriate for consistency with other sections of Title 24, sanitation, and ADA requirements. Mirrors must be installed near each wash basin and visiting areas of the facility must include space for in-person visitation.

That concludes our overview. If anyone has any questions, we ask for approval.

Vice Chair Winkel opened Item 4 for Commissioners' comments and discussion.

Questions or Comments from the Commissioners:

No questions or comments from the Commissioners.

Questions or Comments from the Public:

No questions or comments from the public.

Motion: Vice Chair Winkel entertained a motion to consider BSCC's request for approval of their rulemaking process for the 2019 California Administrative Code, Part 1, and the California Building Code Part 2 of Title 24. Commissioner Sasaki moved approval of the rulemaking process as presented. Commissioner Mikiten seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted "Yes": Commissioners Alegre, Booth, Klausbruckner, Mikiten, Patel, Santillan, and Sasaki, and Vice Chair Winkel.

CALIFORNIA STATE LANDS COMMISSION (SLC 01/18)

Vice Chair Winkel stated we will move on to Item 5, amendments to the 2019 California Building Code, Part 2 of Title 24. The adopting agency is the State Lands Commission (SLC). They approved these regulations at their July 2018 Commission meeting. Building standards law requires CBSC to consider the record of the proceedings by which the SLC adopted

building standards for compliance with the Administrative Procedures Act and building standards law. SLC is requesting approval that the rulemaking process they administered meets the intent of the Administrative Procedures Act and building standards law and may be published in the 2019 edition of Title 24.

Vice Chair Winkel asked the representatives from SLC to introduce themselves and present Item 5.

Dr. Avinash Nafday, Lead Engineer for the Marine Environmental Protection Division, introduced himself and his colleagues, Kendra Oliver, Senior Structural Engineer for Petroleum Structures, and Joe Fabel, legal counsel.

Dr. Nafday stated: The item before you is the revision of Chapter 31F, commonly referred to as the Marine Oil Terminal Engineering and Maintenance Standards, or MOTEMS. This revision represents MOTEMS modifications based on input from the community, engineering firms, staff experienced in MOTEMS work over the past three years, and previous comments from CBSC.

The proposed modifications include reorganization of provisions to improve continuity and clarity, expansion of the seismic provisions for nonstructural components, non-building structures and building structures to incorporate the latest technical standards, and updating the elimination provisions to industry standards. Professional expertise was enlisted from the California State University San Luis Obispo for this purpose.

This revision was noticed to the public and was subjected to two public comment periods. All comments were responded to either in the Final Statement of Reasons or by modifying the Express Terms. The modified regulatory text was unanimously approved by the Commissioners of SLC on October 18, 2018. There was no testimony made by any interested parties at this commission meeting.

That concludes our presentation and we are asking for approval of this agenda item.

Vice Chair Winkel thanked Dr. Nafday for the overview and opened Item 5 for Commissioners' comments and discussion.

Questions or Comments from the Commissioners:

Commissioner Klausbruckner stated three or four years ago when SLC the State Lands Commission was before CBSC she had mentioned after the meeting that some of the language in the section was not proper regulatory language and how SLC should look at the entire document and see if you can improve on it from a regulatory code standpoint, from an editorial and language standpoint. She understood there was not enough time then to revamp the entire document in the short time that was allotted, so she wondered what had been done with that because she again saw a lot of that language that is non-regulatory in here that I'm seeing every time I look at this document.

Dr. Nafday replied: After the last Commission meeting, we discussed your suggestions with our management, and based on the resources available it was decided that we would pursue your comments in a phased manner, in a progressive manner, every time we revise MOTEMS.

We have tried our best to act on those suggestions during this revision. As far as the entire document, we did not have the resources to do it at this time.

Commissioner Klausbruckner asked Vice Chair Winkel if she could make comments.

Vice Chair Winkel clarified that commentary at this point should be about their process, not about the content.

Commissioner Klausbruckner stated for the nine-point criteria some of the criteria is about whether it follows the same regulatory accompany as CBSC, clarification or vagueness in the way it's written.

Viana Barbu, Legal Counsel, Department of General Services (DGS), clarified: So it sounds like they are a self-adopting agency, so the Commission is only tasked with looking to see if they have not disturbed the process in any major way. You can go ahead and make comments; however, it is not something the Commission can take into consideration at this time. But the Commission can hear the comments.

Commissioner Klausbruckner added a few pointers. You guys have regulations within definitions. You have language such as, generally this may be allowed. With the word 'generally' there is a whole bunch of language that still, even though it is for this cycle is just not proper regulatory language, in my opinion. So if you want I can eventually email you a list for the next code cycle. But it is something to seriously consider. Or if CBSC is willing to help you with some of that, that might be something that you might want to consider.

Mr. Nearman stated CBSC would be happy to assist in that process. Some direction would be awesome, and then we'll see if we can work out a schedule with SLC the State Lands Commission.

Mr. Fabel from SLC the State Lands Commission apologized to Commissioner Klausbruckner for not communicating with her office prior to this because she had identified aspects she would like to see revised. I can state that structural revisions of the type that you recommended will be a priority next cycle and I hope that is not an empty statement. What we will do is seek funding for this next fiscal year to hire a consultant to start looking into those aspects along with working with CBSC staff.

Just to add, the last two years it's been interesting, SLC has been tasked with decommissioning two offshore oil platforms for the first time in state history. Being a small agency we have had to rely in large respects on engineering resources and that has really taken away a lot from our ability to be able to focus on these structural aspects. We are hoping within the next two years those issues will be resolved more or less so we can focus on that aspect. So once again, my apologies for the lack of communication.

Questions or Comments from the Public:

No questions or comments from the public.

Motion: Vice Chair Winkel entertained a motion to consider SLC request for approval of their rulemaking process for the 2019 California Building Code 2 of Title 24. Commissioner

Booth moved approval of the rulemaking process as presented. Commissioner Patel seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted “Yes”: Commissioners Alegre, Booth, Klausbruckner, Mikiten, Patel, Santillan, and Sasaki and Vice Chair Winkel.

STATE PROPOSING AGENCY RULEMAKINGS

Vice Chair Winkel stated: We will now move on to the State Proposing Agency Rulemakings. Upon approval and adoption these standards will be codified and published in the 2019 edition of the California Building Standards Code, Title 24, of the California Code of Regulations. Commission action will be guided by the nine-point criteria, as established in Health and Safety Code section 18930. The Commission will consider each Agency’s proposed building standards and its justifications, Code Advisory Committee recommendations, comments submitted by the public during public comment periods, and oral and/or written comment received at this meeting. The public may comment on any challenges to the proposals or Code Advisory Committee recommendations submitted during the comment periods. No new issues or new information challenging the proposed code changes may be presented to the Commission in the adoption of the proposed regulations, based on previous challenge. The Commission will take action to adopt and approve, disapprove, further study required, or approve as amended the proposed code changes. The Commission may take action on the entire package, or if necessary, take separate actions on individual items listed in the Commission action tables.

California Department of Water Resources (DWR 01/18)

Vice Chair Winkel stated the next item was Item 6. He asked the representatives from Department of Water Resources (DWR) to introduce themselves and present Item 6.

Mr. Richard Mills, representing DWR, stated they are here to present amendments to the plumbing code related in particular to the use of recycled water. I have been in charge of the water recycling and desalination section of DWR for the past eight years, and prior to that I worked for the State Water Resources Control Board for over 36 years, primarily focused on recycled water issues. With me is my colleague, Nancy King; she has worked for DWR since 2000, mostly during that period also in the water recycling and desalination section. In 2002-2003 she served as staff to the recycled water task force. The significance of that is that one of the key recommendations was calling for a California plumbing standard related to where both recycled water and potable water were used in buildings around premises.

In the 2016 intervening code cycle, DWR, as well as the Building Standards Commission and the Department of Housing and Community Development (HCD), adopted substantial amendments to Chapter 15 of the Plumbing Code as well as some amendments to Chapters 2 and 6.

Since then, the model code was revised and Chapter 15 was substantially reorganized from the model code that we were working with in the intervening code cycle, and that meant that the amendments that the three agencies adopted in Chapter 15 were now completely out of synch with the latest model code. So one of the major changes that DWR is proposing, and

similar amendments are being proposed by the other two agencies, in Chapter 15, is to reorganize the content from what we had previously adopted so that it is now synchronized with the current Model Code Chapter 15. So many of the changes were involving mainly renumbering sections and renumbering section cross-references within the code. So they are not substantive changes. We made very few minor editorial corrections from the prior code, either grammatical corrections or filling in missing words and such.

One other amendment that is different from those I just described is in Chapter 1. The Plumbing Code description of DWR's authority and the applicability of standards that the DWR adopts in the Plumbing Code has been inaccurately stated in Chapter 1. So, one of the amendments that we are proposing is to correct that and to more properly represent DWR's authority as it comes out of Water Code section 13577. Basically our authority relates to the plumbing standards where both recycled water and potable water are used in buildings, and we interpret that to also to include the piping between the property line and the building. So we have reworded that to mimic the water code language.

So that's the gist of our amendments and we are happy to answer any questions you have.

Vice Chair Winkel thanked Mr. Mills for the overview and opened Item 6 for Commissioners' comments and discussion.

Questions or Comments from the Commissioners:

No questions or comments from the Commissioners.

Questions or Comments from the Public:

No questions or comments from the public.

Motion: Vice Chair Winkel entertained a motion to consider DWRs' request for adoption and approval of amendments to the 2019 California Plumbing Code, Part 5, Title 24. Commissioner Sasaki moved approval and adoption of the request as presented. Commissioner Mikiten seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted "Yes": Commissioners Alegre, Booth, Klausbruckner, Mikiten, Sasaki, Patel, and Santillan, and Vice Chair Winkel.

5. Department of Housing and Community Development

Vice Chair Winkel stated we will move on to Item 7, and asked the representatives from the HCD to please come forward and present Item 7.

7a. Department of Housing and Community Development (HCD 01/17) Proposed adoption of the 2017 edition of the National Electrical Code with amendments for incorporation into the 2019 California Electrical Code, Part 3 of Title 24.

Mr. Stoyan Bumbalov, Codes and Standards Administrator I, HCD, introduced himself and Emily Withers, Codes and Standards Administrator II, HCD.

Mr. Bumbalov thanked the Commission for the opportunity to present HCD's proposed changes for the 2019 California Electrical Code (CEC). HCD's proposed changes for the 2019 CEC are very modest and include adoption of 2017 national electrical code, amendments from 2016 CEC, some editorial corrections, and changes to provide consistency with other parts of Title 24. The proposed code changes were mailed to our Title 24 email subscription list on August 28, 2017, with a comment response date of September 14, 2017. HCD's rulemaking activities for the CEC started a year earlier than the other model codes due to the publication date of 2017 National Electrical Code (NEC). Our proposal was also presented to Building Standard Commission's Plumbing, Electrical, Mechanical, and Energy (PEME) Code Advisory Committee (CAC) on August 14, 2018. The CAC approved our proposed items as submitted by HCD. The Express Terms were made available to the public for a 45-day public comment period from September 14 to October 29, 2018. HCD did not receive any public comments and no changes were made to the Final Express Terms as submitted to CBSC. In conclusion, HCD requests approval and adoption of the final Express Terms in the rulemaking package for the 2019 CEC. And again, if you have specific questions, we will be happy to provide further information.

Questions or Comments from the Commissioners:

No questions or comments from the Commissioners.

Questions or Comments from the Public:

Mike Stone of the National Electrical Manufacturers Association (NEMA) spoke in support of HCD's Electrical Code adoption package as submitted. NEMA strongly supports the adoption of the most current edition of the NEC with as few amendments as possible. The 2017 NEC, which the 2019 CEC is based on, contains a number of new provisions that recognize new and emerging technologies as well as enhancing safety for the public and electrical workers. HCD has done a great job of minimizing amendments to this code. This is important to the manufacturers because consistency throughout the country makes it easier and more cost-effective to do business, and engineers, architects, contractors, and installers who do business in multiple states also really appreciate the minimal code amendments; so kudos to California and to the state agencies for keeping the amendments to a minimum.

And also I was able to serve on the PEME CAC. I just wanted to thank CBSC staff and all the state agency staffs for their great work getting those packages ready for us. They made it very easy and very clear and very thorough and complete so thank you to staff.

And lastly, I will have these same comments for OSHPD, the CBSC, the Division of the State Architect, and SFM, but I am not going to get up here and say the same thing for all those agencies so let the record show that NEMA does support all those adoption packages from all the state agencies.

Vice Chair Winkel thanked Mr. Stone for the reference to the other packages, appreciate it.

Mr. Stone responded yes, save you time.

Vice Chair Winkel thanked Mr. Stone for his comments.

Motion: Chair Batjer entertained a motion to consider HCD's request for adoption and approval of amendments to the 2019 CEC, Part 3 of Title 24. Commissioner Alegre moved approval of the request as presented. Commissioner Klausbruckner seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted "Yes": Commissioners Alegre, Booth, Klausbruckner, Mikiten, Sasaki, Patel, and Santillan, and Vice Chair Winkel.

7b. Department of Housing and Community Development (HCD 01/18) Proposed adoption of the 2018 edition of the Uniform Mechanical Code with amendments for incorporation into the 2019 California Mechanical Code (CMC), Part 4 of Title 24.

Vice Chair Winkel asked the representatives from HCD to reintroduce themselves and present Item 7b.

Mr. Bumbalov reintroduced himself and Ms. Withers and proceeded to the presentation.

Mr. Bumbalov stated HCD's proposed changes to the 2019 CMC are very modest and include adoption of the 2018 Uniform Mechanical Code, carrying forward the existing amendments from the 2016 CMC and some editorial modifications to provide consistency with other parts of Title 24. We have also made some changes to provide pointers to the 2019 CEC for the convenience of the code user. HCD's proposed changes to these codes were discussed at an HCD focus group meeting held on January 24, 2018. Our proposal was also presented to CBSC's PEME CAC on August 14, 2018. The CAC approved our proposed items as submitted by HCD. The Express Terms were made available for the public for a 45-day public comment period from September 14 to October 29, 2018. HCD submitted a comment for the comment period for purposes of updating. HCD did not receive any public comments and no changes were made to the Final Express Terms as originally submitted.

In conclusion, HCD requests approval and adoption of the Final Express Terms in the rulemaking package for the 2019 CMC. If you have specific questions we will be happy to provide further information.

Questions or Comments from the Commissioners:

Vice Chair Winkel asked, you made some comments on the proposal, but as far as public comments, you received none; is that correct?

Mr. Bumbalov responded: That is correct.

Questions or Comments from the Public:

No questions or comments from the public.

Motion: Vice Chair Winkel entertained a motion to consider HCD's request for adoption and approval of amendments to the 2019 CMC, Part 4 of Title 24. Commissioner Sasaki moved approval and adoption as presented. Commissioner Mikiten seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted “Yes”: Commissioners Alegre, Booth, Klausbruckner, Mikiten, Sasaki, Patel, and Santillan, and Vice Chair Winkel.

Lunch break was taken.

7c. Department of Housing and Community Development (HCD 02/18) Proposed adoption of the 2018 edition of the Uniform Plumbing Code with amendments for incorporation into the 2019 California Plumbing Code (CPC), Part 5 of Title 24.

Vice Chair Winkel asked the representatives from HCD to introduce themselves. Mr. Bumbalov introduced himself and his colleague, Beth Maynard, the technical expert who developed the package.

Mr. Bumbalov stated HCD's proposed changes to the 2019 CPC include adoption of the Model Code 2018 Plumbing Code carrying forward the existing amendments from the 2016 CPC, renumbering existing amendments to match the new format of the code, some editorial corrections and changes to provide consistency with other parts of Title 24, new proposals, and some repeals. HCD's proposed changes were discussed at HCD's focus group meeting held on January 24, 2018.

Our proposal was also presented to CBSC's, PEME CAC on August 14, 2018. The CAC approved the proposed items as submitted by HCD, with the exception of a new proposed amendment related to a new statutory requirement, this is SB-7, submitted installation for multifamily dwelling units. The CAC requested that clarity be provided to also note structures to be exempt as noted in the bill. HCD has amended the Express Terms as shown in the 45-day Express Terms to provide the reference to exempted structures. The CAC approved table 604.1 as amended, and suggested HCD provide the most current standards, which is the ASTM F876 2017 standard.

After coordination with CBSC, HCD did not accept this recommendation because the 2015 standard is the standard referenced in the model code. HCD can revisit this new amendment during the next intervening code adoption cycle. The Express Terms were made available to the public for a 45-day public comment period from September 14 to October 29, 2018. HCD submitted a comment during the comment period for purposes of updating. HCD also received six additional public comments and we may consider these changes during a future code adoption cycle. No changes were made for the Final Express Terms as submitted to CBSC as a result of these comments.

In conclusion, HCD requests approval and adoption of the final express terms and the rulemaking package for the 2019 CPC. If you have any specific questions we'll be happy to provide more information; the technical expert, as I said, is here.

Questions or Comments from the Commissioners:

Vice Chair Winkel asked: On page 17 of 53 in the plumbing fixtures and fittings in chapter 4 on the Final Express Terms, the language as I read that it says: *"All noncompliant plumbing fixtures in any residential real property shall be replaced with water-conserving plumbing fixtures."* I am trying to understand where the trigger for that is. It seems like a very broad, general statement. What am I reading into that?

Mr. Bumbalov responded: It is a general statement. As far as I can remember this is a reference to the Civil Code. There was a text that referred to the Civil Code and there were effective dates where we had already passed the effective dates. So this is a general statement that says existing buildings shall comply with this requirement.

Vice Chair Winkel asked, so I guess the implicit in that is that you do that when you get a permit?

Mr. Bumbalov responded: That is correct. Again, this is not HCD's regulation; this is text in the Civil Code we are referring to.

Vice Chair Winkel asked, so that the trigger for this would be obtaining a permit for work in terms of this provision would apply generally. If I am remodeling my front porch or let's say I am doing some new kitchen plumbing, that would trigger this in terms of fixtures; is that correct?

Mr. Bumbalov responded: That is correct.

Vice Chair Winkel stated: Okay, that's the intent of the Legislature, but the stricken language had residential buildings undergoing permitted alterations, additions, and improvements. And that language of permitted alterations, additions, and improvements is not in the new language.

Mr. Bumbalov responded that it is not in the new language because we are already past the date.

Ms. Maynard added, now in the Civil Code it has gone beyond the dates and all buildings now are required to have compliant fixtures, and especially when they sell the building.

Mr. Bumbalov added, the Civil Code had specific dates. So it started with additions and alterations and then 2017 for single family, 2019 for multifamily. And we are already past the dates because we are talking about an effective date of January 1, 2020.

Vice Chair Winkel asked, so the triggers are not necessary because they are always there, they apply to any structure.

Mr. Bumbalov responded, that is correct, yes.

Vice Chair Winkel stated, thank you. There's one other one. In 1502.3 there was a requirement for non-potable water, an annual cross-connection test, and that was deleted. Is that something you felt was onerous? There was a requirement for cross-connection testing at installation but then there was an annual requirement, which was deleted.

Ms. Maynard responded, this is something we have carried forward. This is not new. We have not adopted the annual cross-connection for many changes.

Vice Chair Winkel stated, this is confusing. I am picking on you because you are up here but this is a general thing. The reference to continuing previous amendments is a good general statement, but then when deletions which are continuing previous amendments show up in other sections, it gets pretty confusing to keep track of what you are up to. I don't know how you can be consistent. We kill ourselves with paperwork but reprinting the amendments might be the right thing because none of us can remember to go back and look at what is in the Code.

Mr. Bumbalov responded, this code cycle we were following the direction from the CBSC. I'm not the right person, but I would like to invite you for the next coordinating council.

Vice Chair Winkel stated, actually, one of the things we have discussed for the future, playing a little bit of our hand here, is discussing the varying success or varying presentations between agencies and actually looking at talking to the users of adjusting the code changes, which ones are effective and which ones are not. We would like to come up with some more consistent ways of doing this. So for the next code cycle we are going to be considering this to see what worked and what didn't. As I say, I'm picking on you guys, but I don't mean it that way, it's just something that came up as I'm thinking about it right now.

Commissioner Mikiten wanted to follow up on the question from Commissioner Winkel, the replacement of fixtures. Does the Civil Code actually require, if I am understanding correctly, that if you are replacing, say in a single-family home you are getting a permit to replace a sink in the kitchen, that you have to go into other rooms and replace everything?

Mr. Bumbalov responded: Yes, that's correct. Everything, yes. So this is applicable to buildings built after 1994. Why 1994? Because on federal level after 1994 there were more restrictive requirements, so the old buildings were left alone. For instance, 1.8 gallons per flush for water closet versus 3.0 or 6.0. So the intent is after 1994 everything is in compliance.

Commissioner Mikiten stated, okay, thank you. And then also on page 32 of 53 on the Final Express Terms, the Exceptions, they are stricken out on the top half of the page, in particular number (2), that a registered design professional is not required to design an on-site treated non-potable water system for single family. And then below that you say no change to model code. I'm curious, is that exception in the model code now?

Mr. Bumbalov responded: No. The model code is not shown in the Express Terms. We are saying the model code text will be adopted as is and the exception is the California exception.

Ms. Maynard asked what section Commissioner Mikiten was referring to.

Commissioner Mikiten stated it was Section 1501.2. He was wondering if something had changed substantively to not allow single family non-potable water systems to be designed or to not have to have a registered design professional?

Ms. Maynard replied, yes, the exceptions are still the same. The exceptions allow up to 350 gallons, I believe it is, without a designer to design that.

Questions or Comments from the Public:

Tom Enslow on behalf of the California State Pipe Trades Council. The Pipe Trades Council supports the proposed plumbing code amendments by HCD. We are happy to put our support behind it. We did want to speak just briefly today. We understand that there might be some opposition to Sections 715.3, which is a prohibition on patching cast iron pipe and some other pipe. That is in the model code and we support keeping that model Code language. That was language that was adopted unanimously by the technical committee and also the membership at International Association of Plumbing and Mechanical Officials (IAPMO). None of the agencies are proposing striking it. And I also wanted to clarify because honestly I wasn't that clear at first either. This is different than trenchless piping where you explode out a pipe and put in a new pipe. This is an issue of whether you can actually patch a pipe that its integrity has been compromised. What this prohibits is a process where you put in resin, which wouldn't be as strong, it makes the diameter of the pipes smaller, so you don't have the same flow rates, and there has been a long-standing prohibition on patching cast iron pipes if their integrity has been compromised because that compromise can go places you can't see with the visual eye; just pointing that out because some people wanted me to bring that out. But we support what is being proposed as is.

Vice Chair Winkel stated, Question. Basically the proposal is in the model code and the current proposal makes no amendments to the model code, which is why it's not really in the documentation we have. We are adopting it as written.

Mr. Enslow responded, correct. It is not really before you today,

Vice Chair Winkel thanked Mr. Enslow and called up the next speakers.

Phillip Ribbs addressed the Commission: Good afternoon. My name is Phillip Ribbs and I represent the Cast Iron Soil Pipe Institute, which is a nonprofit. The Institute supports the HCD language in 7c, the OSHPD language in 8c, CBSC in 10c, and the DSA in 11c, all for the same reasons, and I hope to just have to talk about this one time.

All of the cast iron producers and the manufacturers support the 2018 language, the current language, 715.3. I have documentation that I have received from the different manufacturers, there are three of them in the United States, they make over 90-some percent of all the cast iron, and I will just read one, if I may?

Vice Chair Winkel stated, please.

Mr. Ribbs continued, then I will leave the documentation with you.

January 14th, 2019, To Whom It May Concern. ABI Foundry is a manufacturer of cast iron soil pipe and fittings in Oakland, California, and have been a manufacturer since 1906. Our pipe and fittings are manufactured to standards that govern the quality of the product. These standards are the CISPI 301, ASTM A888, and ASTM A74. And those are all standards in Uniform Plumbing Code (UPC) and the International Building Code (IBC) or International Plumbing Code (IPC).

It is our understanding that the state of California is considering allowing the use of a type of internal bladder repair for pipe and fittings that are broken or cracked, and the standards that are in all of the plumbing codes in this country cover every detail from chemistry, tensile strength, dimensions, straightness, coating, testing at every four hours or when a new article is manufactured to make sure that we meet these standards. Records of each inspection and testing are to be kept for seven years, that's also part of the standard. In section 4.9 of the Cast Iron Soil Pipe Institute standards CISPI 301, which is included in the Plumbing Code, UPC, and IPC, these sections say pipe and fittings shall not be patched, filled, or welded by the manufacturer to repair cosmetic or material defects that occur within the manufacturing, within the standard. Then why would we as manufacturers want someone else to be allowed to patch, repair our pipe in a drain waste and vent system. This type of possible fix would only be a temporary fix at best and would not be suitable to take care of fitting openings and would reduce the inside dimensions of either the pipe and fittings which would make the pipe or fittings noncompliant with the standard or, for that matter, the Plumbing Code. It would be my recommendation not to allow this type of repair on our products for the state of California.

So that's kind of the way they feel about that.

The additional language that occurred between the 2015 UPC code, which became the 2016 CPC code, and the 2018 code, which is now being considered to become the 2019 code, that change in there is a clarification and was promulgated in 2016 and approved unanimously by the IAPMO TC in May of 2016. It was reviewed and approved by the general membership in September of 2016. In 2017, the language was reviewed twice again and approved unanimously in both cases. Lastly, the Building Standards Advisory Committee reviewed and supports the code language as it was published. So we would support what HCD has.

And in closing, further update in the 2018 proposed language code change before you was rejected in May by the technical committee and was rejected in September of 2018 by the general membership. Both votes were unanimous not to change the current 2018 UPC language.

Thank you very much. Do you have any questions?

Vice Chair Winkel stated: I guess this is sort of the same question I was asking Mr. Enslow in terms of what's proposed is the adoption of the model code language.

Mr. Ribbs responded, correct.

Vice Chair Winkel asked, and you are supporting that?

Mr. Ribbs responded, I am.

Vice Chair Winkel thanked Mr. Ribbs. And called up Mr. Cavanaugh.

Sidney Cavanaugh addressed the Commission: Good afternoon, committee. As an alumnus it has been nice to be here today to have a chance to talk to all of you, meet old friends. I wasn't going to talk today because I was assuming that our public comment was unfortunately presented late, but since CISPI and the California State Pipe trades have talked to the committee and I think misguidedly presented facts that are not necessarily correct.

The exemption of cast iron soil pipe is in conflict with the common practice in the industry which has rehabilitated cast iron pipe for over 30 years and is not restricted under the requirements of F1216 which is currently the only standard representing the UBC. I'm sorry, I didn't say I represented LMK Technologies and Cavanaugh Consulting, I apologize for that. Cast iron pipe has been rehabilitated by LMK and many other liners in jurisdictions all over the United States and Canada as well as in various countries around the world. All technical papers, engineering studies and literature around the use, performance and track record of cure-in-place technology shows its efficacy is not dependent on the pipe material. A comprehensive review of all those standards that he said up there, the CISPI standards, the ASTM standards, all the reference standards for cast iron soil pipe and fittings, ASTM A74, the ASTM A888 show no prohibition of the use of cure-in-place, there are no restrictions in those standards. It's totally unfair to owners and costs the owners of properties to force them to excavate, replace existing piping, when it can be rehabilitated with cure-in-place technology. There is no need in the code to state the obvious related to collapsed piping, as both ASTM F1216, which is the primary reference standard now in the code, and other currently developed consensus standards for cured-in-place, F2561, ASTM 2599, do not allow an attempt to reline piping that has collapsed and it mandates excavation or replacement before completing rehabilitation of the total line.

In addition, the term when piping is compromised is not defined and useless as a requirement in the code. Code language mandated the use of cured-in-place consensus standards F2561, F2599, and F3240 and rehabilitation of piping has already been approved by the International Plumbing Code and the International Code Council and will be part of the 1921 International Plumbing Code with no restrictions on the type of pipe it is used on. Code language similar to the language proposed in 21UPC is currently under consideration by IAPMO and wrongly supposed that it will not pass. Yes, so far the committee has voted against the change to the 2021 code, but the hearings are not over with. There are still some in May and hopefully we will get them to technically understand that this is a bad restriction. In fact, it's very interesting that even at the last hearing there was no justification technically presented by CISPI or anybody else as to why that pipe should be restricted.

We were hoping today that the committee would be able to vote on this issue and help us in the process of revising the code. I recognize where you are at, I recognize and appreciate you listening to what I have to say, and we will continue to push our efforts through the revision processes to the 21 code and we will probably be back to see you. Thank you very much.

Tom Bowman addressed the Commission: My name is Tom Bowman. After being born in Mission Viejo I moved to the Midwest where I attended college just outside of Chicago and began my plumbing career. Early in my career I was attending a continuing education seminar where cured-in-place pipe lining was introduced to myself and my team. Shortly thereafter my plumbing business acquired this innovative technology which allowed workers to remain safe and out of trenches, while allowing property owners the capabilities of fixing their piping assets with less downtime, substantial cost savings, and less construction debris in landfills, all while extending the remaining useful life of the system and providing long-term rehabilitative solutions to their piping problems.

As my colleague stated, ASTM 1216, more important, Appendix X1, has the technical and scientific parameters by which cured-in-place pipe lining is to follow when it is handling collapsed or compromised piping systems. After working with the state of Illinois public health and plumbing departments to accept this technology statewide, the manufacturer of the technology we were utilizing offered me a position which would allow myself and my family to return here to the state of California. Today I work and I represent for Aquam Technologies and represent over 140 employees who live and work in California and hundreds of contractors worldwide utilizing this technology. As we are familiar with technology and its positive impact on construction practices and society in general, I urge you to make a decision based on the scientific data and its proven 40-year history of rehabilitating pipelines throughout the world.

The way this additional language was brought forward through the UPC without regard to the ASTM, which is listed in this section of the code, is unacceptable. The fact that this language was put forward by a UPC technical committee member whose day job is a representative of CISPI, the Cast Iron Soil Pipe and Fitting Institute, this action by a standard-setting organization having anticompetitive impact without substantial justification constitutes perhaps a violation of antitrust laws. Furthermore, the Cartwright Act allows the end user and consumers to directly have an impact on those that are using this law that is proposed. The California Business and Professions Code Section 17200 authorizes consumers to bring suit, quote, any unlawful, unfair or fraudulent business acts or practices, end quote. A rule established on the basis of a false representation that limits consumer choice would no doubt violate this section. Therefore, in order to maintain the integrity and enforceability of the Uniform Plumbing Code as it relates to California and restore consumer choice that allows for safer work environments and remove the anticompetitive impact of the 2018 section 715.3, the code must be changed as modified in the submittal. I understand that the submittal did not follow the proper protocol and time frames as laid out by the committee. I do apologize about that. It did not come to our attention as an industry until August of this past summer, when one of our contractors had a job shut down with the plumbing code advisor, or the plumbing inspector, stating that in the 2018 UPC code, it was no longer law, or it was no longer permissible to use cured-in-place pipe lining in conjunction with cast iron sewer pipes. Public and worker safety, consumer choice cannot be stifled in this manner for the next three years until the next version of the UPC is developed in public, and if it is, it certainly will not go unchallenged. That's all.

Vice Chair Winkel asked if the Commissioners had any questions.

Commissioner Sasaki stated, this is maybe a question to the speaker and also to HCD. I am not a plumbing person, but what I understand from you is that this is a repair procedure, essentially. It is lining the pipe with some sort of resin.

Mr. Bowman responded, much like a stent for your heart, yes.

Commissioner Sasaki stated, right. So what I understand is that is currently not allowed in the Uniform Plumbing Code?

Mr. Bowman responded, currently, it is. In the 2015 UPC code, it states the first line of the current code, which it is to follow the parameters of 1216, are the ASTM F1216 that mandate how CIPP or cured-in-place pipe lining is utilized.

Commissioner Sasaki then asked, so I guess what I don't understand is, the proposal that HCD is putting forward does not allow that?

Mr. Bowman responded, so it allows the use of the technology, however, there's a statement, the second line, which rejects its use in conjunction with cast iron. And there was no scientific data that was put forward to the technical committee of the UPC to justify the means by which this type of product or technology could be used in conjunction with cast iron.

Commissioner Sasaki continued, so now I understand. So one of the directives, charges of the state agencies are to essentially adopt model code with amendments that are typically to implement, for example, state law. And I understand the advantage to that system, that it's in place for a long time, but it seems to me that it is kind of the model code process in which you have to sort of get the UPC to make those changes. I am just sort of explaining the position that we are in as a commission and what we are asked to review and approve. Our job is to approve it based on a nine-point criteria, and the issues that you brought up and the previous speaker brought up aren't necessarily on the nine-point criteria.

Vice Chair Winkel commented, I think Commissioner Sasaki asked the questions that I was going to ask in terms of the model code. I am going to restate it and correct me if I am wrong. The existing model code language allows the use of the process that you are talking about, the new model code language does not, or it has some additional restrictions, especially using the cast iron. We are adopting UPC, what is the status of the International Plumbing code requirements?

Mr. Bowman replied: The IPC follows 1216 as well.

Vice Chair Winkel stated, so the UPC and the IPC would be in alignment as far as this language, it's just this particular language?

Mr. Bowman replied, the UPC is eliminating cast iron, where IPC does not.

Vice Chair Winkel stated, okay, so they are not in alignment?

Mr. Bowman replied, correct.

Vice Chair Winkel stated, that's irrelevant because we are adopting the UPC.

Mr. Bowman replied, correct.

Commissioner Santillan stated, I have a question, just to follow the comments from Commissioner Sasaki. When you said you were late, was that through the vetting process.

Mr. Bowman replied, correct.

Commissioner Santillan asked, so as an option for you to continue, and I think the other gentleman made the comment, that you would have to wait until the next cycle; is that right?

Mr. Bowman replied, correct.

Commissioner Santillan asked, so the date of August, was that the first time you found out after the CAC meeting?

Mr. Bowman replied, that's correct.

Commissioner Santillan asked, and the model code was already adopted at that time?

Mr. Bowman replied, not by the state of California, but it was issued by the UPC.

Commissioner Santillan stated, okay.

Commissioner Klausbruckner stated, somebody in the group mentioned you guys are challenging or proposing changes to the 2021. Was that IPC or was that UPC?

Mr. Bowman replied, that is the UPC. Unfortunately, we have missed everything for the 2018, so the only thing that can be done is to currently challenge that going forward as well as challenge with a tentative interim amendment to the UPC.

Commissioner Klausbruckner asked, so if that gets approved, a lot of times we have interim amendments to the code, which are the blue sheets. Would HCD reconsider that change and reconsider adopting it before the 2021 codes? Would they consider reinvestigating or re-adding this back in to allow for the industry to continue in the interim cycle versus waiting three or four more years?

Mr. Bumbalov responded saying, for the triennial, we adopt the model code, we would propose the adoption of the model code. And during the rulemaking process if we receive a comment then we start evaluating and we reach out to other stakeholders. So at this time this discussion just did not happen. We learned about this issue about a week ago. So we went with the model code. It is not the next triennial. I can't speak. I don't know if there is issue or not. Again, I heard the comments a week ago. So how the process works, the next code adoption cycle is the intervening cycle. We can discuss it, but I can't promise anything because, again, we never had the time to research or do anything. What I am getting here is just the conflicting comments and I never spent the time to evaluate these comments.

Commissioner Klausbruckner asked, I guess my question was, would it be a possibility if things are looking more positive as far as the adoption of the 2021, if it looked more positive, that the industry did not necessarily need to wait three or four years before another revision is done with the interim cycle so that they could have this reversed at some point? No promises, but it's a standard process where you guys do consider the publication of the newer edition to see if you need to make any changes to the interim code cycle.

Mr. Bumbalov replied, we are required by law to adopt the model code, so this is what is happening during the triennial code adoption cycle. The intervening cycle is typically cleanup if we don't have a direction from the Legislature or the Governor's Office or something important. If IAPMO issues something that will reverse or will change this section, we have to evaluate it. Typically, we spend extra time, we evaluate it. If there is substantial impact on California, then in the past we have cases when we adopted these additional modifications to the model code.

And I know Mike Nearman can provide more qualification on this about the process, but for the triennial, we do adopt the model code.

Mr. Nearman stated, I'll briefly speak to the tentative interim amendment process. Model codes do on occasion issue tentative interim amendments, which typically is something that they identify needs to be updated or modified and they will put that out. That is helpful information but it does not automatically become part of California's code, it would have to go through the rulemaking process. Each agency on their own accord, for their occupancy classifications, would have to weigh it, work with their stakeholders, and then either propose to adopt it or amend it in some way to get it into code. So that would typically be how we would go about that process.

Mr. Bowman added: So I can understand the process here with the California Building Commission, and I apologize, I am not familiar with how it works. Does that mean that when you adopt the code there are no amendments or changes made by the Commission? So it is a full adoption or nothing and it goes back to the governing body who built that code?

Vice Chair Winkel responded: Once the code is adopted by the Commission it becomes the code that is published in July and it becomes mandatory on January 1 of 2020. We can adopt or not adopt certain portions of the code. We have the ability to subdivide sections, which is why we are having this kind of testimony. But once it goes out of this shop, nominally for the three-year code cycle, it becomes the California Building Code. There are interim amendments, which are things like errata or if there's some major change the model code makes or legislation, earthquake kinds of things. The most recent one was balcony failures and that sort of thing, where it generated a whole bunch of emergency legislation that became interim code changes. Basically, we have the ability to disassemble code proposals, but once it's voted on here it is what goes into the code.

Mr. Bowman asked, and so, there won't be any vote on this, as far as I'm understanding correctly; is that correct?

Vice Chair Winkel responded, well, no, that's up to us.

Mr. Bowman responded, okay.

Commissioner Mikiten stated, just to clarify, we here do not make amendments to what the state agencies propose. They may propose an amendment to the model code that we then rule on as adopting or not and we are asking for further study. But we here do not make amendments.

Vice Chair Winkel stated, this is not a debate at the moment. So, is there anything else you want to say?

Mr. Bowman replied, thank you for your time.

Vice Chair Winkel thanked Mr. Bowman and called Joanne Carroll.

Joanne Carroll addressed the Commission: Good afternoon. I am Joanne Carroll. I am here representing the National Association of Sewer Service Companies. I was the one that made

the public comment and I was late in the process, and I do understand, I believe, the process of getting involved in the code development and making amendments to it, and we will be involved in the future. I look forward to that. I think my constituents here have filled you with enough technical information on trenchless technology and the debate goes on between ourselves and the Cast Iron Institute. I would only like to say that this technology, trenchless technology, has been going on in the United States for 47 years and we have literally lined, with cured-in-place pipe lining, millions of lineal feet of cast iron soil pipe successfully, lasting more than 40 years. So it is not necessarily a temporary fix and I think we have some misunderstandings and some education we need to do. I sincerely appreciate your attention to this matter and the time that you have dedicated.

Vice Chair Winkel thanked Ms. Carroll and asked if there were any questions from the Commission. Hearing none, he called Bob Raymer.

Bob Raymer addressed the Commission: Thank you, Mr. Chairman, Commissioners. I am Bob Raymer with the California Building Industry Association. And I am not going to speak to the technical issues being raised today but just simply to the administrative process.

As Commissioner Mikiten pointed out, the state agencies are required by Health and Safety Code – in particular, HCD – to adopt various national codes as the base document for the California codes. In this case that we are speaking of right now, they are required to adopt the most recent edition of the UPC. Now HCD clearly has the authority to modify that by adopting equivalent measures, by adopting more stringent measures. The fact here is they are looking at the 2018 UPC. The adoption packages that HCD took through the administrative process and then to the CAC did not address this issue, it simply adopted the UPC as presented to the state of California. At this point, regardless of the merit of the proposal, administratively there's not a whole lot of opportunity to tweak the HCD package, it is either up or down on this particular provision. And so, as always, we look forward to dealing with technical issues down the road as they come before the various committees and whatnot, but for right now the question is whether or not you agree with HCD's package or not. The fact is they are doing exactly what the state law requires them to do, at a minimum they are adopting the UPC, the most recent edition.

Vice Chair Winkel thanked Mr. Raymer and called on Joshua Bellows.

Joshua Bellows addressed the Commission: My name is Joshua Bellows; I represent

Perma-Liner in this issue. I understand the situation that the board finds themselves in within administrative policies and what you are able to do and not able to do, thanks for clarifying that to us. Unfortunately, as was mentioned, we did not become involved in this in the beginning when it would have been much more appropriate, and understand that you have to rule on this as it is. I think at this point for our industry the only recourse would be to reach out to the individual area of jurisdictions and hopefully be able to discuss with them the merits of trenchless technology. I've lined with this technology. I have had the opportunity to line in the Capitol in DC, in various hospitals, hotels, schools, et cetera. Not to discuss the merits of trenchless technology, which has been around for a very long time, but rather to seek this

board's blessing or encouragement in reaching out to those local agencies to discuss this, this is something that you guys are able to do.

Vice Chair Winkel stated, I would say the local agencies always have alternate means and methods as for individual conditions. We would neither encourage nor discourage that, that is basically built into the law and what each local jurisdiction believes they can do. We would not send along a special message attached to anything in the code that says you should look at this more carefully than someplace else. But in terms of approaching local agencies, any building proponent always has that possibility.

Mr. Bellows stated, thank you for your time.

Commissioner Patel stated, I believe to add to that, also be aware that for locals to pass their amendments, those amendments have to be more restrictive than what is in the state code.

Mr. Bellows stated, understood, thank you.

Commissioner Klausbruckner stated, one comment, though. That's for making any amendments to the code. But on an individual project by project basis you can do alternative means and methods and a lot of times they do get approved if it's already in the 2021 code. So they do tend to be more accepting of newer codes if it's already in the newer edition that hasn't been adopted by California.

Vice Chair Winkel thanked Mr. Bellows and checked the telephone line for comments.

Motion: Vice Chair Winkel entertained a motion to consider HCD's request for adoption and approval of amendments to the 2019 CPC, Part 5 of Title 24. Commissioner Booth moved approval of the amendments as presented. Commissioner Sasaki seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted "Yes": Commissioners Alegre, Booth, Klausbruckner, Mikiten, Patel, Santillan, and Sasaki and Vice Chair Winkel.

7d. Department of Housing and Community Development (HCD 06/18) Proposed adoption of amendments to the 2016 California Green Building Standards Code, Part 11 of Title 24 for incorporation into the 2019 California Green Building Standards Code, Part 11 of Title 24.

Vice Chair Winkel asked the representative from HCD to introduce himself and present the overview.

Mr. Bumbalov introduced himself and presented HCD's proposed changes for 2019 CALGreen in an HCD focus group meeting held on November 29, 2017. The proposals were subsequently presented to the Building Standards Commission Green Building Code Advisory committee on August 22, 2018. The CAC required a short-term further study for EV charging space locations depending on availability of common use parking areas and HCD modified this section. Another concern was related to HCD's proposal for optional use of energy

management systems and HCD withdrew these provisions from the 2019 CALGreen. The Express Terms with changes resulting from the CAC recommendations were made available to the public for a 45-day public comment period from September 14 to October 29, 2018. Three public comments were received. An additional 15-day comment period was provided from November 14 to November 29, 2018; one public comment was received. HCD received a request from the Division of State Architect (DSA). DSA requested clarification of the use of the California Building Code Chapter 11B as related to accessibility requirements for electric vehicle charging stations for public housing and HCD is proposing a short amendment to provide this clarification. No other changes were made to the Express Terms as a result of the public comments. And this is our place to ask you if you have the addendum, the additional text that we are proposing?

Vice Chair Winkel asked Mr. Bumbalov to explain the substance of the change while the document was distributed.

Mr. Bumbalov stated, we are proposing an exception that will clarify that if a project complies with the accessibility requirements in Chapter 11B then this project does not need to comply with Chapter 11A and CALGreen accessibility provisions. It's not that many, but there are some. The modification you are proposing will clarify that for public housing, it's not a choice, it's not an option, public housing is required to comply with Chapter 11B. This new proposal doesn't change any regulatory effect; it is just a note referring to Chapter 11B for public housing.

Vice Chair Winkel stated, this is basically reiterating something which is in the code now in terms of public housing is always covered by 11B.

Mr. Bumbalov stated, that's correct, yes.

Vice Chair Winkel stated, this doesn't seem like a substantive change. I think it is really just a pointer without any regulatory effect so I think the amendment is certainly in order.

Mr. Bumbalov stated, it was a late coordination with DSA.

Vice Chair Winkel asked, this was just a DSA request that you received?

Mr. Bumbalov stated, yes, that's correct.

Vice Chair Winkel asked if there was anything else on exposition.

Mr. Bumbalov stated, the most important proposal we have in CALGreen is related to electric vehicle charging spaces. Currently we require 10 percent of parking spaces on a building site with 17 or more units to provide 10 percent electric vehicle-capable spaces. And we are upgrading this number to 10 percent, so this is the most important proposal. And there are several sections that are related to this main proposal.

Vice Chair Winkel stated, these are EV-ready in terms of this is basically conduit only.

Mr. Bumbalov stated, it is only the infrastructure so we call them EV-capable. EV-ready if you have everything installed.

Vice Chair Winkel stated, the capability is basically the raceway or infrastructure.

Mr. Bumbalov stated, you have the raceway and you have the main electrical panel, yes, but no charger installed.

Questions or Comments from the Commissioners:

Commissioner Mikiten asked, does that being ready and being capable include the space and the access aisle and the nine-foot width versus the jurisdiction's possible eight-foot width for a regular parking space?

Mr. Bumbalov replied, that's correct. We clarify that. There is a section that requires the specific dimensions and that requires the aisle for a specific number of electric vehicle charging spaces. It requires the slope which is the same as the slope required for accessible parking and it also would require the proposed electric vehicle charging space to be located adjacent to an accessible parking. So in this case CALGreen doesn't require the charger, but if at a later time that person or developer decides to install the charger, this is easy to comply with the requirements for accessibility if it's located adjacent to accessible parking spaces.

Commissioner Mikiten stated, so in a public housing project where we may have 50 units and 10 parking spaces in urban situation, we would be seeing an access aisle. So even if there is not a charging station installed, we would be seeing this aisle next to some non-handicapped spaces.

Mr. Bumbalov stated, for public housing, the public housing project needs to follow the requirements for the installation, or everything related to electric vehicle charging spaces. Chapter 11B provides a comprehensive set of measures that would require a particular level of accessibility. So I don't want to go into too many details. I think of a table when it is based on how many electric vehicle spaces you have, you need to provide a specific number of adaptable, accessible, electric vehicle charging spaces.

Mr. Mikiten thanked Mr. Bumbalov and then stated, specifically on the Final Express Terms page 8 of 22, I think there might be a typo, essentially, in the term that is used at the top of the page in New multifamily dwellings, where it says: "If residential parking is available, ten (10) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging spaces ...". And I think what that is intended to be is the ready spaces.

Mr. Bumbalov stated, No. The term electric vehicle charging space is defined in Chapter 2 and it's basically the parking space with infrastructure installed. This is the electric vehicle charging space. We have a definition for electric vehicle charging space, we have a definition for electric vehicle charging station. So if it is a station that means you have the electric vehicle supply equipment. You may have a charger, you may have a receptacle outlet, anything that will allow a person to charge the vehicle.

Mr. Mikiten stated, so if we are making that distinction, then Note number 2 seems to be in conflict with that, unless I'm reading it wrong, because you say, again, EV spaces. There is no requirement for EV spaces to be constructed or available until EV chargers are installed.

Mr. Bumbalov stated, you have the parking space and you need, let's say, 10 percent of 100, you need 10 percent EV-capable spaces. You don't need these EV-capable spaces already ready to go. You need to show where they will be if a person decides to install the charger. For instance, you may have an existing parking space and the conduit sticking up. This is EV-capable; it is available if somebody wants to use it as a charging space. You also may have landscaping with the conduit sticking up and your plans will show if somebody wants to install an electric vehicle charger then this is the place you have the capability; it's shown in the plans. What is not specified is you don't need to have it right away, just needs to be available.

Commissioner Mikiten stated, okay, I see the distinction.

Mr. Bumbalov stated, we understand that sometimes there is a little confusion when you are using different terms. I think we did a good job with DSA a few years ago when we coordinated in using the same terms in Chapter 11A CALGreen and Chapter 11B. In 11A we do not have anything specific to electric vehicles. But the terms, they seem confusing when you don't you read the definitions, but we provide very detailed definitions that clarifies the intent.

Questions or Comments from the Public:

Hannah Goldsmith, Deputy Executive Director for the California Electric Transportation Coalition, addressed the Commission. We are a nonprofit trade association that has members including utilities, traditional automakers, manufacturers of zero emission vehicles and charging station companies. We are also part of an even broader coalition that submitted supportive comments on the Department of Housing and Community Development's (HCD) proposal today. So we are here to speak in support and just highlight how important this proposal is for the state to meet its zero emission vehicle climate and air quality targets. In addition, folks that live in multiunit dwellings (MUD) and multifamily dwellings have historically had a hard time accessing charging should they wish to drive an electric vehicle and standards like these are extremely important to allow folks who live in MUDs to access charging infrastructure.

So we look forward to continuing to work with the HCD, the Air Resources Board (ARB), CBSC, and the Energy Commission. All of these folks have been really great on working on these proposals and we want to thank them for their hard work and look forward to increasing the standards in the future as our transformation of the transportation sector continues.

Liah Burnley addressed the Commission: Good afternoon. My name is Liah Burnley and I am here today on behalf of Tesla to express our support for the 2019 CALGreen code changes proposed by HCD to set the minimum requirement at 10 percent for EV-capable parking spaces at multifamily buildings. This is an important milestone in helping California's long-term goals around ZEVs and charging infrastructure.

We would also like to thank HCD staff for their work on the code update and the ARB staff for the technical draft analysis that helped inform the current recommendations for multifamily buildings.

As you know, Tesla's mission is to accelerate the world's transition to sustainable energy. As both a California-based manufacturer of EVs and a provider of charging infrastructure for our customers, Tesla brings a unique perspective to the discussion on EV readiness for new buildings. Tesla has been actively engaged in the California code update process, including submitting a coalition letter in partnership with over 20 organizations in support of the code update to 10 percent EV readiness in multifamily buildings.

Finally, the code update includes increasing the voluntary provisions from 5 to 15 percent for Tier 1 and 20 percent for Tier 2. We agree with these recommendations as it is an important opportunity for cities to increase EV readiness at the local level beyond the base code and encourage transitioning these provisions to mandatory in the future code cycles.

Thank you again for the opportunity to express our support for the 2019 CALGreen Code updates as proposed by HCD.

Bob Raymer addressed the Commission: Yes, Mr. Chairman and Commissioners, Bob Raymer representing the California Building Industry Association (CBIA).

First speaking to HCD's proposed editorial change: Quite frankly, I agree with the Chairman, it was my understanding that was already the way it was. I'm grateful that HCD is making this distinction to be in line with DSA and so we are very supportive of the minor editorial changes that HCD is proposing today.

Regarding their main package: We are making some rather key changes to what we call the EV-ready, EV-capable standards. Right now, today, if you do anything that is less than 17 units, you are exempted. This changes that, it removes the threshold. So going forward in 2020, any time you build a multifamily accommodation you are going to have to be compliant with this. In addition, what has been a 3 percent application number will now be 10 percent. Please understand that there were other groups out there that wanted much higher. The ARB was looking for 20 percent, the CEC I think was looking for 15 percent, and of course CBIA was not supporting those changes. So HCD sort of found some nice middle ground and so this represents a very productive, negotiated settlement and we are very supportive of adoption of HCD's package.

Vice Chair Winkel thanked Mr. Raymer and asked if there were any members of the public on the telephone who wished to comment.

Ed Pike addressed the Commission: Hi. My name is Ed Pike with Energy Solutions and we work on EV infrastructure building codes at the state, local, and national level, and appreciate the opportunity to provide comment.

And I just wanted to thank ARB and HCD for their hard work on this proposal. EV infrastructure codes are very important for the state EV adoption goals and provide highly cost-effective

solutions in new construction. The coalition support letter also notes the importance of working toward existing buildings for alterations and additions, which we understand is not part of this code proposal, but that is certainly something to be considering for the future.

And just in conclusion, we support moving forward on the code amendments.

Guy Hall addressed the Commission: This is Guy Hall. Today I will be representing both the Electric Auto Association and Plug In America. These organizations are both nonprofit, supporter-driven advocacy groups, and they are the voice of not only plug-in vehicle drivers and owners across the country, but also the curious or the interested that have desire to engage in clean vehicle ownership.

We support the version of the building code before the Commission today. Without it, including approximately half of California's residents that reside in multiunit dwellings, MUDs, we would never achieve the state's 2025 or 2030 EV adoption targets. The Legislature recognizes this fact as well and the last session passed a bill that would allow residents in rent-controlled apartments to install EV charging. Access to those residing in MUDs is still one of the most significant barriers to greater EV adoption. Residents should be able to charge their vehicles in their building with the same convenience as residents of single-family homes. Equally important is that MUD residents should not be forced to choose between affordable housing and the air quality, health, and economic status of EV transportation. So including charging infrastructure in new construction is the best approach to avoid significant costs while enabling EV adoption. This approach minimizes the base infrastructure cost and allows affordable deployment of charging stations as the EV market develops. It is also a complement to legislative measures which allow renters to add EV charging stations at the renters' expense. Furthermore, the provisioning of EV charging infrastructure in new MUDs provides greater value for residents and adds to the competitive force to encourage existing development to retrofit.

For those reasons, we strongly support the recommendations in front of you in the California Green Building Code. I would also like to again recognize the folks at the ARB for having done an outstanding analysis into the requirements and the best approach forward. So thank you for your time.

Motion: Vice Chair Winkel entertained a motion to consider HCD's request for adoption and approval of amendment to the 2019 California Green Building Standards Code, Part 11 of Title 24. Commissioner Sasaki moved approval and adoption as presented. Commissioner Mikiten seconded.

Vice Chair Winkel asked if there was any further discussion from the Commission.

Commissioner Patel stated: I do support the package HCD put together. My comment has to do with the section on the outdoor water use and the fact that we are going back. It is Section 4.304, page 10 of 22. The last code cycle we spent quite a bit of time with the agencies trying to incorporate the requirements of the Model Water Efficient Landscape Ordinance into the code to make it easier for our users, both on the building official side and on the designer side.

And so it was nice to have those 500 square foot requirements, everybody knew when the requirement kicked in and the 2,500 square foot requirement to know they could use the prescriptive approach. I was a little disappointed to find out that now we are striking that language and going back to the old, refer to the state law and go look somewhere else to find those requirements. I was wondering if there was anything this Commission can do to encourage agencies to be able to produce those documents in a timely fashion so that we can incorporate them into our triennial cycle.

Mr. Bumbalov stated: We are a little bit out of synch with DWR when they are updating their landscape-efficient ordinance so we did not want to have language in the code that will conflict with their updated version.

Commissioner Sasaki stated: I apologize; I'm not commenting to you. You are okay with what you did.

Vice Chair Winkel stated, I would guess the only thing I would say is going back to CALBO or something like that as to encourage the local jurisdictions to make their members aware so that the code users can be aware of what you are talking about. I share your concern. I think that telling people to look elsewhere is not the way to get things done.

Commissioner Patel stated: We have done a good job of trying to incorporate these changes of the last two cycles into the code. We have done a pretty good job so I just didn't want to go backward.

Vice Chair Winkel stated, we have a little housekeeping to do here.

Commissioner Sasaki stated, I want to revise my motion to include the HCD addendum for section 4.106 Site Development that we received today.

Mr. Nearman stated, I assume that Commissioner Mikiten is OK with that?

Commissioner Mikiten stated, yes.

Vice Chair Winkel stated, this is basically putting the pointer to 11B, public housing.

Vice Chair Winkel called for the roll call vote.

Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted "Yes": Commissioners Alegre, Booth, Klausbruckner, Mikiten, Patel, Santillan, and Sasaki, and Vice Chair Winkel.

7e. Department of Housing and Community Development (HCD 05/18) Proposed adoption of the 2018 edition of the International Existing Building Code (IEBC) with amendments for incorporation into the 2019 California Existing Building Code (CEBC), Part 10 of Title 24.

Vice Chair Winkel stated, this item was heard at the December Commission meeting. HCD asked for a continuance so that this could be heard at this meeting. We did not take action on

the code proposals at the December meeting. Since then there has been revised language that was introduced for a 15-day comment period. Representatives from HCD are at the table and will now talk to us about the proposed adoption of amendment to the 2019 CEBC, part 10 of Title 24.

Kyle Krause, Assistant Deputy Director with the Department of Housing, Division of Codes and Standards, presented the following: So this is kind of take two at this. This is not something we prefer to do, is come before you and ask for your approval two times, so thank you for your consideration today. I would just like to remind everybody that this is kind of a unique situation because we did ask for a continuance due to comments received by Commissioner Sasaki and others. And again, since the meeting last month, the department has conducted a 15-day rulemaking that Mr. Bumbalov will brief you on. We did receive comments in support and in opposition, so we basically have some disagreement among experts; however, HCD staff believes there is no conflict with state law and that the amendments provide the clarity requested by different stakeholders over the last year, and does adopt in part the model code that we are required to adopt. So we recognize we have possible actions by the Commission today that could include disapproval, or further study, or approve, or even approve as amended. We do hope that the Commission and all Commissioners will be cautious with any floor amendments that we feel may need to be discussed with our stakeholders and we ask for the Commission to consider the proposal by the department and give the department and the code advisory committee great weight in your consideration of our request for adoption.

Just to introduce other parties that are here that are not normally here. We have asked our staff counsel, Lisa Campbell, to participate today. She has reviewed this issue with us in great detail. Now I will let Mr. Bumbalov take over and get all the glory for his technical expertise.

Mr. Bumbalov asked Vice Chair Winkel, do you want me to introduce everything again? We already did it the last time and we all know why we are here.

Vice Chair Winkel stated, I think it is worth having a little bit of exposition about what the total package is versus what the focus is. We are voting on the entire existing building provisions by HCD, but the focus is that set of items which is related to existing buildings and structural design, to summarize. Is that an accurate summary?

Mr. Bumbalov responded affirmatively.

Vice Chair Winkel stated, just for clarification for the Commission, we are voting on the entire HCD package. So if we want to discuss portions of that package we would need to make motions to subdivide the discussion. Having been the poster child for this, I will admonish the Commission that we have the ability to consider items independently. We do not have the ability to make amendments from the dais. We can adopt, we can ask for further study, we can disapprove individual items; we can't wordsmith from up here so we need to be cautious about that. If we send something back for further study, I think we can discuss why we did that, in terms of giving directions to the agency if we wanted to look at something other than that. But the basic thing is we have one big package, but we are going to have probably a focused

discussion on the smaller subset of items. But I think if you could give us just a very brief rundown of the entire package, sort of the highlights and I don't think there were any other controversial issues. The only thing that was out was 15-day language so there would not have been any comments relevant to other portions of the package; is that correct?

Mr. Bumbalov replied, that's correct.

Mr. Krause stated, Mr. Chair, if I could just bring up the one thing that we haven't mentioned yet, which is shared, and is on the desk in front of you. Each of the Commissioners does have a draft addendum that HCD would like to offer to the Commissioners as a potential mitigation strategy, to gain approval. Commissioner Sasaki and others have probably seen that by now and have had some time to consider it briefly.

Vice Chair Winkel stated, yes, and I think that is definitely in order in terms of the agency is proposing to us rather than the other way around. Give us a very brief description of the package that we are not going to be discussing, just so we can make sure it is accurately reflected in the record, and then let's dive into the proposed amendment and the things for the detailed change.

Mr. Bumbalov stated, to finish up with the complicated part of it, you also have a draft of the Final Statement of Reasons. It is like 25 pages so you do not need to read everything, but we did it because in the Express Terms you do not have the model code text for the section that you may be interested to discuss. So the FSOR, when we get there I will show which page it is. The FSOR will give that option to see the model code and a very detailed evaluation of the model code versus the existing amendments.

Vice Chair Winkel stated, just for clarity, go ahead and do the other part first.

Mr. Bumbalov stated, yes. In Chapter 1, Section 1.1.1, we have an update to reflect adoption of the 2018 Existing Building Code. In section 1.1.7.3.1, detached one-and two- family dwellings, we are removing 'efficiency dwelling units' from the text. This text was also already removed from the California Residential Code during the 2016 intervening code adoption cycle and now we are removing this from the text because it won't be available to design or construct efficiency dwelling units from the California Residential Code. Section 1.1.9, effective date of this code, our proposal clarifies that HCD approves plans for factory-built housing effective for a three-year period which may overlap Building Standards Code.

Vice Chair Winkel stated, you can leave out some of the detailed sections. Let me ask the question another way. Are any of these controversial or do you have comments on any of these items?

Mr. Bumbalov stated, I don't believe we have anything else controversial. The exterior elevated elements were discussed in detail in previous meetings and we are adopting the model code to take exterior elevated elements. We coordinated with DSA and CBSC. And in addition to what we are going to discuss this is not an important thing in this code. We tried to align with the model code. And it is not only the structural part, we evaluated all sections and we are proposing for adoption some sections that were not adopted before. Also the model code was

preformatted so it was a little bit difficult, so we had to move around some existing amendments.

Vice Chair Winkel stated, the other thing, just for clarity, I would think folks who are not intimately familiar with the process, if they looked at the exterior elevated elements, would think that we are deleting them completely. But the reason the California amendments were deleted is because this language now appears as pretty much verbatim in the model code so it is no longer necessary. It is not being removed; it just simply shows up in a different place. So does anybody have any other questions or detailed comments about other items other than having to do with structural repair? I'll just ask it that way.

So I think that sort of sets the stage then the items that we are dealing with are for the Commission's edification, the things that we are talking about are really the 15-day language as amended by the latest piece of language we got that has the change to Chapter 4 Repairs, 402.2 and 402.3. Then we also have an updated Final Statement of Reasons dated January 11, 2019, page 1 of 55, which accompanies that change. These are amendments to the things that we got as 15-day language that should be in your package. Are we on the same page?

Mr. Bumbalov stated, yes, we are. It is really different this time because typically we would have the Final Express Terms and a Final Statement of Reasons in front of you submitted in advance.

Vice Chair Winkel stated, why don't you go ahead and make a statement about what you would like us to consider.

Mr. Bumbalov stated, HCD's proposed changes to the 2019 California Existing Building Code were discussed at HCD's focus group meeting on April 5, 2018, in the Structural Design Lateral Forces (SD&LF) CAC meeting on August 8, 2018. The CAC approved all of HCD's proposed actions and HCD followed CAC guidance related to the following performance and work area methods, exterior elevated elements and CO alarms. The Express Terms with changes resulting from the CAC recommendations were made available to the public for a 45-day public comment period from September 14 to October 29, 2018. HCD submitted a comment for purposes of updating the codes due to new statutes. There were no other public comments submitted. In accordance with the rulemaking process, HCD considered any concerns identified by stakeholders at the focus group meeting. We didn't get any concerns, actually. Recommendations from the CAC as incorporated in the 45-day express terms, and comments received during the 45-day public comment period, and we had HCD comment only one, we used all these to develop the Final Express Terms. These Final Express Terms were presented at the December 4th, 2018, Building Standards Commission meeting with a formal request from HCD for approval of adoption.

During HCD's presentation Commissioner Sasaki identified several concerns with HCD's proposal for the 2019 California Existing Building Code. Commissioner Sasaki's comments were also supported by a public comment during the meeting from Gwenyth Searer, a structural engineer. These concerns were not identified in the prior focus group or advisory

committee meetings or during the 45-day public comment period. I gave a brief summary of our concerns, but I think you are all familiar with these concerns. Do you want me to read everything?

Vice Chair Winkel stated, I think it's worth doing.

Mr. Bumbalov continued. Proposed locations for HCD's existing amendment are related to Health and Safety Code section 17958.8, provisions allowing the replacement, retention, and extension of original materials and the use of original methods of construction. Adoption of model code sections which include upgrade triggers for existing buildings. These include section 302.5.1, which addresses new structural members and connections required to comply with detailed provisions for new buildings. Further, the comments specified subsections in Section 405, which in general address structural repairs and include thresholds determining whether the damaged element may be restored or reused. The comments also stated that these sections conflict with HCD Section 17958.8 and violate the requirement that in-kind repairs and in-kind construction be permitted. In addition, the effect will be that in direct conflict with the state law, structural upgrades will be required to damaged residential buildings.

The next comment is related to the economic and fiscal impact statement, which is form 399, that HCD prepared. This is the statement, the concern. The 399 underestimates the economic impact of the proposed regulations because it does not consider the widespread structural upgrading that will be required either in the event of a natural disaster or due to day-to-day damage that regularly occurs to the buildings in cities throughout the state of California.

HCD's proposed definition for substandard building and proposed amendment to model code definition of unsafe – this is what the next question is related to. The definition for substandard building did encompass the entirety of the provisions for substandard buildings in the state housing law. The model code already has a definition of unsafe and there is no need to confuse the issue by adopting a definition that is different than for all other buildings.

Due to the very late notification of these concerns, lack of time to evaluate, and lack of sufficient stakeholder notification, the Building Standards Commission recommended that HCD request continuance of our approval request to the January 2019 meeting. In response, HCD evaluated the concerns recognizing the content limitations of the 15-day versus 45-day public comment period, limited opportunity for public comment, modified our proposed Express Terms, and released them for an additional 15-day comment period from December 19, 2018, to January 3, 2019. HCD's changes for the 15-day public comment period included, first, a revision of proposed definition of substandard building to provide direct reference to Health and Safety Code Section 17930.3.2. This section identifies conditions which may render a building substandard, editorial corrections, prescriptive methods to performance methods as optional methods for compliance if adopted by a local jurisdiction, a relocation of the HCD replacement material amendment to section 302.5 applicable to all compliance methods. Adoption of a new HCD amendment in Chapter 14 correlated to relocated or moved buildings, recognizing retention of existing materials and methods of construction, except for the foundation.

HCD did not change its proposal for adoption of model code sections which were identified as including upgrades. These include sections 302.5.1, which is correlated to new structural members and connections are required to comply with detailing provisions for new buildings, and also sections 405.2.1, 405.2.2, 405.2.3, 405.2.4. Section 405 in general addresses structural repairs and includes thresholds determining whether the damaged element may be restored or reused. Six comments were received on the revised Express Terms during the 15-day public comment period, three with concerns and three in support. These are on record with the CBSC. HCD has acknowledged our public comments in the draft Final Statement of Reasons available for reference and to be submitted to CBSC in final form. HCD will be revisiting identified concerns beyond the scope of the 15-day public comment in future rulemaking; the next one is the intervening code adoption cycle.

In conclusion, HCD requests approval and adoption of our Express Terms as identified in our 45-day express terms document as modified by our 15-day express terms document and our rulemaking package. HCD also requests permission to incorporate an addendum to Section 402 Building Elements and Materials in the Repairs chapter to provide further clarity related to the state housing law provisions for the use of existing materials and methods of construction. The addendum has no intended change in regulatory effect. And I also stated you have the FSOR available for review if you need it and I am sure you will have specific questions and I'll be happy to provide further information.

Vice Chair Winkel asked, you are proposing to adopt the model code versions of repair provisions related to structural damage repair.

Mr. Bumbalov replied, that's correct, yes.

Vice Chair Winkel stated, I can't find it. That was originally in the December package, was it not?

Mr. Bumbalov stated, following the four-months for this rulemaking cycle, we don't have the model code printed out in our Express Terms. But you can find the sections, they start on page 8 of 25 in the Final Statement of Reasons. It is just for your reference.

Vice Chair Winkel stated, okay, thank you, that's what I was looking for. And those are un-amended, that's model code language?

Mr. Bumbalov stated, that's correct. This is the model code language and below each section we have a summary of our evaluations. I want to add that we worked with ICC on this one. We reviewed the ICC rulemaking documents, the rationale for each section proposed in the last two code adoption cycles. We also used the ICC code commentary for 2018 International Existing Building Code to justify that the model code and the letter of the law in our Health and Safety Code have the same intent. So everything is included in the summary for each section, part of Section 405.

Questions or Comments from the Commissioners:

Commissioner Sasaki stated, first off, thank you, Mr. Bumbalov and Kyle and HCD staff, for considering my comments at the December meeting, evaluating, looking at them, I appreciate that. Building codes are complex. They are difficult, they are hard to navigate sometimes, and particularly provisions for existing buildings. If anyone who knows the history of building codes, the provisions for existing buildings have jumped around many places. A long time ago in the Uniform Building Code there was a little section, Section 104-B in the Administrative part of the building code, that talked about existing buildings. Since that time, in the later codes it became Chapter 34 called the existing structures, and that was in the International Building Codes. Obviously, what's happened since then is the International Building Codes come out with the International Existing Building Code (IEBC). Through this, there have been many changes, reformatting. In fact, in this latest cycle the 2015 IEBC the reformatting or reorganization has been pretty substantial. They have moved around chapters in the 2015 IEBC, which the current California Existing Building Code is based on. The provisions for repairs, alterations, and additions are in Chapter 4, called Prescriptive Compliance Methods.

In the new cycle, in the new IEBC, which would be the 2018 IEBC, those three types of work have been split into two separate chapters, chapter 4, Repairs, and chapter 5 now covers Alterations and Additions. I'm bringing this up just because in the last code cycles there have been specific inclusions of what we now call the in-kind repair provisions. Those in-kind repair provisions essentially allow residential structures to be repaired in-kind. I think there's a disagreement about when that can be allowed, which is one of the issues at hand here. But those provisions were in actually the last four code cycles, the 2007 codes, 2010, 2013, and 2016. In addition to those in-kind repair provisions, the past three code cycles, based on my research, have specifically not adopted structural upgrade triggers. And in particular, there is a trigger called substantial structural damage, which essentially requires once you reach a certain threshold an engineer or design professional has to evaluate whether or not the building can resist a certain percentage of current code earthquake, and that could lead to, for example, seismic upgrading of not just the element that was damaged, but the entire building. So again, I just want to reiterate this, that in the last three code cycles HCD specifically did not adopt those code upgrade triggers.

Vice Chair Winkel stated, on that note, I'm going to cut you off in midsentence. We need to take a break for our transcriber. We'll take a ten-minute break, but we're going to pick up right where we left off.

Commissioner Sasaki stated, I will hold that thought.

Vice Chair Winkel stated, I apologize, but I'm watching Mike, he's looking at me like he needs to take a break.

A short recess was taken.

Vice Chair Winkel stated, I am going to give the floor back to Commissioner Sasaki because I cut him off in midsentence in the last discussion.

Commissioner Sasaki stated, thank you. So just refreshing, the last three code cycles HCD had specifically not adopted the structural upgrade triggers and, in fact, HCD did not adopt the structural upgrade triggers because they conflicted with state law. So it is my understanding that state law has not changed, and that specific state law is Health and Safety Code 17958.8. So if the state law hasn't changed, my question is, for this code cycle, why are we choosing to now adopt those structural upgrade triggers?

Mr. Bumbalov stated, so, first, we are required by law to adopt the model code, with amendments. I have been with HCD since 2010, the intervening code cycle, so it was my project back then to work on Chapter 34. For those of you that know me, you know I do my job very seriously, I take it very seriously, too seriously sometimes, makes by bosses angry. We started with a model code in chapter 34 and we tried the first time to adopt a few sections and we couldn't because we got comments in opposition at the last moment. Then we went to Chapter 34. When we were switching to the Existing Building Code originally we proposed these repair sections, but we withdrew it after the focus group meeting because in coordination with other state agencies we decided to go with everything that was adopted in Chapter 34 before because we did not have the time to evaluate and we promised that during the next triennial code adoption cycle, we will carefully evaluate everything and we will propose for adoption the sections that do not conflict with the state housing law. In addition to that, the model code in the last three cycles was changing and the model code was getting closer and closer and closer to what we have in California.

I mentioned the ICC rulemaking process and rulemaking documents. Now it is difficult to navigate when you get to their website, but if you are patient enough you will see that whatever we say is the intent of the Health and Safety Code, this is what ICC is using to justify why they modified the model code. So the model code doesn't necessarily trigger upgrades. It provides you the guidance, A, B, C, D and so on and so on until we get to Y. Health and Safety Code, the existing amendment allowing the extension for materials and methods of construction, yes, it requires all the jurisdictions to allow that, but also it states this sentence related to the substandard buildings. So if the building was not substandard before then you can do in-kind replacement. If the building was a substandard building somebody needs to evaluate it. And this is how it currently works. It was requested several times by local building departments, they requested HCD to provide further guidance, how we define substandard, how we follow the procedure. Because the building official requires evaluation based on who owns the building or who is his or her boss, so we need the statewide enforcement. Last year and this year, we attended the CALBO integration weeks. We had all day long training sessions and during that time we discussed with many, many, many building officials. Everybody liked the idea that the model code will provide them with some guidance to follow when they have damaged buildings. And again, on first glance when you see Section 405 you get the impression, okay, it violates the law. Well, when you start dividing subsection by subsection you will see if specific conditions are met. All sections part of Section 405 allows in-kind replacement. The only time that in-kind replacement is not allowed, if the violation determines that the building was a substandard building prior to construction. I will give an example with

the seismic provisions. If the building was designed to survive a 6.0 earthquake and the building got damaged completely with 3.0 or 2.0, well, the model code considers that the building was a substandard building and it is logical to consider that.

Commissioner Sasaki stated, can I have you pause for one second? So, I think this is maybe the fundamental sort of difference in understanding what the state law says. Our understanding, and we have reviewed the history of the Assembly bill, it was Assembly bill 1034 which was approved in 2003. In fact, this is part of what I would like HCD to do, to go back in the history of the Assembly bill and understand what the intent was. In fact, that Assembly bill was put forward because actually HCD proposed the bill so it is part of HCD's history. As I read the bill analysis what the bill clarified and what the state law clarified was that is allowed in-kind replacement for repairs and alterations, period. They said, and you have to read the state law, it said, so long as the building, these are residential buildings, complied with the requirements at the time of original construction, that's the one preference, and it does not become, that's a very important word, become, or continue to be substandard. What we understand they meant was that after it is repaired, for example, due to earthquake damage, it no longer is a substandard building. It is not continuing to be, the repairs should not allow it to become a substandard building, and so therefore that was the intent of the law. The law was to allow a homeowner, for example, whose gypsum board may have cracked due to an earthquake, to essentially repair in-kind.

So I think that's really the big disconnect. And by reading the past initial statement of reasons from HCD from those past code cycles, it is my belief, and I understand you were there along the way, but it is my belief that at least some people at HCD had my same belief. And I will read from the Initial Statement of Reasons for the 2013 CBC (California Building Code), and this is dated August 28, 2012. Under the repair section, it specifically lists Sections 35, 3405.2, substantial structural damage to vertical elements of lateral force resisting system. That is one of the upgrade triggers. In the rationale it says HCD proposes to not, and it is underlined, this is underlined, this is your own Initial Statement of Reasons, to not adopt the above referenced sections due to a conflict with the state law, period. Since this is a fundamental question, I would ask that HCD go back and look at the intent of the law to confirm. And my understanding is the rationale for the state law was to allow homeowners or apartment building owners to reasonably repair their buildings after a fire, after an earthquake, something like this, without the fear of potentially costly upgrade triggers. In the old days, there were triggers to upgrade a building, an entire building, based on the percent of replacement costs. And you could, if you reached those thresholds you would have to upgrade your entire house. Because there was abandonment of apartment buildings and houses because of those difficult to comply with requirements, I believe building officials and other local officials chose to get the Legislature behind this bill, which would essentially allow in-kind repairs without having to upgrade. So it is key and fundamental that we have an understanding of this because if we do not then we are going to be always fighting each other on what our understanding of the intent of the law is.

Mr. Bumbalov stated, you are giving us a history, which is all right, but I'm trying to give you an evaluation of the current model code that we are proposing to adopt. And really the gypsum board you are giving for example, it's not substantial structural damage. We are talking about really substantial structural damage and it is defined. The purpose of the evaluation is to consider if the building was substandard prior to the damage. This aligns with what you are saying.

Commissioner Sasaki stated, so let me give you an example. I live in Walnut Creek in a house that was built in 1951, it is exactly 1400 square feet. It was designed before there was a requirement for a plywood sheathing or shear walls. My shear walls before I retrofitted them, guess what, were half-inch gypsum board. So in this case where we have a lateral system based on half-inch gypsum board, if I had significant cracking in 30 percent of my walls, I as a structural engineer, if I had to evaluate it based on the definition of substantial structural damage, I would probably conclude that it did meet the threshold of substantial structural damage and I would have to upgrade it to whatever it is, 75 percent or 80 percent of the current code forces. So that is what I'm talking about. And I do not want to belabor this point but it is really a statewide financial issue. It is not if, it is when we have a major earthquake in California, many, many thousands of homeowners potentially could be greatly financially impacted by this, if we approve these upgrade triggers. And that is my real concern. If the Legislature chose to say, oh, upgrading, we are good with upgrading because that is going to improve the building stock, then that's what the Legislature decides. But at this point they have decided to allow in-kind repairs. I think it is really fundamentally important because it could have a really large financial impact on you, on me, on the other commissioners here, on the people who sit in this meeting hall, if this gets approved.

Mr. Krause stated, Commissioner Sasaki, all due respect to your comments, and I appreciate your history. Mr. Bumbalov and I were both there, we wrote those words, including 'all' being underlined, we use that frequently to be very clear. It does not mean it is of significant importance when we underline a word. I would also offer that the state law you are talking about, Health and Safety Code 17958.8, does not and is not intended to waive structural evaluation in every case. It allows structural evaluation based on whether something is deemed to be substandard or continues to be substandard. It is incumbent upon local building officials to evaluate significant structural damage to ascertain whether a building is safe or is substandard and may need structural upgrades. Health and safety is one of our primary missions at the Department of Housing. It is in our bylaws, it is underscored extra heavy double underscored, safe and affordable housing. And we believe that this model code change and these changes that have come about over several code cycles have moved directly into consistency with 17958.8 and we stand by that. Obviously, we have a disagreement, but we believe that we need to work on this with our stakeholders. This issue and the situation that we're in right now today screams that we need to revisit this entire adoption to be successful and solicit additional stakeholder input to consider these changes. We have difference of opinion between experts. You are an expert, we have consulted other experts, we have staff

that are technical experts, and our evaluations are not arriving at the same place. So that is what we have to offer today.

Vice Chair Winkel stated, to summarize, basically, if I understand. HCD believes that the iterations of the Existing Building Code, particularly over the last two cycles, when ICC created the IEBC, we should still be in Chapter 34. HCD believes that the iterations of the model code have moved the model code in the direction of the intent of the legislation. Is that an accurate statement?

Mr. Krause and Mr. Bumbalov both responded, yes.

Vice Chair Winkel stated, so the ISOR (Initial Statement of Reason) or the things that were cited by Commissioner Sasaki from the past were dealing with a different existing building code, which was Chapter 34, which in terms of these provisions was pretty lightweight in terms of the technical requirements. The question I have as a practitioner is how these are going to be interpreted on a job-by-job basis, particularly after a major seismic event when the tension between getting people back in their houses versus not having insurance coverage and all the other things that go along with earthquake damage is going to come to the fore. But I just want to make sure. Your position is that the language as it exists in the existing building code model code is not in conflict with the intent and the letter of the legislation?

Mr. Krause stated, that is our opinion, yes.

Commissioner Patel stated, I guess my comment, being a simple guy, is kind of the practical way the world works now is if a building gets damaged and they come into the building department, we will go out and take a look at the building, we will make a judgment, and if we believe that there has been structural damage beyond a certain point that we are concerned about we will ask them to get a structural engineer to review it and provide a solution for us. How do you feel this change changes that process? Would this now be a red line where everything over a certain point has to go to structural engineering evaluations, is kind of what I hear Commissioner Sasaki saying, or does it still give that latitude to building officials to take a look at a building and say, well, this one needs an evaluation, that's pretty simple, you don't have to do anything?

Mr. Bumbalov stated, it still needs your evaluation because how do you consider, is it 30 percent or it is more than 30 percent? Talking about real life, I came from a building department, too. In the area I worked, in my city and the surrounding cities, it was enforced differently. I stated it at the beginning. It depends who is the building official's friend or who is not. It is not a good example for statewide application because you will require an evaluation and somebody else may not. There are other sections in the Health and Safety Code that address the issues with evaluation, retrofitting and those kinds of things. These are sections allowing the existing materials and methods of construction, it's not a standalone connection, there are others. But thank you for this example because this is what we want to do. The way you are doing it is the right way, we believe, and we also believe that the model code will provide this consistent part for enforcement for all jurisdictions in California.

Commissioner Patel stated, so with that in mind, and I think part of what Commissioner Sasaki is worried about too is the definition of substandard. And as we go into the state code and look at substandard, it talks about structural hazards and it talks about inadequate structural resistance to horizontal forces. How does that impact existing buildings like soft stories or non-ductile concrete buildings? Would they have to be deemed substandard legally by a jurisdiction in order for some of this to kick in or is there just an assumption that these buildings that we know did not perform well in previous seismic events, if they get damaged in some way they couldn't be repaired, they would have to be brought up to more current standards.

Mr. Bumbalov stated, there is a section in the Health and Safety Code that specifically addresses soft stories.

Commissioner Patel stated, true. How about non-ductile concrete? Something else that is not specifically spelled out in the code but we know has not performed well historically.

Mr. Bumbalov stated, so the model code that we are proposing for adoption does not trigger necessarily upgrade. Again, it depends on the damage and depends on the performance of the building before the accident. I don't know how else I can explain. It is a good example for the soft story, but if we do not adopt that, how are you going to deal with the soft story? Are you going to allow in-kind replacement or based on the type of the damage you will use this damage and upgrade the structural elements that were damaged?

Commissioner Patel stated, I think that is where in the past we relied on our structural engineers to come to us and say, hey, this building is damaged to the point where it really needs to be retrofitted, or, this building is okay, it just needs to be repaired.

Mr. Bumbalov stated, so again we are going back to the evaluation. The only section that may impose some expense is the evaluation, but the evaluation is important to let the building officials or inspectors know if the building was substandard before.

Mr. Krause stated, also some substandard conditions are very visible and obvious to the naked eye, even a lay person can identify that something is wrong with that. But many substandard conditions are invisible and require an expert eye to ascertain whether or not there is a substandard condition. And that is where the evaluation would aid the local building official in informing him by means of a report and an evaluation that there's problems here.

Commissioner Sasaki stated, I have a couple of comments related to Commissioner Patel's question and also to some of the responses by HCD, and also to respond to a comment from Chair Winkel. My belief is that the model code is actually, rather than getting closer to Health and Safety Code 17958.8, it's getting further away. And I state that by evidence that there are now new upgrade triggers in this cycle of the 2018 IEBC. I have the 2018 IEBC right here, and what we have is we have a new structural upgrade trigger for snow damage. We have a new structural upgrade trigger for disproportionate earthquake damage. So rather than getting closer I believe it's getting further away. Local jurisdictions, local building officials are essentially supposed to enforce the building code – in this case, for HCD, residential construction. So now, assuming that these upgrade triggers were in fact adopted, you, the

building official, would have to evaluate, for example, in a medium or large size earthquake, which might affect several thousand residential structures, these particular upgrade triggers.

Mr. Bumbalov stated, thank you. I was going to give you this example, I'm glad you did. But 17920.3, structural hazards. Structural hazards shall include, but not be limited to, the following: And we have: Flooring or floor supports of insufficient size to carry imposed loads with safety. Members of walls, partitions, or other vertical supports that split, lean, list, or buckle due to defective material or deterioration. Members of walls, partitions, or other vertical supports that are of insufficient size to carry imposed loads with safety.

Vice Chair Winkel asked, what are you reading from, Mr. Bumbalov?

Mr. Bumbalov replied, this is Health and Safety Code Section 17920.3, which addresses substandard conditions.

Vice Chair Winkel stated, thank you, I just want to have it for the record.

Mr. Bumbalov continued, Members of ceilings, roofs, ceiling and roof supports, or other horizontal members that are of insufficient size to carry imposed loads with safety. And there is something related to seismic provisions and I'll get to the seismic provisions. Inadequate structural resistance to horizontal forces. So now that section is disproportionate with earthquake? Yes, it's an upgrade. But when you read the language you will see that if the building fails with earthquake, 40 percent of the maximum load that the building was designed for, and this is why I gave you an example with a 6.0 versus 40 percent of that, well, this building is definitely a substandard building. If it fails in a 2.4 earthquake, then how this building will sustain 6.0 and above of structural damage? The same with the snow load, yes, the building was designed to sustain a specific snow load. Well, if the building fails due to a snow load, the assumption is that building will fail next year, too. So talking about expenses, yes, maybe a little bit more to upgrade the building, instead of two-by-two columns, four-by-four, six-by-six, eight-by-eight, whatever. But this building will be built to sustain the snow load that is currently part of the design conditions in this area.

Commissioner Sasaki stated, so there are two things. The repair in-kind, you are allowed to do that assuming, not assuming, but if the building was built in compliance with the code at the time. So most of the buildings that in fact were built in compliance, even older buildings, buildings that were built in the forties, are quite robust, there are probably quite a few people who live in houses or live in apartment buildings that are older, that are more than 50 years old. They are functioning fine, their structural integrity is okay, they are currently supporting the live loads, the loads that they were intended. Again, this is more of an issue, the issue about substandard is if someone, for example, chose to build their house and instead of using two-by-twelves they used two-by-eights. Well, guess what, that wasn't in compliance with the original code at the time. This is not an argument about that, all right? This is the issue about this is part of what the state wants. Does the state want to require structural upgrading for houses or other residential buildings? And my belief, again, we don't have to beat this to death, but my belief is that the intent of state law was to allow in-kind repairs.

Mr. Bumbalov stated, you are forgetting the substandard part.

Commissioner Sasaki stated, of course. But again, my belief is if it was substandard and you did the repairs, you could do an in-kind repair to address the damage or deficiency. And so, that is the big difference. My understanding is HCD believes that if it is substandard right now, let's say your house had a fire, you could not repair in-kind. My belief is that the state law's intent is to allow you to repair your house in-kind, assuming it was built in compliance with the code at the time of its construction. Therein lies the big difference. This is probably not the venue to vet that out but I think there needs to be some research and some understanding on this.

Mr. Krause stated, not every building that was built to the code or was built in the forties or fifties or whenever was actually built to the code that was in effect at that time.

Commissioner Sasaki stated, correct.

Mr. Krause stated, many buildings were not inspected, many buildings have substandard conditions that are not evident because there hasn't been a failure yet.

Commissioner Sasaki stated, correct, and in that case they could not be repaired in-kind.

Mr. Krause stated, but they would need an evaluation to determine that.

Commissioner Sasaki stated, yes, that is correct.

Mr. Bumbalov stated, to repair in-kind. My house can be repaired in kind; the model code allows it. The structural damage wasn't from earthquake; the structural damage wasn't from a snow load. I will need the evaluation which the building official in Chico will require me to evaluate the building anyway. If the engineer says, okay, you don't need to upgrade your building then I will build it in the way it was. Again, it provides the connection. You don't go from A to Y, you go through all the letters, and this is what the model code is about.

Commissioner Sasaki stated, I understand and that's where we have a disagreement. I believe that the state law basically just says you can repair in-kind if the building was built in compliance with the code at the time of original construction, period.

Vice Chair Winkel stated, let's assume that none of us had seen this document and that we are just looking at it in the beginning; 302.5, which was formerly 401.2.2, has the phrase, like material shall be permitted for repairs and alterations provided that unsafe conditions are not created. Is that not sufficient language?

Commissioner Sasaki stated, that is sufficient. The problem is that in Chapter 4 they are adopting the structural upgrade triggers which are in fact in direct conflict with that section you just read. So if I am a structural engineer and I am looking at a two-story apartment building, I would go to the Repair section and I would go down to the Structural Damage and I would have to go through that evaluation. In my reading of the code, and it says in the code you use the more stringent requirement. In fact, the upgrade requirement is clearly more stringent.

Vice Chair Winkel stated, the amendment addressed one of my concerns because the original proposal had the 302 provisions and the general provisions had the like-kind without a pointer back from the Repair section, which meant that the specific governed over the general and I think it would be the case that you've got. The new proposal before us, 402.3 in the new proposal, says new and replacement materials. It is inside Chapter 4 and it is numbered in such a way that it would be equivalent in hierarchy to the other provisions, the evaluation provisions. New and replacement materials used for repairs shall comply with Section 302.5, which is the one which allows like materials. So I think the amendment is getting us closer to being okay, better than the previous language we had, which we just got, we just received this one a couple of hours ago. So I think that we may be close, I am not sure we're there yet.

Commissioner Sasaki stated, I agree. I appreciate the recent addendum or change because I think that is getting closer. It gets the in-kind provision section in the repair section, which is, I think, very important. Because I as a design professional, I don't go through the 16 chapters in the CEBC, I go through, if I'm doing an addition, I would look through and I would go, oh, there's Chapter 5, the part on additions, and that's where I start beginning my reading. I probably will go back to Chapter 3, the general provision sections, but really where I am really understanding what the requirements are is in those individual chapters. So to see the in-kind repair provisions in the repair chapter I think is a great addition.

Mr. Krause stated, we struggle too when the model code changes. But at the pleasure of the Commission you are welcome to take action on this item and do what you see fit.

Vice Chair Winkel asked if there were other comments from other commissioners.

Commissioner Mikiten stated, I wanted to get clarification about whether the substandard building for structural that we are talking about is something that is being proposed differently than it was before?

Mr. Bumbalov stated, before it was just the statement, if the building is not a substandard building. And it depends on interpretation and evaluation from the building departments how they will enforce that. So some buildings were required to upgrade, some buildings were not. What we are proposing now is a path. If it is not substantial structural damage, you can do in-kind replacement. If it is substantial structural damage as determined by the building official, you do evaluation. If the evaluation concludes that the building was not a substandard building before, in-kind replacement. If the evaluation concludes that the building was substandard there are some specific conditions, you evaluate the building and you use wind and seismic loads to recalculate the structural. What also this section says, if the building was not damaged by a wind, you go back to the code under which it was approved, so it's another in-kind replacement. If the building was damaged by a wind, then you use the wind load as it is in the current code. Seismic, if the building was damaged you calculate using the seismic loads at the time of original construction. So this is another in-kind replacement.

So when we say the new model code requires upgrade to the building, it is not necessarily correct. The model code provides a path, what you do based on the damage. First we start

with the decision of the building department what that damage is and then we go to the evaluation. If you do that you go there, if you do that you go there, if you do that you go.

Commissioner Mikiten stated, so this flow chart that you're describing, it starts with substantial structural damage?

Mr. Bumbalov stated, yes. So if it is not substantial structural damage, you are doing in-kind replacement, no question on that. If it was substantial structural damage, then there are details, what the damage was and what you do based on the type of the damage.

Commissioner Mikiten stated, so if my gypsum board is cracked after an earthquake and it is not a structural shear panel then I can just do the in kind replacement.

Mr. Bumbalov stated, that is correct.

Commissioner Mikiten asked, that is the intent?

Mr. Bumbalov stated, yes.

Commissioner Sasaki stated, so the code for a very long time has had upgrade triggers. These are no different. We may call them something different, substantial structural damage, disproportionate earthquake damage, but we can't hide from the fact these are upgrade triggers. Most upgrade triggers were back in the 1970 UBC, there was a 10, 25, and 50 percent of replacement cost triggers. If you were below 10 percent, you could repair in-kind. If you were up to 25 percent, the repair had to come up to current code. If you exceeded 50 percent of the replacement cost of the building, guess what, you had to upgrade the entire building so that it complied with the current code. I understand the path, but the provisions that we are talking about are upgrade triggers.

Mr. Bumbalov stated, not ultimately.

Commissioner Sasaki stated, well, of course. But the 10, 25, and 50 percent replacement cost triggers that used to be in the code, they are very similar, there is a certain path.

Mr. Bumbalov stated, no; now it's based on substandard conditions.

Commissioner Sasaki stated, I know. That was only a choice. There was a big discussion, and you can look through the code discourse on that, but they were trying to define, figure out what was a better threshold for code upgrading. Something based on replacement value, which doesn't sound very technical and maybe has a lot of administrative problems because somebody has to submit some sort of cost estimate, or something that was more engineering, more technical. And that is why they chose to go with these levels of structural damage. But they are upgrade triggers.

Commissioner Mikiten stated, one quick comment triggered by that and I have a little bit of concern as well. Even if this is a change that is based on the model code, that you have to adopt the potential that this pathway is being changed and therefore is going to affect some people, and having to do more replacement now than they would have before is not reflected in the financial impact form, so I'm just wondering.

Mr. Bumbalov stated, on the financial impact form, no, because what we are trying to say, if in the past Raj was the person who would say, hey, you need to hire an engineer and evaluate your building and based on that this is how much it will cost. Now we are providing a path, you may need to upgrade your building, but if your building was a substandard based building based on these conditions here. For the same type of damage, with or without the model code, if the building department considers the building was substandard, there should be the same amount of money involved for the same type of building.

Vice Chair Winkel stated, we are almost at the break point again. I would like to break at a rational point. Are we pretty much done with Commission discussion? Does anybody want a few last words before we take a break? Then we will take a ten-minute break and start with public comment immediately thereafter. It maybe makes sense to have you guys stay there, then we will have the commenters and then you can respond if something comes up that needs a specific response.

Mr. Krause stated, Mr. Chair, I anticipate that you may need us for something after public comment.

Vice Chair Winkel stated, we will take a quick break.

A short recess was taken.

Questions or Comments from the Public:

Gwenyth Searer, licensed structural engineer in California and five other western states, stated she has 24 years of experience dealing with existing buildings. She stated she is also a member of the International Code Council (ICC) Structural Committee, which acts as the gatekeeper for changes to the International Building Code (IBC) and International Existing Building Code (IEBC). She stated he is a member of the main committee of the American Society of Civil Engineers (ASCE) 7, which sets the design limits for buildings and structures in the United States. She stated he is on several Committees of the Structural Engineers Association of California.

Ms. Searer stated she is speaking on behalf of herself. She stated he submitted a letter to the Commission that explains the huge problems with what HCD has done. She stated he will largely limit his response to public comment that were submitted by three individuals who inexplicably support what HCD has done. None of those comments address the basic problem of HCD's proposals violating state law. She stated he will ignore the fact that HCD has correctly not adopted the upgrade triggers in the code for the past three code cycles.

Ms. Searer stated one of the letters falsely claim that the upgrade triggers in the IEBC are somehow new to California; they are not. Upgrades were incorporated into the first edition of the IEBC in 2003, including the substantial structural damage trigger that all three commenters mentioned and the HCD has mentioned. Upgrades were also incorporated in the old Chapter 34, a chapter of the IEPC before that was phased out. For the past three code cycles, HCD has correctly declined to adopt those code triggers.

Ms. Searer stated now, without any change in state law, the Commission is being asked to ignore state law and adopt those triggers. If the Commission adopts the code upgrade triggers in sections 302.5.1, 405.2.1, 405.2.1.1, 405.2.2, 405.2.3, 405.2.3.1, 405.2.3.2, 405.2.3.3, 405.2.4, and 405.2.4.1 that includes but is not limited to snow damage trigger, the disproportionate damage trigger, and the two substantial structural damage triggers, the Commission will dramatically increase the cost to repair residential structures in California.

Ms. Searer stated it has been claimed that the costs of these triggers is minimal, yet HCD has provided no study that corroborates this claim. Triggers can easily double, triple, quadruple, or more the cost of repair only. Triggers also often require costly engineering evaluations. First just to see if the triggers are exceeded, and then to design the upgrades. Triggers also delay repairs and re-occupancy.

Ms. Searer stated most residential structures are not high-risk. Even high-risk residential structures, like buildings with tuck-under parking, can be strengthened cost-effectively if a targeted strengthening measure is used to address the primary weakness, which is the tuck-under parking, the soft-story conditions.

Ms. Searer stated the biggest upgrade triggers in the code – the substantial structural damage triggers – do not permit a targeted response. The whole building must be upgraded. Those triggers are not cost-effective.

Ms. Searer stated Section 17958.8 of the HSC requires that in-kind repairs be permitted. It does not say that repairs are permitted only if the damage is not structural or only if the structural damage is not substantial. With respect to the three letters that were submitted, Mr. Fattah admits that the governing provisions of the HSC can only be repealed or amended through legislation, but that has not happened.

Ms. Searer stated Mr. Fattah falsely claims that the IEBC repair provisions are new to California. As described earlier, the past code cycles cannot be considered new. FEMA does not provide reimbursement for code upgrades for privately-owned residential structures. Owners are always permitted to voluntarily upgrade their buildings, but upgrades of private property are not paid for by FEMA.

Ms. Searer addressed Mr. Bonowitz's letter. She stated Mr. Bonowitz points out that HCD substandard with unsafe is dangerous. Ms. Searer quoted Mr. Bonowitz's letter: "It is not clear to me that we want every seismically deficient building to be immediately vacated or subject to the codes' most onerous provisions for unsafe buildings." Ms. Searer stated this is a proponent of these changes. She stated this is a big deal. Ms. Searer stated Mr. Bonowitz admits that the amendments proposed by HCD are not intended to waive the upgrade triggers. To address Vice Chair Winkel's theory, just because you have that one provision in that one spot, you are absolutely going to run into building officials, and HCD is saying they intend those building officials to trigger those triggers.

Ms. Searer stated Mr. Bonowitz then claims that the triggers only apply to substandard buildings and that is not true. IEBC triggers apply to any building that experiences substantial

structural damage or snow damage or disproportionate earthquake damage. Structural damage does not mean a building is necessarily substandard; it might be, but it does not mean that it is.

Ms. Searer stated Mr. Bonowitz wants to lobby the legislature to mandate date code upgrades for residential structures. Although he is welcome to do so, this cannot be the venue for making that kind of change. Mr. Bonowitz admits that, under these proposed revisions, in-kind repairs are not permitted when the damage is substantial, and he claims that this complies with the Health and Safety Code. Section 17958.8 specifically allows in-kind repairs to be performed whether or not damage is structural in nature and whether or not such damage is substantial.

Ms. Searer encouraged Commissioners not to fall for this. Not adopting HCD's proposed amendments and remaining on the 2016 CEBC until HCD can correct their errors is not something that anyone wants. However, if the Commission adopts HCD's provisions, they will be in direct conflict with state law and the public will shoulder the cost of these provisions, as well as the uncertainty of what is legally required, because there will be, as Vice Chair Winkel pointed out, something that says it can be done and something that says it cannot. Ms. Searer stated, in the end, this is HCD's error. She encouraged Commissioners not to make it the Commission's error as well.

Commissioner Booth asked, in the case of a minor seismic event, if current code allows a building to be straightened and appropriate structural reinforcements put in.

Ms. Searer stated current code allows damage to be repaired in-kind unless the building is substandard.

Commissioner Booth stated his understanding that, under the proposed code, minor damage suffered by buildings in an event would trigger additional repairs beyond the immediate issue. It would force the owner to not only fix the immediate issue, but would force the owner to then look at all the other parts of the building, inside and out.

Ms. Searer stated that is correct.

Commissioner Klausbruckner asked how other parts of the country are handling these code regulations for seismic events.

Ms. Searer stated it is not an issue in general, but, if the IEBC is adopted, it will force individuals to follow what is in the IEBC and those triggers.

Kelly Cobeen, a structural engineer from the Bay Area with 30 years of engineering experience and almost 30 years of being involved in the ICC code development process, stated she is one of a handful of engineers across the nation that has been very much involved in the writing and the upkeep of the residential codes – the IRC that is adopted by the state of California as the California residential code. She asked the Commission not to adopt the HCD package as it was presented. There has been a huge amount of confusion about what the intent and outcome of it will be. It needs further development before it can go forward.

Ms. Cobeen stated she submitted a letter to the Commission detailing her comments. She stated the proposal will create a fundamental and overwhelming negative change that will affect the housing stock and homeowners, and will turn the insurance industry on its head. The proposal creates a huge change with huge financial implications that are not being thought through right now.

Ms. Cobeen provided the example of a building she recently worked on to illustrate the difference between what happens under the currently adopted California existing building code and what would happen if HCD's proposed amendments went forward. She spoke in opposition to bringing in the in-kind repair to Chapter 4, Section 405, and dropping the triggers for substantial structural damage and retrofit that are the core of the negative impact that will occur. She stated this could benefit from further study.

Commissioner Mikiten stated he thought he heard HCD say that her example scenario would only play out if the house was determined to be a substandard structure.

Ms. Cobeen stated that is not what the code language states.

John Osteraas, a California licensed civil engineer, with 40 years of experience and a Ph.D. in earthquake engineering from Stanford University, stated he has experience with trying to apply the substantial structural damage criteria to the various commercial structures over the years. He stated it is not easy. It has been said in testimony today that the building inspector will go out and make the determination. He stated that is not the way it works.

Dr. Osteraas stated to do a competent assessment of substantial structural damage requires first a complete inventory of the structural system of the building, to figure out what the layout of the lateral force resisting elements are, what the weights of the structural are, what the structural components are. A model then needs to be developed and figure out what the aggregate capacity of the structure is. Then, the more difficult part is assessing the effect of damage on the strength.

Dr. Osteraas stated there was an earlier comment about a crack in the drywall and how much that reduces the strength of the wall. He stated that is not straightforward. There has been a lot of testing done since 1994, prompted in part by the city of Los Angeles after the 1994 earthquake. Los Angeles adopted rules and retrofit triggers based on 10 percent loss of strength and 50 percent loss of strength. He stated it is fairly simple to figure out a steel structure with a crack at welded connections, but it is much more difficult to figure out the loss of strength for cracks in stucco or cracks in lath and plaster. These examples are not structures leaning over at 20 or 30 degrees with obvious damage but are structures that are plumb, square, and level with cracking on the finishes. This is not straightforward.

Dr. Osteraas stated there has been and continues to be testing done to better understand what the relationship is between crack patterns and loss of strength. It is a challenging problem when dealing with only a few buildings. After a major earthquake in California, there will be hundreds of thousands of buildings that will require the assessment of whether or not they have substantial structural damage and whether or not they can be repaired in-kind or need to

be upgraded. He stated he did not see how it would work from the perspective of getting communities back in operation. Assessing that many buildings for substantial structural damage will take years to complete the assessments.

Dr. Osteraas stated there is a fair amount of research going on sponsored by FEMA and the California Earthquake Authority in California to develop cost-effective retrofits for seismic vulnerabilities. One of the things learned from that study is that retrofits of specific vulnerabilities can be done by focusing on the weakest links in the chain. This proposal is not cost effective.

David Bonowitz, a structural engineer in San Francisco, stated he submitted a letter with his full comment to the Commission. He stated he chaired the SEAONC's Seismology committee that was responsible for writing some of these provisions. He stated these provisions were in the model code in 2009. Let the upgrade be light. That is why the code allows what is called the use of reduced forces, whether or not the building is being brought up to code. Nothing needs to be done with regard to nonstructural upgrade. He stated the need to allow ample exceptions. He stated the examples given by previous speakers would never have to do a seismic upgrade because single family dwellings are explicitly exempted from these triggers unless it was in a flood hazard area. He stated the question is why California has adopted flood-operated triggers but not earthquake-operated triggers.

Mr. Bonowitz stated these provisions have been in the model code since 2009 and have been used around the country, not just for earthquakes, but for all-natural hazards. In 2012, a small adjustment was made, the definition of substantial structural damage, but nobody objected to the concept. In 2015 and in 2018 nobody objected to the concept across the country. Meanwhile, the nonresidential buildings that have not been exempt from this in California and elsewhere have done just fine. Jurisdictions like Los Angeles and San Francisco have triggers like this that they use normally and they handle them just fine.

Mr. Bonowitz stated to have this come into the California Code in a general way means a high trigger, low threshold or upgrade, the exemptions, and the experience gleaned from nonresidential buildings. If the provided is added to the code, it might induce a cost but it sounds like the option being proposed is to never trigger any kind of upgrade at all. That flies in the face of the national consensus, including FEMA consensus. FEMA supports these model code provisions, in fact makes compliance required to get FEMA funding post-disaster.

Vice Chair Winkel closed the public comment section.

Vice Chair Winkel recessed the meeting at 4:30 p.m. and invited everyone to join the Commission for Day 2 of the meeting tomorrow morning at 9:00 a.m.

Wednesday, January 16, 2019

Reconvene

Vice Chair Winkel reconvened the meeting of the BSC at 9:06 a.m. at the California Victim Compensation Board, 400 R Street, First Floor Hearing Room, Sacramento, 95811.

Roll Call

CBSC staff member Pamela Maeda called the roll and Vice Chair Winkel stated we have a quorum.

Commissioners Present: Steven Winkel, Vice Chair
 Juvilyn Alegre
 Larry Booth
 Elley Klausbruckner
 Erick Mikiten
 Rajesh Patel
 Peter Santillan
 Kent Sasaki

Commissioners Absent: Secretary Marybel Batjer, Chair

Vice Chair Winkel gave the instructions regarding public comments and teleconferencing.

Vice Chair Winkel stated the Commission had just completed the public comment portion of Agenda Item 7e that the Department of Housing and Community Development is proposing for the 2018 edition of the International Existing Building Code, Part 10 of Title 24. An addendum was presented to the Commission yesterday that appears to have a material change so it may necessitate public review.

Vice Chair Winkel stated, before turning this item back to the Commission, the HCD has asked to round out their testimony with closing comments. He asked the representatives from the HCD to provide their comments.

Kyle Krause, Assistant Deputy Director, HCD, Division of Codes and Standards, introduced his colleagues Mr. Stoyan Bumbalov, Program Manager, State Housing Law Program, HCD, and Lisa Campbell, Staff Counsel, Legal Affairs Division, HCD. Mr. Krause stated, after yesterday's meeting, the HCD determined that there was an important issue to bring to the Commission's attention that is a critical procedural element for the Commission and the public to properly consider the HCD's proposals. The Final Statement of Reasons (FSOR) document, which the HCD brought for Commission review yesterday, was not requested to be submitted prior to the hearing, and the public and the Commissioners have not had the opportunity to review the FSOR, which is the document required by California Administrative Code Section 1-415.

Mr. Krause stated the HCD feels this is a significant issue that will stall the code adoption process for Part 10 of Title 24. He stated the HCD wishes to withdraw the addendum that was submitted yesterday and return this issue back to the Commission.

Vice Chair Winkel stated his understanding that what is being withdrawn is the addendum and the FSOR that went with that addendum but that the remainder of the proposal is still in play. The HCD submission is as it was in the 15-day language prior to yesterday.

Mr. Krause stated that is correct. The Commission had 15-day language, which had the proper public comment opportunity; however, it was missing the FSOR.

Vice Chair Winkel stated his understanding for clarification that what the Commission should be debating is the proposed Item 7e without the addendum submitted yesterday.

Mr. Krause stated that is correct.

Vice Chair Winkel stated this closes the public comment and the agency discussion. He now turned it back to the Commission for a motion and discussion.

Questions and Comments from the Commissioners:

Commissioner Sasaki stated he appreciated the HCD looking into the issue of the addendum after the meeting yesterday. He stated the cycle for the 2019 code will soon be coming to an end. He stated the addendum that was submitted yesterday should be included in the amendments that are approved. He asked Executive Director Marvelli about options for a motion.

Executive Director Marvelli stated her understanding that the addendum that was issued yesterday has a material change and the public has not had an opportunity to comment on that addendum. She stated Mr. Krause also stated the FSOR, which incorporated the last FSOR the Commission reviewed in December and the responses that the HCD provided to the 15-day public commenters, was not properly vetted by both the public and the Commission as well. Part of the reason for that was to try to incorporate this 15-day public comment period and it overlapped with the notice period for this meeting.

Executive Director Marvelli stated the Commission cannot procedurally take action on this package because the public and the Commission must first properly have time to review this material. She stated the item can be brought back at the April Commission meeting, if the HCD asks for a continuance similar to what was done at the December meeting.

Vice Chair Winkel stated his understanding that, if the Commission voted for further study on this item, it would remove the changes from the queue for publication in July because the term "further study" means during the next cycle. He stated it seems that there would be time to do a 15-day public comment period on the language and talk to proponents and opponents of some of the changes in time for the April meeting and in time to make the publication deadline in July.

Executive Director Marvelli answered that is correct.

Vice Chair Winkel stated it is an important portion but, as text goes, it is a very small portion of the HCD proposal that is controversial. He stated it seems that the language presentation for the Commission and the public is not in a form that makes it readily separable but that there are many bits and pieces of Chapters 2, 3, and 4 that end up in different places or need to be addressed to talk about the question dealing with existing buildings and seismic safety. He stated it is not possible to pass most of the HCD proposal and except out only a small portion of it. He asked if Commissioners or the HCD representatives have a response to his comment.

Mr. Krause stated it is the HCD's opinion that an additional 15-day public comment period would not be adequate to properly vet the issues that apparently, in the opinion of many, need to be resolved. He stated the HCD stated clearly that it is required to adopt model code. The HCD believes that it has continued to adopt the existing amendment from the 2016, Part 10, into the proposed 2019, Part 10, that references the continued use of existing materials and methods of construction. That said, the procedural issue currently in discussion is a larger issue because it has prevented the public and the Commission from properly reviewing the FSOR going forward. This means that the packet is not right for approval.

Mr. Krause stated another option would be to continue the adoption of the 2016, Part 10, for 18 months to allow this issue to be vetted during the intervening rulemaking cycle.

Vice Chair Winkel stated, if that option was taken, that would mean that the initial publication of the 2019 Code would revert back to the 2016 Code language.

Mr. Krause stated that is correct.

Vice Chair Winkel stated his understanding that the HCD does not believe that deferring this discussion to April would serve any useful purpose.

Mr. Krause stated that is correct.

Mr. Bumbalov added that the issue with the FSOR was that the HCD provides side-by-side and section-by-section comparison with the state law trying to justify why the new model code, if adopted, does not conflict with the state law. Yesterday, the HCD heard general "what if" comments but the HCD justification was not in general – it was section-by-section intended to show why the HCD believes it does not conflict with state law. He stated the Commission and public were not given enough time to evaluate the FSOR and HCD's explanation.

Vice Chair Winkel stated his thoughts were with the 15-day comment period and the intervening time period prior to the April meeting would give individuals time for review. He stated the Commission does not have the option to move items back to April. He asked legal counsel to comment.

Ms. Barbu stated there seems to be a procedural issue in that the FSOR did not have enough time to be vetted. In this instance, the Commission would not be able to take action on it until the FSOR could be properly vetted.

Vice Chair Winkel stated the previous deferral from December to January was done because a material change was proposed and a 15-day public comment period was required. In this case,

there is a procedural issue so the Commission could find that this proposal needs to be deferred until the April meeting.

Mr. Krause stated deferring it to the April meeting would also provide time for a 15-day public comment period for the language submitted yesterday in the addendum, thereby allowing the HCD to mitigate some of the concern.

Vice Chair Winkel spoke as a Commissioner and encouraged the HCD, if the Commission remands this back in April, to strongly consider the amendment because that was a big fix in his mind about reverting back to the original proposal language.

Commissioner Sasaki stated his understanding that there is not sufficient time by the April meeting to vet the many questions related to the issues discussed yesterday.

Mr. Krause stated the public has not yet seen the FSOR. There is a possibility that many of the commenters may still have concerns that were expressed yesterday, if this were presented at the April meeting.

Commissioner Sasaki agreed and stated he was inclined to make a motion that these complicated, important issues remain status quo until questions can be answered. He stated, from the standpoint of publishing, it makes it difficult and it will be confusing for code users to understand why the 2019 code for residential construction is under the 2016 CEBC but, given the situation, it is the most appropriate thing to do.

Commissioner Klausbruckner asked, if the 2016 CEBC was used, if there was a way to clean up the language that references other sections from the 2018 edition that would create a conflict.

Executive Director Marvelli stated she, unfortunately, did not have an answer of how that would look in the new edition of the Code, if the 2016 code would have to be carried forward for the HCD while also issuing the 2019 code for the rest of the state agencies. Staff would have to sit down and sort it out.

Commissioner Patel stated there are two sets of FSORs – the initial set and the one received recently. He asked, based on the original set, if there is an option to repeal the 2016 Chapter 10 and bring in the new 2019 Chapter 10 with the existing amendments.

Ms. Barbu stated the Commission would have to vote on the item as currently presented by HCD. The item that was currently presented has a new FSOR that was not given proper notice. That is a big procedural issue. The FSOR must first be properly vetted prior to any action being taken by this Commission. Then, whatever is presented to the Commission with proper notice may be voted on.

Commissioner Booth stated this is important to California's housing stock, particularly in the case of a seismic event. There is also disagreement among the professionals about the triggers. It is important to take the time to vet this fully to try to work out something that is amenable to the professionals but still protects the California homeowner and the housing

stock. He stated he would be in favor of pushing this item to the April meeting with the expectation that agreement could be reached on that one issue.

Vice Chair Winkel stated there is a procedural issue that requires that this item be continued at least until April. He stated, even though it may not be resolved, the consequences of continuing the entire 7e package beyond April has some fussy but important correlation sorts of things, such as which code is being referenced. He suggested that the HCD make the April presentation divisible in such a way that the Commission could at least adopt the 95 percent that seems to be noncontroversial and leave the 5 percent that may remain at controversy to at least allow the noncontroversial items to move forward.

Vice Chair Winkel stated, procedurally, the Commission cannot adopt the proposal as submitted because of the procedural issue. This leaves the Commission with two possibilities: further study, which would throw out the entire package for one controversial item, or to continue this item until April where some of the noncontroversial items could be resolved.

Commissioner Sasaki stated this is not an issue of just one item but it consists of a number of items that relate to similar things, such as in-kind and upgrade provisions that encompass more than ten code sections. He stated the necessary time for vetting these complicated items will not be completed by the April meeting. Unfortunately, this package needs to be continued to the next code cycle and the Commission is faced with continuing on with the 2016 CEBC.

Mr. Krause agreed and stated the HCD is prepared to issue an information bulletin to stakeholders on the reasons for the delayed implementation, based upon continuing this item to the next rulemaking cycle, to allow more time for proper stakeholder consideration and to allow the Commission to take appropriate action.

Vice Chair Winkel stated he prolonged this discussion longer than it should have taken by giving two options when the proposal is procedurally inadequate. He stated the only course of action is to continue this item. He asked Commissioners to make a motion.

Commissioner Sasaki asked if the Commission should make a motion or the HCD should withdraw the item for continuation.

Commissioner Mikiten stated he understands and respects the idea that it is unlikely that consensus could be reached with another 15-day public comment period. He suggested having multiple 15-day comment periods over the next three months where the FSOR could go out and individuals could comment on it. He stated it almost seems like the same words are being interpreted in two different ways. He asked if common understanding could be reached with more dialogue so there could be an adjustment in that 15-day period that HCD would be comfortable in making that would also assuage individuals' concerns.

Commissioner Mikiten stated the best course of action would be for HCD to ask for a continuation and to try to reach a consensus with HCD asking for a continuance rather than going through the much more difficult process of going back to the old code, alerting the users about this situation, and then republishing something in the intermediate cycle. If it does not work, it would be in no worse position than before.

Mr. Krause stated HCD would be willing to consider 15-day comment periods; however, they need to be limited to sufficiently-related proposals based on the original submittal.

Vice Chair Winkel stated there is now one choice with two avenues: the HCD can withdraw their proposal and come back in April or the Commission can direct the HCD to come back in April. He asked if it could be HCD's pleasure to continue their proposal until the April meeting.

Mr. Krause stated at the pleasure of the Commission.

Vice Chair Winkel asked for a motion.

Commissioner Booth moved to instruct HCD to continue their proposal under Agenda Item 7e and to utilize 15-day public comment periods to try to reach consensus on all the items and bring back a full package to the April Commission meeting.

Vice Chair Winkel seconded.

Commissioner Mikiten stated he thought that the Commission established at the December meeting that it cannot make motion to ask the HCD to continue.

Vice Chair Winkel stated this is a different situation. Legal Counsel and the HCD are in agreement that there is a procedural error, which gives the Commission the ability to do this.

Commissioner Klausbruckner stated, the procedural deficiencies aside, she can understand HCD's frustration with putting out this document and not getting feedback by members of the public until the last minute. She encouraged stakeholders to have discussions with the HCD long before the April meeting.

Motion: Vice Chair Winkel entertained a motion for the continuation of Item 7e to the April Commission meeting. Commissioner Booth moved to instruct HCD to continue their proposal under Agenda Item 7e and to utilize 15-day public comment periods to try to reach consensus on all the items and bring back a full package to the April Commission meeting. Vice Chair Winkel seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted "Yes": Commissioners Alegre, Booth, Klausbruckner, Mikiten, Sasaki, Patel, and Santillan, and Vice Chair Winkel.

6. Office of Statewide Health Planning and Development

Vice Chair Winkel stated the next agenda item is the Office of Statewide Health Planning and Development (OSHPD) – item number 8 on the agenda. He asked the representatives from OSHPD to please come forward and present item 8.

8a. Office of Statewide Health Planning Development (OSHPD 01/17) Proposed adoption of the 2017 edition of the National Electrical Code with amendments for incorporation into the 2019 California Electrical Code, Part 3 of Title 24.

Eric Jacobsen, Senior Architect, Building Standards Unit, OSHPD, introduced himself and Diana Scaturro, Supervisor, Building Standards Unit, OSHPD. He stated administrative changes were made to Parts 1, 2, and 10, which were adopted in December of 2018, and there are related amendments that continue through Parts 3, 4, and 5. He addressed the common changes made to Parts 3, 4, and 5 of Title 24 before getting into Part 3 specifically.

Mr. Jacobsen stated, in December, OSHPD introduced the concept of “removed from acute care service” and, as a reminder, those dealing with structural performance category (SPC) buildings, which are portions of hospital buildings that have an independent structural system in the unique seismic performance category, for buildings that are not able to be updated to statutory performance categories or able to be isolated for the remaining portions of the hospital building with code-compliance building separations, nor are able to be demolished without significant compromise to the remaining hospital buildings, OSHPD is setting it up so that they may remain a non-conforming portion of the hospital but they may not house in-patient acute care services in them.

Mr. Jacobsen stated those particular portions of the hospital use the banner OSHPD 1R, which was introduced in December. To be consistent with that for Parts 3, 4, and 5, OSHPD 1R has been introduced where appropriate to maintain alignment with Parts 1, 2, and 10.

Mr. Jacobsen stated, similarly, for acute psychiatric hospitals, the functional requirements were separated out in the 2016 mid-cycle as Section 1228 as the distinct requirements associated with acute psychiatric hospitals that are independent from what would generally be associated with general acute care hospitals. OSHPD 5 has been added as a banner to Section 1228 as the acute psychiatric hospitals. To be consistent with the other parts of Title 24, for Parts 3, 4, and 5 – for the amendments that are applicable to acute psychiatric hospitals – they include the banner OSHPD 5.

Mr. Jacobsen stated that is the general overview for all three parts. He asked if there were any questions before he started his presentation on Part 3.

Questions or Comments from the Commissioners:

Commissioner Booth stated he understands the reality of carving out a piece of a hospital that is not able to bring it up to seismic code, etc. He asked if OSHPD has received feedback from hospitals that spent a lot of money to do all of this in advance and now learn they did not have to.

Ms. Scaturro stated OSHPD has heard relief from the industry because owners have had many years to decide whether or not to upgrade the oldest buildings, which are known as SPC-1. They also have an upcoming issue with the 2030 deadline for the SPC-2 buildings. If those buildings have not been upgraded by now, they have been replaced by building additions or new campuses elsewhere. She stated the oldest building is generally the original hospital with later and more subsequent additions. They have moved services into those newer buildings but now they are left with the old building. Nothing about this code proposal impacts any of that decision. The quandary is what they are permitted to do in those oldest

buildings. This proposal language clarifies the pathway for what they are allowed to do in those buildings.

Commissioner Booth asked if there was building stock that was slated to be renovated, demolished, or replaced that is now able to stay in service because the usage is now allowed by code.

Ms. Scaturro stated there is not. She stated those oldest structures within hospitals can be used as distinct skilled nursing facilities, acute psychiatric service facilities, or outpatient clinics. There is nothing about this proposal that has altered decisions in terms of whether those old buildings were viable to upgrade or not but it clarifies how they can be used in a beneficial way.

Presentation, continued

Mr. Jacobsen continued his presentation with a review of OSHPD's proposal for the 2019 California Electrical Code (CEC), Part 3 of Title 24. He stated OSHPD is proposing to adopt the 2017 edition of the National Electrical Code (NEC) as published by the NFPA and to carry forward existing amendments in the 2016 CEC. In addition to the OSHPD 1R and OSHPD 5 banners, there are minor administrative changes to existing amendments.

Mr. Jacobsen stated the 2017 edition of the NEC has changes in it and minor restructuring and renumbering that shows up in Article 517. Consequently, the amendments need to juggle around to remain aligned with the sections that they used to be aligned with in their new sequence and structuring. There is nothing substantive; it is simply keeping up with changes that the NEC had made.

Mr. Jacobsen stated, in addition to that, Article 517.123, nurse call systems, is currently California language only and is not in the NEC so it has no conflict with the national standards. The changes are to maintain alignment with Title 22 licensing requirements as promulgated by the California Department of Public Health (CDPH). Also, OSHPD wants to stay somewhat aligned with the national standards, the Federal Guidelines Institute, as they continue to evolve with standards for health care facilities such as hospitals.

Mr. Jacobsen stated OSHPD has looked at the nurse call requirements as a table in the California Building Code, which was adopted in December. The CEC response to that was to maintain alignment with what was done to update the nurse call table in the CBC. Article 517.123 was restructured although there were no substantive changes. Clarifications were made and it was restructured to make it more user-friendly.

Mr. Jacobsen stated the proposal has been vetted through public meetings with the Hospital Building Safety Board in the fall and winter of 2017 and 2018. It has gone before the Plumbing, Electrical, Mechanical, and Energy Advisory Committee on August 14, 2018. It went out for a 45-day comment period on September 14th through October 29th, 2018, and OSHPD received no comments. The express terms remain unaltered from the original submittal.

Questions or Comments from the Commissioners:

No additional questions or comments from the Commissioners.

Questions or Comments from the Public:

No questions or comments from the public.

Motion: Vice Chair Winkel entertained a motion to consider the proposed adoption of the 2017 edition of the National Electrical Code with amendments for incorporation into the 2019 California Electrical Code, Part 3 of Title 24. Commissioner Sasaki moved approval of OSHPD’s proposal in Item 8a as presented. Commissioner Mikiten seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted “Yes”: Commissioners Alegre, Booth, Klausbruckner, Mikiten, Sasaki, Patel, and Santillan, and Vice Chair Winkel.

8b. Office of Statewide Health Planning Development (OSHPD 04/18) Proposed adoption of the 2018 edition of the Uniform Mechanical Code with amendments for incorporation into the 2019 California Mechanical Code, Part 4 of Title 24.

Vice Chair Winkel asked the representatives from OSHPD to present Item 8b.

Mr. Jacobsen stated OSHPD is proposing to adopt the 2018 edition of the Uniform Mechanical Code as published by the International Association of Plumbing and Mechanical Officials (IAPMO) and carry forward the existing amendments in the 2016 California Mechanical Code. The OSHPD 1R and OSHPD 5 banners are being added. There are minor administrative changes proposed to the existing amendments, such as the addition of a section on neonatal intensive care units to align with the California Building Code sections and to keep alignment with the Title 22 licensing departments as promulgated by the CDPH.

Mr. Jacobsen stated, in addition to that, on Table 4a, the pressure relationship and ventilation requirements, for better alignment with the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE), which is the basis for that table, the ventilation of health care facilities, there were some missing functional spaces so those were added to the table.

Mr. Jacobsen stated some functional areas were removed that are not associated with any patient care areas. ASHRAE 170 does not list those but let’s those default to ASHRAE 62.1 so OSHPD found no reason to keep them in the ASHRAE 170 table. He noted that ASHRAE 62.1 is the basis for CMC section 403, ventilation rates for other commercial buildings.

Mr. Jacobsen stated the proposal has been vetted through public meetings with the Hospital Building Safety Board and the Plumbing, Electrical, Mechanical, and Energy Advisory Committee. It went out for a 45-day comment period and OSHPD received no comments. The express terms remain unaltered from the original submittal.

Questions or Comments from the Commissioners:

No questions or comments from the Commissioners.

Questions or Comments from the Public:

No questions or comments from the public.

Motion: Vice Chair Winkel entertained a motion to consider the proposed adoption of the 2018 edition of the Uniform Mechanical Code with amendments for incorporation into the 2019 California Mechanical Code, Part 4 of Title 24. Commissioner Booth moved approval of OSHPD’s proposal in Item 8b as presented. Commissioner Klausbruckner seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted “Yes”: Commissioners Alegre, Booth, Klausbruckner, Mikiten, Sasaki, Patel, and Santillan, and Vice Chair Winkel.

8c. Office of Statewide Health Planning Development (OSHPD 05/18) Proposed adoption of the 2018 edition of the Uniform Plumbing Code with amendments for incorporation into the 2019 California Plumbing Code, Part 5 of Title 24.

Vice Chair Winkel asked the representatives from OSHPD to present Item 8c.

Mr. Jacobsen stated OSHPD is proposing to adopt the 2018 edition of the Uniform Plumbing Code as published by IAPMO (International Association of Plumbing and Mechanical Officials) and carry forward the existing amendments in the 2016 CBC. The OSHPD 1R and OSHPD 5 banners are being added. There are minor administrative changes proposed to the existing amendments. Table 4-2 provides the minimum plumbing fixture requirements for health facilities for all the facilities under OSHPD jurisdiction. There were a few functional spaces that were not on that table that have been added. It is not substantive but is for better alignment with the existing functional requirements in CBC sections 1224, 1225, 1226, 1227, and 1228.

Mr. Jacobsen stated the proposal has been vetted through public meetings with the Hospital Building Safety Board and the Plumbing, Electrical, Mechanical, and Energy Code Advisory Committee. It went out for a 45-day comment period and OSHPD received one comment. It is the same comment the Commission heard yesterday during the HCD proposals. The comment expressed opposition to Model Code UPC section 715.3 and is relative to the language regarding a restriction on lining to repair cast iron pipe. He stated this language is Model Code language from IAPMO and is not amended by OSHPD so there are not amendments to modify and is not subject to rulemaking for this package. The express terms remain unaltered from the original submittal.

Questions or Comments from the Commissioners:

No questions or comments from the Commissioners.

Questions or Comments from the Public:

No questions or comments from the public.

Motion: Vice Chair Winkel entertained a motion to consider the proposed adoption of the 2018 edition of the Uniform Plumbing Code with amendments for incorporation into the

2019 California Plumbing Code, Part 5 of Title 24. Commissioner Booth moved approval of OSHPD's proposal in Item 8c as presented. Commissioner Mikiten seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted "Yes": Commissioners Alegre, Booth, Klausbruckner, Mikiten, Sasaki, Patel, and Santillan, and Vice Chair Winkel.

7. Office of Statewide Health Planning and Development (OSHPD EF 01/18) Emergency administrative standards for hospital seismic safety upgrade extensions for the 2016 California Administrative Code, Part 1 of Title 24, California Code of Regulations.

Vice Chair Winkel stated the next agenda item is OSHPD item number 9 on the agenda. It is a two-part finding of emergency and proposed emergency administrative building standards allowing hospitals to apply for seismic safety upgrade extensions pursuant to Assembly Bill 2190 and Chapter 673 in the statutes of 2018. The proposed emergency administrative building amendments would amend the 2016 California Administrative Code, Part 1 of Title 24.

Vice Chair Winkel stated the Commission will take this in two steps. It will first take action on the finding of emergency and determine whether the finding is acceptable. The Commission must either concur or not concur with the state agency's finding of emergency. If the Commission does not concur with the finding of emergency, no further action will be taken on the emergency regulations. Conversely, if the Commission does concur, the Commission will then consider the proposed emergency regulations and take action to approve, disapprove, return for further study, or approve as amended the proposed code change based upon the criteria stated in Health and Safety Code 18930.

9a. Action for Finding of Emergency

Vice Chair Winkel asked the representatives from OSHPD to give an overview of the first item, 9a, which is the finding of emergency.

Chris Tokas, Deputy Division Chief, Facilities Development Division, OSHPD, stated, until the end of 2018, California law required that a general acute care hospital building that is determined to be a potential risk of collapse or causes significant loss of life in an event of seismic activity to be replaced, retrofitted, rebuilt, or removed from acute care services by January 1st of 2020. This last September, after the legislative session concluded, Governor Brown signed into law Assembly Bill 2190. AB 2190 permits all hospitals with buildings that are subject to the January 1, 2020, requirements to apply for an extension. Furthermore, the bill requires OSHPD to grant an extension of time to an owner who is subject to the January 1, 2020, deadline if specified conditions are met.

Mr. Tokas stated the bill essentially permits OSHPD to bring an emergency regulation package to amend Part 1, Chapter 6 of the California Administrative Code. The bill states buildings that will be removed from acute care services do not have the right to apply for this extension and

addresses buildings that are slated to be replaced or retrofitted. Buildings that are slated to be replaced or retrofitted can submit an application no later than April 1, 2019, and must submit a construction schedule, obtain a building permit, begin construction, identify two of the milestones that are contained in the construction schedule, and submit quarterly reports thereafter until they are in full compliance. They have in total two and a half years to be in compliance, by July 31, 2022. The law specifies monetary penalties if the two milestones identified are not met. These penalties amount to \$5,000 per day until the two milestones are met.

Mr. Tokas stated each building slated to be rebuilt has slightly different terms because of the amount of time it will take to build. They have until April 1, 2019, the same deadline for the application, to receive a time extension. The time extension can be up to five years, January 1, 2025. To meet these deadlines, a complete set of documents must be submitted to OSHPD for review and approval by July 1, 2020, a construction schedule containing various milestones must be submitted by January 1, 2022, and they must obtain a permit by the same date, January 1, 2022. They must begin construction and identify two major milestones out of the construction schedule, which they will be held accountable to meet. In addition, quarterly reports must be submitted on the status of compliance. By January 1, 2025, they must be in full compliance.

Mr. Tokas stated these are aggressive timelines, specifically with regards to applying for the time extension. The bill will be effective January 1, 2020, so they have until April to put together everything required to submit an application to OSHPD, thereby giving them an extension, based on their justification.

Mr. Tokas stated OSHPD brings a proposed regulations package to the Commission to be considered under the emergency authority that the bill has granted to OSHPD.

Questions or Comments from the Commissioners:

Commissioner Booth asked about the numbers or square footage of buildings this bill addresses and if more buildings are rural or urban.

Mr. Tokas stated the total square footage is unknown. There are 168 SPC-1 buildings in the building inventory that provide acute care services. Those 168 buildings belong to 69 facilities statewide that are primarily concentrated in the Los Angeles area.

Commissioner Booth asked if the building or facility will be closed if it does not meet the final compliance date or if it is anticipated that extensions will be built.

Mr. Tokas stated the law mandates OSHPD to report noncompliance to the CDPH, that will either decide to discontinue the license or the facility.

Commissioner Sasaki stated the deadline date to apply for an extension is April 1, 2018. He asked if there will be sufficient time for hospitals to get their extensions in.

Mr. Tokas stated all 168 buildings will likely not apply for the extension. Some are planning to retrofit or rebuild. Also, not all 168 buildings currently have acute care services and must go

through an official project removal process so the buildings can be taken off the OSHPD building inventory list. He stated OSHPD has spent a considerable amount of time creating and disseminating electronic tools to expedite the application process. These electronic tools will allow hospitals to meet the April 1, 2018, deadline.

Vice Chair Winkel stated his understanding that the bill became effective January 1st, 2019, and the timeline is currently running, which is the nature of the emergency.

Mr. Tokas stated that is correct.

Questions or Comments from the Public:

No questions or comments from the public.

Motion: Vice Chair Winkel entertained a motion to consider the proposed finding of emergency for the seismic provisions in Item 9a. Commissioner Mikiten moved approval of OSHPD's proposed finding of emergency in Item 9a as presented. Commissioner Sasaki seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted "Yes": Commissioners Alegre, Booth, Klausbruckner, Mikiten, Sasaki, Patel, and Santillan, and Vice Chair Winkel.

9b.Action for the Adoption of the Proposed Emergency Building Standards

Vice Chair Winkel asked the representatives from OSHPD to give an overview of the second item, 9b, which is the proposed emergency administrative standards for additional compliance and extensions to the 2016 California Administrative Code. If approved, the emergency building standards will take effect upon filing with the Secretary of State.

Mr. Tokas stated, as mentioned earlier, the proposed package of the Emergency Regulations delineates the process that an applicant must follow in order to apply for a time extension. He stated page 1 of the proposed package reiterates the definitions of rebuilt, removal, replacement, and retrofit plan and reviews the steps in the application process to receive an extension.

Mr. Tokas stated his review of the bill language is the same from his testimony in Item 9a but he pointed out that in December, when OSHPD submitted the original request for emergency regulations, editorial issues were found. The package proposed today contain the changes made due to the editorial findings. He referred to page 1 of the six-page addendum to 9b and stated the changes are editorial in nature and are shown in gray shading. Mr. Tokas stated the one item that may not be perceived as editorial is where it clarifies the number of days to help applicants better understand the requirements, such as at the top of page 4.

Questions or Comments from the Commissioners:

Vice Chair Winkel stated clarification on the number of days is not considered a substantive change.

Questions or Comments from the Public:

No questions or comments from the public.

Motion: Vice Chair Winkel entertained a motion to consider OSHPD’s proposed emergency administrative standards. Commissioner Sasaki moved to adopt and Item 9b as amended. Commissioner Mikiten seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted “Yes”: Commissioners Alegre, Booth, Klausbruckner, Mikiten, Sasaki, Patel, and Santillan, and Vice Chair Winkel.

8. California Building Standards Commission

Vice Chair Winkel stated the next agenda item is Item 10, the California Building Standards Commission (BSC).

10a. California Building Standards Commission (BSC 01/17) Proposed adoption of the 2017 edition of the National Electrical Code with amendments for incorporation into the 2019 California Electrical Code, Part 3 of Title 24.

Vice Chair Winkel asked the representatives from CBSC to please come forward and present Item 10a, the proposed adoption and amendments to the 2019 California Electrical Code, Part 3 of Title 24.

Michael Nearman, Deputy Executive Director, CBSC, stated he will be presenting the proposed repeal of the 2014 National Electrical Code and the adoption of the 2017 National Electrical Code to be used as the base code for the 2019 California Electrical Code, otherwise known as Part 3 of Title 24.

Mr. Nearman stated this proposal was reviewed by the Code Advisory Committee and recommended that the Commission approve it as submitted for all the items of the proposal. Included in these items were general updates within the preface, year-specific information, and reference code names, as well as state agency contact updates. Additionally, to align the Electrical Code with the authority and reference sections with other parts of Title 24, the BSC proposes to add the Health and Safety Code section references to graywater systems for non-resident occupancies. The BSC’s proposal is to move forward its amendments into the 2019 California Electrical Code with no changes.

Questions or Comments from the Commissioners:

No Questions or Comments from the Commissioners:

Questions or Comments from the Public:

No questions or comments from the public.

Motion: Vice Chair Winkel entertained a motion to consider BSC’s request for adoption and approval of the amendments to the 2019 California Electrical Code, Part 3 of Title 24. Commissioner Booth moved to adopt and Item 10a as presented. Commissioner Mikiten seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted “Yes”: Commissioners Alegre, Booth, Klausbruckner, Mikiten, Sasaki, Patel, and Santillan, and Vice Chair Winkel.

10b. California Building Standards Commission (BSC 03/18) Proposed adoption of the 2018 edition of the Uniform Mechanical Code with amendments for incorporation into the 2019 California Mechanical Code, Part 4 of Title 24.

Vice Chair Winkel asked the representatives from CBSC to present Item 10b, which is a continuation of BSC proposed adoption and amendments to the 2019 California Mechanical Code, Part 4 of Title 24.

Enrique Rodriguez, Associate Construction Analyst, California Building Standards Commission, stated the BSC vetted the proposed code changes with stakeholders and interested parties including various state agencies. It has gone before the Plumbing, Electrical, Mechanical, and Energy Advisory Committee on August 14th and 15th of 2018. It went out for a 45-day comment period from September 14th through October 29th, 2018, to obtain public input. No public comments were received.

Mr. Rodriguez stated the BSC is proposing the adoption and amendment of the 2018 Uniform Mechanical Code into the 2019 California Uniform Mechanical Code with California amendments. The majority of the BSC’s amendments are editorial and include an amendment to Chapter 1, which added the BSC’s authority for Green Building Standards and graywater provisions in coordination with other similar amendments made in other parts of Title 24.

Mr. Rodriguez stated the relocation of filter regulations from Chapter 5 into Chapter 4 included amendments to the minimum efficiency reporting value (MERV) rating values to align with the same amendments that were made in Chapter 5 in the California Green Code and also to avoid those amendments that were made in Part 6 of the Energy Code.

Mr. Rodriguez stated the remainder of the rulemaking package is to adopt model code chapters unamended and carry forward existing California amendments.

Questions or Comments from the Commissioners:

No Questions or Comments from the Commissioners:

Questions or Comments from the Public:

No questions or comments from the public.

Motion: Vice Chair Winkel entertained a motion to consider BSC’s request for adoption and approval of the amendments to the 2019 California Mechanical Code, Part 4 of Title 24.

Commissioner Sasaki moved to approve Item 10b as presented. Commissioner Mikiten seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted “Yes”: Commissioners Alegre, Booth, Klausbruckner, Mikiten, Sasaki, Patel, and Santillan, and Vice Chair Winkel.

10c. California Building Standards Commission (BSC 04/18) Proposed adoption of the 2018 edition of the Uniform Plumbing Code with amendments for incorporation into the 2019 California Plumbing Code, Part 5 of Title 24.

Vice Chair Winkel asked the representatives from CBSC to present Item 10c, which is a continuation of BSC’s proposed adoption and amendments to the 2019 California Plumbing Code, Part 5 of Title 24.

Kevin Day, Staff Services Manager, CBSC, stated he will be presenting Item 10c, the BSC’s proposal to adopt the 2018 Uniform Plumbing Code with amendments into the 2019 California Plumbing Code. He stated the majority of the BSC’s amendments are editorial and address the UPC renumbering of Chapters 15 and 16. These were coordinated with the HCD and DWR and there is no intended change of regulatory facts. BSC’s proposal was heard by the PEME Code Advisory Committee in August of 2018, which recommended short-term further study on two items. These were coordinated further with the HCD and DWR. No additional changes were made to the Final Express Terms.

Mr. Day stated the BSC received five public comments during the 45-day public comment period, many of which address sections that were not proposed for change in this cycle. Following coordination with the HCD and DWR, the BSC has made no further modifications. The BSC responded to each of the comments in the Final Statement of Reasons indicating consideration of these suggested code changes during the future cycle.

Mr. Day stated the BSC requests the Commission to adopt and approve this submittal for the 2019 California Plumbing Code.

Questions or Comments from the Commissioners:

No Questions or Comments from the Commissioners:

Questions or Comments from the Public:

No questions or comments from the public.

Motion: Vice Chair Winkel entertained a motion to consider BSC’s request for adoption and approval of the amendments to the 2019 California Plumbing Code, Part 5 of Title 24. Commissioner Mikiten moved to approve Item 10c as presented. Commissioner Booth seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted “Yes”: Commissioners Alegre, Booth, Klausbruckner, Mikiten, Sasaki, Patel, and Santillan, and Vice Chair Winkel.

10d. California Building Standards Commission (BSC 06/18) Proposed adoption of amendments to the 2016 Green Building Standards Code, Part 11 of Title 24, for incorporation into the 2019 California Green Building Code, Part 11 of Title 24.

Vice Chair Winkel asked the representatives from CBSC to present Item 10d, which is a continuation of the California Building Standards Commission proposed adoption and amendments to the 2019 California Green Building Standards Code, Part 11 of Title 24.

Mr. Rodriguez stated the BSC vetted the proposed code changes with stakeholders and interested parties including various state agencies. It has gone before the Green Code Advisory Committee meeting on August 22nd of 2018. It went out for a 45-day comment period from September 14th through October 29th, 2018, to obtain public input. One comment was received. The BSC reviewed it and adequately addressed it. BSC proposes to carry forward existing amendments to the 2016 California Green Building Standards Code for inclusion into the 2019 California Green Building Standards Code with key amendments as follows: the MERV rating was amended according to other state agencies to come to a definition that did not conflict with other portions of the California Green Building Standards Code; definitions were added for recycled water and water reuse systems; Model Water Efficient Landscape Ordinance (MWELO) references were repealed in Chapter 5 to avoid conflicts with the Department of Water Resource's regulations; volatile organic compound emission limit references were updated to align with current standards; MERV ratings were amended; and the appendix checklist will be updated to ensure that all adopted code sections are captured.

Questions or Comments from the Commissioners:

No Questions or Comments from the Commissioners:

Questions or Comments from the Public:

No questions or comments from the public.

Motion: Vice Chair Winkel entertained a motion to consider BSC's request for adoption and approval of the amendments to the 2019 California Green Building Standards Code, Part 11 of Title 24. Commissioner Sasaki moved to approve Item 10d as presented. Commissioner Mikiten seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted "Yes": Commissioners Alegre, Booth, Klausbruckner, Mikiten, Sasaki, Patel, and Santillan, and Vice Chair Winkel.

A short recess was taken.

9. Division of the State Architect – Structural Safety/Community Colleges

Vice Chair Winkel stated the next agenda item is Item 11, the Division of the State Architect for structural safety/community colleges.

11a. Division of the State Architect – Structural Safety/Community Colleges (DSA-SS/CC 01/17) Proposed adoption of the 2017 edition of the National Electrical Code with amendments for incorporation into the 2019 California Electrical Code, Part 3 of Title 24.

Vice Chair Winkel asked the representatives from the Division of the State Architect (DSA) to please come forward and present Item 11a, the proposed adoption and amendments to the 2019 California Electrical Code, Part 3 of Title 24.

Jim Gibbons, Construction Supervisor, DSA, stated he will be presenting the DSA’s 2019 proposed code submittal for the California Electrical Code, which is Part 3 of Title 24 of the California Code of Regulations. The DSA is proposing to repeal the 2014 edition of the National Electrical Code and to adopt, instead, as model code the 2017 version of the National Electrical Code as the model code for the 2019 edition of the California Electrical Code. The DSA will be carrying forward existing amendments from the 2016 version of the California Electrical Code, has proposed minor editorial corrections and amendments, and is proposing no new substantive amendments.

Mr. Gibbons stated at the Code Advisory Committee, which was conducted on August 15th of 2018, all items submitted were recommended approved as submitted by the Committee and the DSA agreed with those recommendations. No comments were received during the 45-day public comment period. Mr. Gibbons stated the DSA respectfully requests the Commission adopt and approve the DSA’s code submittal package for the 2019 edition of the California Electrical Code.

Questions or Comments from the Commissioners:

No Questions or Comments from the Commissioners:

Questions or Comments from the Public:

No questions or comments from the public.

Motion: Vice Chair Winkel entertained a motion to consider DSA’s request for adoption and approval of the amendments to the 2019 California Electrical Code, Part 3 of Title 24. Commissioner Booth moved to adopt and Item 11a as presented. Commissioner Mikiten seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted “Yes”: Commissioners Alegre, Booth, Klausbruckner, Mikiten, Sasaki, Patel, and Santillan, and Vice Chair Winkel.

11b. Division of the State Architect – Structural Safety/Community Colleges (DSA-SS/CC 03/18) Proposed adoption of the 2018 edition of the Uniform Mechanical Code with amendments for incorporation into the 2019 California Mechanical Code, Part 4 of Title 24.

Vice Chair Winkel asked the representatives from the DSA to present Item 11b, which is a continuation of the DSA's proposed adoption and amendments to the 2019 California Mechanical Code, Part 4 of Title 24.

Mr. Gibbons stated he will be presenting the DSA's code proposal package for the 2019 edition of the California Mechanical Code. The DSA is proposing to repeal the 2015 edition of the Uniform Mechanical Code and to adopt the 2018 edition of the Uniform Mechanical Code as the model code. The DSA will be carrying forward existing California and DSA amendments and has proposed minor editorial corrections and amendments, along with a few substantive amendments.

Mr. Gibbons stated at the Code Advisory Committee, which was conducted on August 15th of 2018, all items submitted were recommended approved as submitted by the Committee and the DSA agreed with those recommendations. No comments were received during the 45-day public comment period. Mr. Gibbons stated the DSA respectfully requests the Commission adopt and approve the DSA's code proposal package for the 2019 edition of the California Mechanical Code.

Questions or Comments from the Commissioners:

No Questions or Comments from the Commissioners:

Questions or Comments from the Public:

No questions or comments from the public.

Motion: Vice Chair Winkel entertained a motion to consider the Division of the State Architect's request for adoption and approval of the amendments to the 2019 California Mechanical Code, Part 4 of Title 24. Commissioner Sasaki moved to approve Item 11b as presented. Commissioner Mikiten seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted "Yes": Commissioners Alegre, Booth, Klausbruckner, Mikiten, Sasaki, Patel, and Santillan, and Vice Chair Winkel.

11c. Division of the State Architect – Structural Safety/Community Colleges (DSA-SS/CC 04/18) Proposed adoption of the 2018 edition of the Uniform Plumbing Code with amendments for incorporation into the 2019 California Plumbing Code, Part 5 of Title 24.

Vice Chair Winkel asked the representatives from DSA to present Item 11c, which is a continuation of DSA proposed adoption and amendments to the 2019 California Plumbing Code, Part 5 of Title 24.

Mr. Gibbons stated he will be presenting the DSA's 2019 proposed code modifications for the 2019 edition of the California Plumbing Code, which is Part 5 of Title 24 of the California Code of Regulations. The DSA is proposing to repeal the 2015 edition of the Uniform Plumbing Code

and to adopt the 2018 edition of the Uniform Plumbing Code as the model code. The DSA will be carrying forward existing amendments including no substantive code changes and proposing minor editorial changes to the code.

Mr. Gibbons stated at the Code Advisory Committee, which was conducted on August 15th of 2018, all except one item submitted were recommended approved as submitted by the Committee. For the one item that was recommended for short-term further study, DSA staff collaborated with California Building Standards Commission staff in correcting or clarifying language in one of the sections. This was an editorial correction only. The DSA agreed to the language and submitted that language in the final package. No comments were received during the 45-day public comment period. Mr. Gibbons stated the DSA respectfully requests the Commission adopt and approve the DSA's code submittal package for the 2019 edition of the California Plumbing Code.

Questions or Comments from the Commissioners:

No Questions or Comments from the Commissioners:

Questions or Comments from the Public:

No questions or comments from the public.

Motion: Vice Chair Winkel entertained a motion to consider the Division of the State Architect's request for adoption and approval of the amendments to the 2019 California Plumbing Code, Part 5 of Title 24. Commissioner Mikiten moved to approve Item 11c as presented. Commissioner Klausbruckner seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted "Yes": Commissioners Alegre, Booth, Klausbruckner, Mikiten, Sasaki, Patel, and Santillan, and Vice Chair Winkel.

11d. Division of the State Architect – Structural Safety/Community Colleges (DSA-SS/CC 07/18) Proposed adoption of amendments to the 2016 California Green Building Standards Code, Part 11 of Title 24, for incorporation into the 2019 California Green Building Code, Part 11 of Title 24.

Vice Chair Winkel asked the representatives from DSA to present Item 11d, which is a continuation of DSA proposed adoption and amendments to the 2019 California Green Building Standards Code, Part 11 of Title 24.

Ida Clair, Acting State Architect, DSA, stated she will be presenting the DSA's proposal to the amendments to the regulations of the 2019 California Green Building Standards Code for K-12 public schools and community colleges. The DSA's code change proposals are brought before the Commission today because they are determined to be necessary to ensuring a sustainable and healthy school environment that supports student and faculty wellness and academic success.

Ms. Clair stated the pre-cycle outreach activities for this rulemaking cycle consisted of two workshops on October 10, 2017, and January 18, 2018, and a general public meeting on March 4, 2018. These three meetings were well attended by stakeholders representing various state agencies, representatives from school districts, design professionals of public schools, electric vehicle charging service providers, and tree advocates. In the pre-cycle activities, the CAC meetings, and the 45-day and 15-day comment periods, all stakeholders expressed support for the measures proposed by the DSA.

Ms. Clair stated the California Green Building Standards regulations for K-12 public schools and community colleges are triggered by new campus construction, new building construction, additions on existing campuses, new site construction, and rehabilitated landscape areas. Many of the amendments that the DSA has proposed for adoption are already adopted by the Building Standards Commission for nonresidential construction or were adopted today with the BCS's California Green Building Standards Code package.

Ms. Clair stated, in addition to these amended Green Building Standards, the DSA has proposed two new sustainability measures for schools: electric vehicle charging infrastructure and shade trees. Electric vehicle charging infrastructure on school campuses supports Governor Brown's Executive Order to increase electric vehicle use by Californians and to decrease dependence on fossil fuels.

Ms. Clair stated the requirement for installation of shade trees in parking lots is similar to city/county ordinances through the state of which public schools and community colleges are presently exempt. Shade trees reduce the heat island effect on campus hardscape areas, provide protection from the sun for students, and have been demonstrated to contribute to academic success.

Ms. Clair stated the DSA also has three building standards amendments it is requesting that the Commission approve due to incorrect code citations. The DSA requests approval of the amended and new building standards for public schools and community colleges related to the green building measures that are proposed for the 2019 California Green Building Code.

Questions or Comments from the Commissioners:

Vice Chair Winkel asked if the handout distributed to Commissioners contains the DSA's proposed amendments.

Ms. Clair stated it does. She stated it includes code citation corrections.

Vice Chair Winkel stated the amendments on the handout are identified as Items 3, 6, and 7. He stated the Commissioner consensus is that these changes are non-substantive and that the Commission can proceed with the vote.

Commissioner Mikiten stated the need to ensure that the terminology surrounding the charging stations is crystal clear and correct. He referred to Point 5.106.5.3.5 in the middle of page 6 of 11 of the Final Express Terms, New Future Charging Spaces. He stated the language states "future charging spaces qualify as designated parking as described ... for clean air vehicles."

He stated the need to ensure that the use of designated parking as opposed to designated EV parking or one of the other variants is consistent and correct so that line is not blurred that was discussed two years ago when this came up about whether or not these stations are spaces.

Ms. Clair stated the DSA has adopted the language that is provided by the BSC. The DSA is in agreement with any clarity that the BSC has shared. The language has not been changed specific to schools; the DSA is adopting this section as written.

Commissioner Mikiten stated basically the language that applies to schools is identical to those for other occasions.

Ms. Clair stated that is correct.

Commissioner Mikiten asked if the BSC definitions are invoked correctly in this instance to call it designated parking as opposed to designated EV parking. He asked if the DSA chose the right definition.

Ms. Clair deferred to the BSC, since the DSA adopted the BSC's language.

Mr. Rodriguez stated the DSA is co-adopting what is already codified in the 2013 California Green Code. There are currently clean air vehicle parking requirements. Installing clean air vehicle charging infrastructure can be used to meet the clean air vehicle parking requirements. Installing the infrastructure would require compliance with Item 11d.

Commissioner Mikiten stated his understanding that the terminology is a pre-conversion description.

Mr. Rodriguez stated that is correct.

Commissioner Klausbruckner asked about the shade trees. She stated there are many broader conservation measures that are being put in place to save water. She stated trees are being added without specificity on the type of trees. She asked if the proposal will conflict with water conservation measures and how both can be accomplished.

Ms. Clair stated the landscaped areas and shade tree requirements must comply with the water-efficient landscaping ordinance (WELO) requirements, which are targeted to landscaping that is specific to various climatic areas of the state and water restrictions.

Questions or Comments from the Public:

Hannah Goldsmith, Deputy Executive Director, Northern California Electric Transportation Coalition (CALETC), stated CALETC is part of a broader coalition that is supporting this proposal. She spoke in support of Item 11d. She noted that the majority of EV charging happens at home or at work places or places of long dwell. Schools fit into this nicely. She stated CALETC is pleased to see the DSA align with the nonresidential California Green Building Code. In addition, this proposal will help the state of California to meet its climate, air, and zero emission vehicle targets. She thanked the DSA as well as the other agencies that have been supporting this process.

Motion: Vice Chair Winkel entertained a motion to consider the Division of the State Architect's request for adoption and approval of the amendments to the 2019 California Green Building Standards Code, Part 11 of Title 24. Commissioner Mikiten moved to approve Item 11d as amended, along with the three amendments submitted. Commissioner Booth seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted "Yes": Commissioners Alegre, Booth, Klausbruckner, Mikiten, Sasaki, Patel, and Santillan, and Vice Chair Winkel.

Note: Agenda Items 12c, 12d, 12e, and 12g were taken out of order.

10. Office of the State Fire Marshal (SFM)

Vice Chair Winkel stated the next agenda item is Item 12, the Office of the State Fire Marshal (SFM).

Vice Chair Winkel asked SFM if there would be an objection to changing the order of the hearing such as beginning with Item 12c and returning to Item 12a after the lunch break. The SFM stated he had no objections.

12c. Office of the State Fire Marshal (SFM 01/17) Proposed adoption of the 2017 edition of the National Electrical Code with amendments for incorporation into the 2019 California Electrical Code, Part 3 of Title 24.

Vice Chair Winkel asked the representatives from the SFM to please come forward and present Item 12c, the proposed adoption and amendments to the 2019 California Electrical Code, Part 3 of Title 24.

Wendy Collins, Assistant Deputy Director, California Department of Forestry and Fire Protection (CAL FIRE), SFM, stated SFM is proposing building standards for the 2019 California Building Standards Codes. The general purpose is intended to update and codify the new edition of the California Building Standards Code, the California Code of Regulations Title 24. Ms. Collins deferred to her Greg Andersen to present this agenda item.

Mr. Andersen stated the SFM is proposing to repeal the 2014 Electrical Code and adopt the model code, 2017. Minor editorial corrections have been made that are non-substantive. The SFM is repealing the Energy Storage Regulations that were brought in in the intervening code cycle and adopting the model code.

Questions or Comments from the Commissioners:

No Questions or Comments from the Commissioners:

Questions or Comments from the Public:

No questions or comments from the public.

Motion: Vice Chair Winkel entertained a motion to consider SFM's request for adoption and approval of the amendments to the 2019 California Electrical Code, Part 3 of Title 24.

Commissioner Klausbruckner moved to approve Item 12c as presented. Commissioner Sasaki seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted “Yes”: Commissioners Alegre, Booth, Klausbruckner, Mikiten, Sasaki, Patel, and Santillan, and Vice Chair Winkel.

12d. Office of the State Fire Marshal (SFM 04/18) Proposed adoption of the 2018 edition of the Uniform Mechanical Code with amendments for incorporation into the 2019 California Mechanical Code, Part 4 of Title 24.

Vice Chair Winkel asked the representatives from the SFM to present Item 12d, the proposed adoption and amendments to the 2019 California Mechanical Code, Part 4 of Title 24.

Mr. Andersen stated the SFM is proposing to repeal the 2015 Uniform Mechanical Code and adopt the 2018 Uniform Mechanical Code with existing amendments. Non-substantive changes have been made that are editorial in nature.

Questions or Comments from the Commissioners:

No Questions or Comments from the Commissioners:

Questions or Comments from the Public:

No questions or comments from the public.

Motion: Vice Chair Winkel entertained a motion to consider SFM’s request for adoption and approval of the amendments to the 2019 California Mechanical Code, Part 4 of Title 24. Commissioner Alegre moved to approve Item 12d as presented. Commissioner Mikiten seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted “Yes”: Commissioners Alegre, Booth, Klausbruckner, Mikiten, Sasaki, Patel, and Santillan, and Vice Chair Winkel.

12e. Office of the State Fire Marshal (SFM 05/18) Proposed adoption of the 2018 edition of the Uniform Plumbing Code with amendments for incorporation into the 2019 California Plumbing Code, Part 5 of Title 24.

Vice Chair Winkel asked the representatives from the SFM to please come forward and present Item 12e, the proposed adoption and amendments to the 2019 California Plumbing Code, Part 5 of Title 24.

Mr. Andersen stated the SFM is proposing to repeal the 2015 Uniform Plumbing Code and adopt the 2018 Plumbing Code with existing California amendments. Non-substantive changes have been made that are editorial in nature.

Questions or Comments from the Commissioners:

No Questions or Comments from the Commissioners:

Questions or Comments from the Public:

No questions or comments from the public.

Motion: Vice Chair Winkel entertained a motion to consider SFM’s request for adoption and approval of the amendments to the 2019 California Plumbing Code, Part 5 of Title 24. Commissioner Mikiten moved to approve Item 12e as presented. Commissioner Booth seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted “Yes”: Commissioners Alegre, Booth, Klausbruckner, Mikiten, Sasaki, Patel, and Santillan, and Vice Chair Winkel.

12g. Office of the State Fire Marshal (SFM 07/18) Proposed adoption of the 2018 edition of the International Existing Building Code with amendments for incorporation into the 2019 California Existing Building Code, Part 10 of Title 24.

Vice Chair Winkel asked the representatives from the SFM to present Item 12g, the proposed adoption and amendments to the 2019 California Existing Building Code, Part 10 of Title 24.

Mr. Andersen stated the SFM is proposing to adopt Part 10 of the California Existing Building Code, based on the 2018 code. The SFM just moved in the existing regulations from 2016 into the existing code. Non-substantive changes have been made that are editorial in nature.

Questions or Comments from the Commissioners:

No Questions or Comments from the Commissioners:

Questions or Comments from the Public:

No questions or comments from the public.

Motion: Vice Chair Winkel entertained a motion to consider SFM’s request for adoption and approval of the amendments to the 2019 California Existing Building Code, Part 10 of Title 24. Commissioner Sasaki moved to approve Item 12g as presented. Commissioner Alegre seconded. Motion carried 8 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted “Yes”: Commissioners Alegre, Booth, Klausbruckner, Mikiten, Sasaki, Patel, and Santillan, and Vice Chair Winkel.

Lunch break was taken.

12a. Office of the State Fire Marshal (SFM 01/18) Proposed adoption of the 2018 edition of the International Building Code with amendments for incorporation into the 2019 California Building Code, Part 2 of Title 24.

Vice Chair Winkel asked the representatives from SFM to please come forward and present Item 12a, the proposed adoption and amendments to the 2019 California Building Code, Part 2 of Title 24.

Wendy Collins, Assistant Deputy Director, California Department of Forestry and Fire Protection (CAL FIRE), SFM, stated SFM is proposing building standards for the 2019 California Building Standards Code. The general purpose is intended to update and codify the new edition of the California Building Standards Code, the California Code of Regulations, Title 24, that adopts by reference more current editions of the model codes and updates referenced national and SFM standards.

Ms. Collins stated the intent is that the final adoption package includes amendments necessary to reasonably maintain a substantially equivalent level of fire and life safety in California. Stakeholder input and participation was necessary to come to these. The SFM promulgated this rulemaking package in the continuing effort to foster, promote, and develop additional ways and means of protecting life and property against fire and panic while minimizing the economic impact to the affected community.

Ms. Collins stated this rulemaking package includes editorial changes to correlate with the 2018 International Building Codes, changes for detention facilities brought about through the I-3 Occupancy Work Group, changes for construction standards for protection in wildlife areas submitted through the Wildland-Urban Interface (WUI) Work Group, regulation updates for laboratories proposed by the L-Occupancy Work Group, new regulations for the California Department of Corrections and Rehabilitation specific occupancies, R-2.2s which were developed by a Senate Bill 112-required work group, and proposals regarding gaseous hydrogen submitted by the Mobile Fueling Work Group.

Ms. Collins stated there are updates regarding balconies and elevated elements derived in collaboration with HCD and DSA. There are proposals submitted through the Fire Alarm Advisory Committee for high-rises, regulation updates for hospital and care facilities brought about through collaboration with OSHPD, regulation updates for educational facilities brought about through collaboration with DSA, work group proposals regarding flammability standards for building insulation materials brought about by Assembly Bill 127, and additional proposals submitted through industry work groups, the fire service, other work groups, and the public.

Greg Andersen, Division Chief of Code Development and Analysis at CAL FIRE, SFM, stated the SFM is withdrawing Sections SFM 01/18-1-7 and SFM 01/18-1-89. Both have editorial changes that were determined were not needed. He noted that new regulations came in the model code for R-3.1, which are residential care facilities, that talks about five or fewer while Health and Safety Code Section 13143(b), specifically for California, is six or fewer. This is an editorial change.

Questions or Comments from the Commissioners:

Vice Chair Winkel stated there are item numbers listed in the proposal particularly on the green sheets that are categorized into specific item numbers such as Item 17, Insulation. He asked if there are correlations with items that have been withdrawn.

Mr. Andersen stated they are in Item 1 under Editorial.

Vice Chair Winkel asked Commissioners if they would like Mr. Andersen to review each item or review the package as a whole. He reserved Item 17 for a separate discussion item.

Commissioners agreed to ask Mr. Andersen to discuss everything as a whole, except Item 17.

Mr. Andersen stated Item 2 includes added clarity and a UL standard for weather-stripping, cleared up operable skylights, and took out the term "heavy timber." He stated this is editorial but the dimensions were added since it is different than the definition in Item 2.

Mr. Andersen stated there were three public comments on Item 3 on the occupant load table in Chapter 10. This has been removed. The rest of it went through the Committee well. Most of the comments were for clarification and to modify language due to the intervening code cycle.

Mr. Andersen stated Item 4 is the L-Occupancy Work Group. There was a work group whose main purpose was to update the regulations for L-occupancy that met monthly for a substantial period of time. He noted that a few changes were made that Commissioners may have questions about.

Mr. Andersen stated Item 5 is the higher education laboratories. This is a new occupancy in the model code. It resembles the L-occupancy but there are substantial differences. Because it would contradict some of the things in the L-occupancy, the SFM is removing it from the code until it can be evaluated to consider the applicability for California.

Mr. Andersen stated Item 6 is the R-2.2. Three public comments were received about it being duplicative in some ways. Sections that were not needed were removed during the 15-day public comment period because it was realized that there would be a gap. Where it says R-2, it should cover R-2.1 and 2.2 and, by adding the 2.2, it made it appear that R-2.1 was not required. Those sections were removed without substantial changes and made it a smaller package. It may need more cleanup in the future but the SFM is trying to move forward to address the needs of the legislation.

Mr. Andersen stated Item 7 is about stairway capacity. Seven public comments were received. The SFM is maintaining deleting the reference to 1029 because it is a reference to a standard that does not make sense anymore because it no longer contains the word "stair." The A-occupancy was removed, which is what the seven public comments addressed. The SFM is now just going with the model code.

Mr. Andersen stated Item 8 is about elevator walking surfaces. The SFM had a couple of proposals in there in collaboration with other state agencies through that work group.

Mr. Andersen stated Item 9 is the secondary attachment to steel. This was adopted at the ICC so it is an early adoption of what is already coming in the next code cycle.

Mr. Andersen stated Item 10 is about carbon monoxide. The SFM is clarifying that this is only for residential because it calls out UL 2034. The title UL 2034 is residential carbon monoxide so it is not appropriate for commercial. This clarifies that.

Mr. Andersen stated Item 11 is from the Fire Alarm Advisory Committee. The requirement for a Class A fire alarm system in a high-rise on the floors is being removed but it is still required for the riser. Because of the changes that have happened over the years and the survivability that is now in NFPA 72, that requirement of Class A is not necessarily appropriate the way it used to be. It lowers the California standard other than they have stepped up to give that level of protection.

Mr. Andersen stated Item 13 is a change in the water flow test.

Mr. Andersen stated Item 15 is in collaboration with OSHPD. OSHPD came with proposals to update the regulations and correlate a lot of what they do with NFPA 101 because they have things that do not work well with both. The working group added the non-patient care suite and correlated with the changes that they made.

Mr. Andersen stated Item 16 is the R-2.1, the emergency escape and rescue window. An exception was added where the window could be restricted from opening at four inches as long as other requirements for smoke detection and sprinklers were met, the same as for delayed egress. This is based on deaths of patients who have fallen out of windows.

Questions or Comments from the Commissioners:

Vice Chair Winkel referred to Item 7, the stair width and means of egress with exceptions from .3 to .2 and from .2 to .15. He stated his understanding that the original changes proposed to remove the exception allowing that to take place for A-occupancy and that has been withdrawn.

Mr. Andersen stated the A-occupancy has been removed and is going just to model code.

Vice Chair Winkel stated his understanding that the 1029 reference is removed because of the change in 1029 content and is no longer a relevant reference.

Mr. Andersen stated that is correct.

Commissioner Klausbruckner referred to page 50 of 117 related to laboratory L-occupancy. She asked about the removals and additions to Section 453.4.2.1 and about the discussions relating to that during the L-Occupancy Work Group.

Mr. Andersen stated some of it was covered in other sections of the code because it was already required by classification of other sections.

Commissioner Patel stated one of the notes states it was already noted in Section 1604.5.

Commissioner Klausbruckner stated the SFM has switched from emergency power to standby power. She asked for the reasoning behind that.

Mr. Andersen stated there was a change in the model code by adding what emergency power was compared to standby. Emergency is normally the red plugs found in a hospital versus standby. It was the consensus of the work group that it was meant to be standby. It is not for a life issue right then.

Commissioner Klausbruckner stated L-occupancies are intended to somewhat mimic H-occupancies and allow greater quantities. There is a division between certain H-occupancies where physical hazards are exceeded, such as flammable liquids where standby power is needed. Then, there are health hazards where emergency power is needed for “toxics” or “highly toxics.” She asked about consistency and if it will also need to be changed for certain requirements in Chapter 50 where certain things require an emergency while other things require standby. Most laboratories exceed the flammable liquid amount. She suggested looking at the H-occupancies and other occupancies in Chapter 50 if this is the approach that will be taken with this. Whatever it is, it should be consistent.

Commissioner Klausbruckner asked why the exhaust ducting was changed around in Section 453.4.7.4.2 on page 53 of 117.

Mr. Andersen stated there was some thought that they were very similar and Exception 2 covered most of it. It requires an independent duct to start with, and then a common duct could be done but is very similar. The rest of it is already in the Mechanical Code. Some important things have been deleted but that is because they are already somewhere else.

Commissioner Klausbruckner referred to Section 453.7.5 on page 56 of 117. She stated the method or what is allowed and how to transfer hazardous materials on upper floors is being changed or restrictions are being eliminated on how to move hazardous materials on the upper floors.

Mr. Andersen stated some of this is because it is covered in the Fire Code. There was a lot of discussion on the use of elevators to move hazardous material and whether that is being done appropriately.

Commissioner Mikiten stated Mr. Andersen skipped Items 12 and 14. He stated he was interested in the details behind Item 14 to better understand about why the SFM decided not to adopt the model code change in the occupancy.

Mr. Andersen stated Items 12 and 14 were withdrawn during the 15-day public comment period.

Vice Chair Winkel asked if there were any further questions on Items 1 through 16. Seeing none, he asked Mr. Andersen to present SFM’s last item, Item 17.

Presentation, continued

Mr. Andersen stated Item 17 is a proposal to allow non-flame-treated foam insulation under three-and-a-half-inch slab on concrete on grade. That was driven by AB 127, was signed into law on April 5, 2013, and mandated SFM to review the flammability standards in building insulations and evaluate the use of non-flame-retardant foam insulation. In January of 2014,

SFM convened a Flammability Standards for Building Insulation Work Group to review published data and technical information, peer-reviewed scientific studies and information, and propose recommendations to SFM.

Mr. Andersen stated the group was composed of individuals representing the fire service, researchers, industry, green policy groups, and testing laboratories. The work group met monthly from January 19, 2014, until December 18, 2014, when they had completed a draft report. In August of 2015, the working group provided SFM with two formal recommendations and one informal recommendation as follows: formal recommendation to perform a proof of concept testing for proposed wall, floor, ceiling, crawl space, and attic assemblies; formal recommendation to form a smaller work group to review the test data and develop additional recommendations; and informal recommendation for SFM to consider a California code change to allow the use of non-fire-retardant treated foam insulation in foundation under slab subgrade applications for specific conditions.

Mr. Andersen stated any of these proposals would require funding for testing. The work group information recommendation for allowing non-fire-retardant and subgrade applications had an advantage – it was limited in scope and would be easier to test. If the test showed a safe level of fire and life safety, the limited use would be acceptable more readily by the stakeholders and it was the least expensive method.

Mr. Andersen stated, in 2015, the funds were appropriated from the General Fund for the subgrade application testing. In 2016, the OSU (OSU) was contracted through an interagency agreement to evaluate if non-flame-retardant foam insulation could be used in foundation in an under-slab subgrade application. Part of that contract is they formed the Phase 2 Working Group of subject matter experts that included fire marshals, building officials, fire service operators, fire service labor, fire protection engineers, insulation manufacturers, green policy representatives, and testing laboratory experts.

Mr. Andersen stated, based on the comments from the work group, the project conducted fire tests to compare the use of non-flame-retardant insulation and flame-retardant insulation in foundation in under-slab subgrade applications for when it is stored at a job site and in the completed built environment under the foundation, and then to propose code changes, if applicable.

Mr. Andersen stated the Oklahoma State Working Group conducted the fire test and concluded that, in the built environment, the worst case with the side of the insulation exposed and a fan simulating wind blowing on it, it would not pose a significant fire hazard. It did smolder ten feet under the foundation, but it took 30 minutes. The non-fire-resistant presented no greater hazard than other construction components commonly stored at a job site.

Mr. Andersen stated the SFM received requests for others to watch the fire testing. The university was concerned about the accommodations based on the size of the facility and SFM agreed with OSU that limiting the spectators to one from each interested group would be

acceptable to manage the available space; however, all interested groups were allowed to witness the test.

Mr. Andersen stated the work group proposed regulations for the California Building Standards Code and one for the California Professions Code. At the implementation, the SFM was working with the Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation (BEARHFTI). It was determined that a change in Title 4 would provide the same effect as changing the Business and Professions Code, which would take legislation to change. That was coordinated with BEARHFTI and they are working on that.

Mr. Andersen stated the SFM proposed a recommendation to the Code Advisory Committee (CAC). The CAC pointed out that some of the standards that were referenced for the thermal barrier would allow non-fire-treated insulation in applications that are not under concrete on grade. To address these issues, the SFM took the thermal insulation out and specified the use of insulation under three and a half inches of concrete on grade.

Mr. Andersen stated the CAC also had concerns about things in the Fire Code and the way it could be implemented. The proposal was removed from the Fire Code because those regulations are already in NFPA 241. The SFM was mandated by legislation to evaluate non-fire-retardant foam insulation applications. The SFM has proposed regulations that have been vetted through the public with a comment process and have huge support and peer review, including engineers, architects, firefighters, and health professionals. Approximately 71 letters in support and 6 letters in opposition were received.

Mr. Andersen stated the SFM is presenting these regulations with a very limited scope to meet the intent of the legislation. It is widely supported and helps address issues for firefighters. He asked the Commission to approve this proposal.

Questions or Comments from the Commissioners:

Commissioner Sasaki stated it is related to how often this type of construction is used. He stated he has never seen insulation below a slab on grade or on ground in his 30 years of experience as a structural engineer.

Mr. Andersen stated this type of construction is commonly used and often mandated in cold areas of the country. California does not have those areas but there are areas in the mountains that can opt to add insulation under the foundation. He noted that this is a design option – there is no mandate that non-fire-retardant foam insulation be used.

Commissioner Sasaki stated he considers cold country to be in the Midwest or on the East Coast, where there are long periods of cold weather. It is difficult to see that this amendment would impact many structures in California.

Commissioner Patel agreed and stated he has only seen it in two applications: climate zone 16 and radiant floors.

Vice Chair Winkel stated this is an optional limited application. He asked if the labeling requirements are adequate for inspectors to determine that things are put in the right place and

if it would make sense to add a bright color on the foam to make it idiot proof about the location of installation.

Mr. Andersen stated labeling is a concern. There was a work group at OSU that required it for both sides. The CAC did come up on the size to allow room for four complete warning labels on both sides. There is always a concern that it could be used for another purpose. Individuals cannot be stopped from doing things that are not allowed and that could be dangerous. All that can be done is to provide the proper warnings.

Commissioner Booth stated he has seen the use of under-floor insulation in industrial cooling facilities. Also, more radiant heating and cooling is seen for slabs and decks. He asked if this is applicable to industrial buildings, freezers, and cooler plants, as well as commercial office and residential.

Mr. Andersen stated it is as long as there is the three-and-a-half-inch slab on grade above and below.

Vice Chair Winkel stated his understanding that this is not something that would be a sandwich assembly for a ceiling.

Mr. Andersen stated that is correct. It is stated specifically that it is three and a half inches of concrete on grade.

Mr. Booth stated his understanding that this proposal was generated by legislation.

Mr. Andersen stated that is correct. It was AB 127, which was enacted on October 5, 2013.

Questions or Comments from the Public:

Vice Chair Winkel asked the SFM representatives to remain at the presentation table during the public comment period.

Vice Chair Winkel asked for public comment on Items 1 through 16 of the SFM package.

Kevin Reinertson, Deputy Fire Marshal, Riverside County Fire Department, representing the California Fire Chiefs (CalChiefs), asked if the addition of DSA-AC to the definition of common use was removed from the BSC matrix. He noted that the item was in the Fire Code, as well.

Mr. Andersen stated the definition is not being removed, although the SFM withdrew that proposal, which is the banner.

Mr. Reinertson referred to Sections 308.5.3 and 308.5.4 and stated it is a statutory provision of Health and Safety Code, Section 13133, and just changing the word "five" to "six" in two locations would meet the intent of the statute.

Mr. Andersen stated the SFM determined that was an editorial change that would be acceptable.

Mr. Reinertson referred to Section 310.4.1 and the Fire Code for the occupancy classifications, where group homes are being struck. He asked for verification if that would remain struck out or would remain in the code.

Mr. Andersen stated that will remain there. It is still covered by the general statement and there is also an exception for certain group homes at the bottom so it would still be in there. No regulatory change is intended.

Mr. Reinertson stated he hoped to assist in the group L-occupancy discussions. He responded to Commissioner Klausbruckner's questions. He stated he sat on the committee and wanted to verify that amendments to 453.4.2.1 were intended and they are addressed in the Fire Code. He noted that this has to do with transportation above the 10th floor with hazardous materials. He stated, since it is more a use of the building and not so much a construction issue, the Committee felt it only needed to remain in the Fire Code.

Commissioner Klausbruckner asked if Mr. Reinertson was referring to the transportation requirements that are in Fire Code Section 5003.10.

Mr. Reinertson stated that is correct.

Commissioner Klausbruckner stated those are specific to corridors or enclosures for stairways and ramps only.

Mr. Reinertson stated those provisions may reside in Chapter 6. They are in the Fire Code.

Commissioner Klausbruckner stated the explanation given was only Fire Code Section 5003.10, if these things can be cleaned up in the interim.

Mr. Reinertson stated his understanding that the SFM will be holding another L-occupancy Higher Education Lab Committee in the near future.

Mr. Andersen agreed.

Mr. Reinertson stated CalChiefs is in support of the proposals that have been withdrawn or removed as well as the general overall package and plans to stay neutral on a couple of other items.

Vice Chair Winkel closed the public comment portion for Items 1 through 16 of the SFM package and opened the public comment portion for Item 17. He stated the proponents for Item 17 will speak first and the opponents will follow.

A short recess was taken.

Vice Chair Winkel resumed the public comment period for Item 17 of the SFM package.

Arlene Blum, Ph.D., Research Scientist in Chemistry, University of California at Berkeley, and Executive Director of the Green Science Policy Institute, stated many others will speak in support of SFM's updated standards for building insulation materials. She stated she has had extensive experience with flame retardants dating back to her research in the 1970s, which led to the removal of harmful flame retardants from bedding and pajamas across the country.

Dr. Blum stated, a decade ago, she and Holly learned from fire scientists that the flame retardants as used in the codes for furniture, children's products, and building insulation did not provide significant fire safety benefit. It was already known that these chemicals had a large

potential to harm human and ecosystem health. Based on this information, Governor Brown updated California's furniture flammability standards so that today California's furniture is more fire safe without the need for flame retardants. This is a great benefit to the health of the state.

Dr. Blum stated the code change before the Commission is similar. It will maintain fire safety and will benefit the health and environment of California. This code change proposal began in the 2012 peer-reviewed paper in the journal, *Building Research International*, which demonstrated in detail the many references, health harm, and lack of fire safety benefit of current requirements for flame retardants and foam plastic building insulation.

Dr. Blum stated, based on this paper, Senator Nancy Skinner authored AB 197 and a working group and fire testing followed. She spoke in support of California builders having the freedom to make a choice of using building insulation without flame retardants below concrete where there is neither a fuel source nor oxygen to initiate a fire. Flame-retardant-free building insulation has been used successfully without incident for nearly two decades in Norway and Sweden. She urged the Commission to support this code change proposal, which maintains fire safety and gives builders a choice to use materials that can improve the health and environment of California.

Dr. Blum read Senator Skinner's public comment into the record in her absence. Senator Skinner wrote that she appreciated that after a long period of deliberation the Commission is considering modifications to the Building Insulation Standards to limit flame retardant chemicals in certain building materials. Senator Skinner respectfully requested that the Commission adopt the proposed modifications. She wrote that the changes proposed by SFM are a good first step in meeting the mandate set forth in her bill, AB 127 fire safety: fire retardants: building insulation, which became law in 2013. Senator Skinner wrote that she appreciated that SFM has reached the conclusion, based on significant scientific evidence, that removing flame retardants from specific building materials does not create a fire risk and, instead, reduces health risks of exposure to chemicals. Senator Skinner wrote that she looked forward to the Commission's continued deliberation in the hopes that, with building material advances, flame retardant chemicals can be further limited.

Donald Lucas, Ph.D., stated he was retired after 37 years in combustion research for the Lawrence Berkeley National Laboratory in U.C. Berkeley and was the Deputy Division Director of the E. H. Ness Division of the National Lab. He spoke in support of SFM's proposal. AB 127 and SFM's process resulted in clear and simple conclusions with the testing done by the OSU fire experts. When installed below grade under a concrete slab, insulation without flame retardants presents no risk of fires spread to the building and no additional danger to the occupants in the building or first responders.

Dr. Lucas stated adding flame retardants to polystyrene insulation does not significantly change peak heat reading rates. The time to ignition for polystyrene insulation without flame retardants is comparable to other combustion materials commonly found at construction sites. He stated, as an experimental combustion scientist, he believes that the research and conclusions were sound and have been correctly interpreted by the SFM. It was a long and

thorough process from the SFM that involved a large number of participants with a wide range of backgrounds including the foam insulation industry and their consultants, research scientists and engineers, the building industry, architects, labor, environmental groups, and fire professionals. He stated he has performed similar tests to those done at the OSU and had similar results.

Dr. Lucas stated the proposal from SFM is simple, reasonable, and meaningful and should be approved.

Yeaphana LaMarr, Policy Manager, Bureau of Household Goods and Services, formally known as the Bureau of Home Furnishings and Thermal Insulation, stated the Bureau enforces California's insulation standards, including the requirement that insulation material meet a specific resistance to combustion. The OSU study shows insulation that exhibits resistance to combustion and provides no benefit in preventing the start or spread of fire when used in the foundation of buildings.

Ms. LaMarr stated, in response to those findings, SFM's proposal would allow polystyrene boards to be exempt from the flammability standards when used in the foundation of buildings. While this proposal would protect consumers and firefighters from unnecessary exposure to flame-retardant chemicals, using these insulation products would be in violation of the Bureau's regulations. As a consumer protection agency, the Bureau is concerned with protecting the health and safety of consumers; therefore, based on the finding that combustion-resistant insulation provides no benefit when used in foundations, the Bureau will commit to proposing an update to its regulations. Should SFM's proposal be approved, the Bureau would seek to allow polystyrene insulation material used in accordance with SFM's proposal to be exempt from the Bureau's combustion-resistant standard, thereby allowing its sale in California.

Ms. LaMarr stated the Bureau appreciates SFM's responsiveness to concerns regarding labeling of untreated insulation. The Bureau believes that clear labeling will provide guidance on proper storage and help to prevent excepted material from being used in areas of buildings where treated insulation does provide a benefit.

David Rich, Ph.D., Founding Partner, REAX Engineering, Inc., stated he did his Ph.D. research on the burning of plastics at Cal Berkeley. He stated he teaches at Berkeley and at Cal Poly San Luis Obispo. He stated he spent ten years in the San Francisco Fire Department as a rescue captain and paramedic.

Dr. Rich stated Mr. Andersen did a great job discussing the OSU study. He stated he wanted to give his own impressions. He stated one of his jobs is third-party peer reviews on behalf of municipal fire services in support of code variances. The Fire Code requires a rational engineering analysis supported by testing. He stated he looked at the OSU work in that light with respect to this proposal and what he found was an excellent report and an excellent test program.

Dr. Rich stated the findings of small-scale ignition tests, under slab combustion and fire spread, and intermediate-scale tests of stored materials on construction sites showed that, for the under-slab condition, there is no enhanced risk to occupants or firefighters with the use of non-fire-retardant foam. For the storage question, they did a very good job of testing a range of materials and finding where non-fire-retardant foam sits within that range on a construction site and using their data as part of a hazard analysis to show that this did not provide a significant enhanced risk to firefighters in construction site fires.

Dr. Rich stated, although he does a lot of fire investigation support – scientific and forensic reconstructions – he has never seen a below-slab fire. He stated he reviewed the National Fire Incident Reporting System data and found limited evidence, given the limitations of that database, for a clear and present danger associated with this application.

Dr. Rich encouraged, based on a rational engineering analysis and the fire tests done, that this proposal be accepted for providing an equivalent level of fire and life safety to the existing prescriptive requirements of the code.

Megan Kalsman, San Francisco Department of the Environment, City and County of San Francisco, stated San Francisco's Department of the Environment, fire department, and Department of Building Inspection express strong support for SFM's proposal to allow the use of polystyrene building insulation without added flame retardants for use in below-concrete applications. She stated the letter of support is in the Commission's docket.

Ms. Kalsman stated the city and county of San Francisco has long been interested in reducing exposure to chemical flame retardants while maintaining fire safety. The state of California passed a similar law that will go into effect in 2020. The SFM's proposal is another way that California can take the lead in reducing exposure to toxic flame retardants and improving green building practices.

Ms. Kalsman stated, since SFM has determined that, in below-slab situations there are no ignition sources or oxygen to support combustion, flame retardants are unnecessary and may expose workers manufacturing these products to these chemicals.

Ms. Kalsman stated San Francisco has a green purchasing policy mandating that the use of sustainable nontoxic materials whenever possible for any city purchase, including building materials. This change to the building code will allow for safer polystyrene insulation products to enter the market, giving the city a healthier option for the construction of new buildings.

Ms. Kalsman stated, additionally, as the state works to tackle climate change, it is called to reduce waste and recycle more. Individuals must work towards a circular economy where products can be recycled back into new products. It is critical that recycle content products are safe; toxic products have no place in a circular economy.

Kathryn Scott, California Hospital Association (CHA), deferred to the previous speakers regarding the policy and summary of the science. She stated the CHA supports the proposal and has been working hard to meet green building standards and achieve safe and efficient hospitals and health care facilities over the last few years.

Ms. Scott stated the CHA has been working closely with OSHPD to balance building requirements with modern science. The CHA wants to ensure that building codes provide options to allow the use of the most innovative building materials as well as to quickly address concerns for members. Hospitals want the healthiest environment possible for its employees, patients, and doctors.

Ms. Scott stated there should be a choice to select subgrade insulation without the use of fire retardants where chemicals do not provide a fire safety benefit. For those reasons, the CHA supports this proposal.

Commissioner Klausbruckner asked how often the CHA sees this insulation under slab in hospitals in California.

Ms. Scott stated she does not have exact figures but there are climates in California that warrant the use of insulation. For example, areas such as North Truckee, Tahoe, and Mammoth may use insulation under the subflooring. Hospitals are also required to meet a seismic requirement that is unlike most buildings and, given the complexity of that, billions of dollars are expected to be spent over the next ten years on hospital buildings due to the aging buildings and in meeting the seismic requirements.

Marjorie Smith, Architect, Siegel and Strain Architects, and San Francisco American Institute of Architects (AIA), spoke in support of the proposed code change to the flammability standards for building insulation. Members of the AIA have a binding obligation to environmental ethical standards. She read a portion from the AIA Code of Ethics.

Ms. Smith stated the proposed code change to the flammability standards would give architects an important tool to choose products with their clients that support environmentally-responsible design. It provides a win-win choice. Considering life safety and human health, non-fire-retardant polystyrene insulation beneath slabs reduces environmental exposure to toxins while improving energy performance and it has no increased fire risk.

Ms. Smith stated she is working on a multi-building hospitality project that is located in climate zone 16 on an environmentally-sensitive site. The scope includes many slabs on grade and, if there is an opportunity to utilize non-flame-retardant polystyrene beneath the slabs, it would meet the client's mandate to minimize the use of toxic chemicals and conserve energy. She noted that the Energy Code requires foam insulation at a slab on grade in climate zone 16, if it is a condition building. She urged the Commission to support this code change.

Suzanne Drake of Perkins+Will architects addressed the Commission: We are a global architecture and design firm of about 2,000 professionals who are leaders in sustainable design and that includes high-performance building envelopes. Our clients and project sites are regional, national, and international. Many of those clients seek us out because they want the most energy efficient, least harmful materials for their projects. Having the option to use a product without added toxic chemicals is very important to both us and our clients.

In further support of the technical merits of this proposal I would like to read two quotes from a couple of relevant reports. First, from the Norwegian Climate and Pollution Agency, I quote:

Slab on ground is a very common foundation method in buildings. Insulation placed underneath the concrete slab is considered to be the most fire-safe solution. In the finished foundation the insulation materials are well protected from fire exposure. EPS without flame retardant or slabs of heavy stone wool are excellent materials for insulation underneath the slab. There is no advantage of using fire resistant materials or materials with flame retardant in this construction. Secondly, from the United Nations EP ad hoc working group; I quote: By using thermal barrier it is possible to fulfill fire safety requirements in most of the uses in construction and buildings with EPS and XPS without a flame retardant.

This has been reported to be an available alternative on the market by Finland, Norway, Sweden, and Spain. The National Fire Safety requirements are achieved by the building codes specifying the different uses of insulation products in buildings and construction through the use of thermal barriers and hence the use of flame retardants is not required to achieve fire safety, even when using EPS and XPS insulation.

Martin Hammer addressed the Commission: I am a licensed architect with over 30 years of experience in residential and commercial design and construction, I have over 15 years of code development experience in California and in the ICC process and 20 years in forensic construction investigations.

First, I want to extend the answers Commissioners provided to Commissioner Sasaki's question of frequency of use. When I heard that question, I immediately thought of two projects of mine that used below-slab insulation. And in mild heating climates below elevations of 1500 feet it is not uncommon. I would have used the provisions in SFM's proposal if I could have.

I attended the Building, Fire and Other (BFO) Code Advisory Committee (CAC) hearings and heard the comments and suggestions from the Committee and in public testimony. The SFM thoroughly addressed these by making revisions to create the proposals that are in front of you. The revisions included eliminating the application for frost-protected shallow foundations, clarifying that the remaining application is below a concrete slab on grade, limiting the insulation type to polystyrene, the type of insulation that was tested by OSU, and improving the labeling language and defining its size and frequency on the product.

Regarding the labeling, many building materials have different labels for different uses. Type X gypsum board and many structural grades of lumber and plywood are safely used according to their labeling and in enormous quantities. They are routinely specified, installed, and inspected with proper use.

The essence of SFM's proposals is simple, to not require flame retardants in a material application where there is no fire risk. I urge the Commission to approve SFM's proposals, thank you.

Clark Rendall of Troon Pacific, a residential real estate development company in San Francisco, addressed the Commission. He stated, I am involved with the design and construction of our homes and also responsible for tracking our sustainability and

environmental health initiatives. One of our main initiatives is guaranteeing a healthy indoor environment for our homeowners. We do this not only through advanced air filtering and ventilation technology but also through specification and installation of building materials that are free of toxic chemicals. The one class of chemicals that we avoid whenever possible is flame retardants due to their toxicity.

Today we are talking about updating the building code to allow below-slab insulation to be free of flame retardants. Updating this code would allow us to reduce the amount of toxic chemicals in the built environment and create healthier homes for our clients. He stated Troon Pacific is in support of updating this code to allow for below-slab insulation to be free of flame retardants.

Paul Wermer addressed the Commission: I am a retired chemist. I participated on the AB 127 working group. And in my professional capacity I was on more than one occasion involved in transportation and storage questions.

The reason that is significant, and I guess this is either a very late rebuttal or a prebuttal, to claims or allegations that these non-flame-retardant foams provide a significant hazard in transport and storage. There are a few facts that clearly demonstrate that that's not the case. Fact, the Department of Transportation treats flame-retardant-free foams the same as it treats flame retardant foam. No difference, no special labeling requirements, they are combustibles.

Fact, NFPA lists both flame retardant and flame-retardant-free foam products as Group A plastics, they are both combustibles in the same storage group. Has NFPA considered the difference between the two? Yes. When they established sprinkler requirements for Group A plastic storage, they used pallets of polystyrene foam meat trays as the test sample. Food contact foam does not contain flame retardants, for good reason. The sprinkler requirements therefore clearly deal appropriately with the flame-retardant-free foam. They know the storage requirements.

Fact, in 2001, California used more than 166,000 tons of polystyrene for packaging and food service usage. More than four times the amount of building and construction uses. It is a high-volume commodity product. It is shipped, stored, and handled with no undue risk. Large amounts of these foams are used and shipped daily. We don't see reports of foam fires in the news very often. And there are many other Group A plastics that are in foams that are in wide use.

Finally, the NFPA does address the construction site storage and handling requirements and dock work. So existing codes recognize and address the risks related to getting it to the construction site and into the building and I am encouraging you to approve the proposal.

Ernest Pacheco, Environmental Programs Coordinator, Communication Workers of America (CWA), District 9, stated CWA represents 700,000 workers across the U.S., Canada, and Puerto Rico. District 9 represents over 50,000 California workers. He stated CWA supports SFM's proposal for below-slab insulation that does not include unnecessary and toxic fire retardants. The CWA supported the enabling legislation in 2013, participated in early working

group meetings, and is delighted now, in 2019, after years of deliberation and study, to finally take a concrete step forward.

Mr. Pacheco stated, from manufacturing, through transport, storage, installation, demolition, and disposal, workers are exposed to the toxic chemicals in these building materials at every step. Allowing builders to use insulation without such hazardous chemicals in the materials is a benefit to workers. As SFM has demonstrated, this does not impair fire safety. The California Building Code should not stand in the way of builders who want to use fewer toxic materials that would reduce exposure to workers.

Mr. Pacheco stated the CWA agreed with the American Public Health Association that points out in their analysis on the issue of toxic fire retardants in widespread human exposure that “state and local government should consider updates to codes and regulations in their jurisdiction that would protect public health by allowing for reduced use of harmful flame retardants.” He stated CWA, as a union, cares first and foremost about the wellbeing of its members. This proposal would decrease the amount of toxic exposure its members would have. The CWA strongly supports this measure.

Bill Allayaud, Environmental Working Group (EWG), stated the EWG has done groundbreaking work on identifying chemicals in the human body. The average American has over 200 such chemicals in their bodies. The EWG has supported several pieces of legislation that would reduce the need for flame retardant chemicals in furniture, housing, etc. These chemicals add to what is known as body burden or sometimes the chemical cocktail.

Mr. Allayaud stated science is discovering that even minute amounts of these chemicals may cause bad diseases such as cancer and birth defects. The application of many of these flame retardants was unnecessary in many cases. That is the case here. The EWG supports SFM’s recommendation that will protect workers during construction, demolition, remodeling, and remediation, as well as consumers and firefighters.

Joseph Charbonnet, Ph.D., Science and Policy Associate, Green Science Policy Institute, stated he earned his Ph.D. from U.C. Berkeley with a focus in environmental chemistry. He stated he is researching flame retardants at the Green Science Policy Institute. He spoke to the toxicity of flame-retardant chemicals, including the newer generation of polymeric flame retardants, which has been marketed as health care alternatives. He drew Commissioners’ attention to an academic research article published in the top peer-reviewed environmental chemistry journal just this month. He stated it found that there could be significant risk to humans and ecosystems from this newer flame-retardant chemical commonly called poly FR because it breaks down into smaller brominated organic compounds.

Dr. Charbonnet stated these and similar scientific findings suggest that all flame-retardant compounds used in polystyrene insulation, even the new generation of flame retardants, pose the toxicological risk that motivates and mandates their inclusion in the scope of AB 127 and this proposal. He encouraged the Commission’s approval of the proposal.

Mark Christian, American Institute of Architects California Council (AIACC), stated the AIACC supports this proposal for many of the reasons already stated.

A short recess was taken.

Vice Chair Winkel stated, we are going to hear the opponents to this proposal, Item 12 of SFM's agenda item 12a. Anyone on the phone be prepared to get in the queue immediately after because we are going to the phones right after the opponents' discussion.

John Taecker of UL addressed the Commission. UL has advocated for the appropriate fire performance testing of foamed plastic building materials for decades. We are not in favor of exempting tests on these materials that establish appropriate levels of fire performance and subsequently identifying those products with cautionary markings. The proposed marking of products that don't comply with specified fire performance criteria is unprecedented in insulation codes and has the potential to lead to misapplications with designers, contractors, and code enforcers.

Mike Fischer of Kellan Company addressed the Commission. He stated he was representing the Center for the Polyurethanes Industry, which is part of the American Chemistry Council, producers of spray polyurethane foam insulation. Mr. Fischer stated, I was a member of the Phase 1 Work Group. We heard discussions earlier about being a member of that work group. Just be careful, there were two work groups and they were completely different.

The first thing I want to mention is that we heard some discussion in testimony about health impacts; I am not going to focus on that, Lorraine will. I am going to focus on the process and a little bit on fire safety. We are here because of AB 127, obviously, that is why we are here. AB 12 set some pretty clear guidance on what is before you today. It acknowledged that new standards could provide flexibility in meeting flammability standards, directed the SFM to review the current flammability standards in the code, propose to the BSC updated flammability standards that maintain overall building fire safety, and ensure adequate protection from fires for occupants and responders. It further noted that action on this going forward is at the sole discretion of the Commission, period.

The problem is that the process that played out did not meet the rules that California sets forward, it just totally flaunted it. You heard discussion about the work groups. I was a member of phase one. We had a lot of people that spent a lot of time in Sacramento on the phase one report. We had a divided report. Apparently the solution to that problem when you cannot get consensus on a direction that you want is to just basically reinvent the work group in phase two by eliminating half the people that were at the table, half the people being those of us that ended up on one side of the issue. We were shut out of the process. In fact, the only representative from industry who was invited to participate in the phase two report was someone who was not on the phase one work group, and I will let him speak in a minute on that.

The question of process. We have rules that we have to follow here in this process and we have submitted some comments from the American Chemistry Council that were submitted

under the name of the Energy Efficient Foam Coalition, which we are a part of. Proposals have to meet the nine-point criteria for modifications; they do not, the proposals do not meet that. They must not increase or present new fire hazards within the built environment. This is not a question of how much, it is a question of do they increase the fire hazard, and they do. What SFM's proposal has done is not fulfill AB 127 and proposed updated flammability standards, they have removed the flammability standards. And they did so kind of curiously in opposition to their own report because on page 22 of the phase two, which was the phase two working group report, it limits the scope of their proposal activity to one- and two-family dwellings, period. And it is underlined and bold in that section of the report. And yet what we have before you are much more far-reaching than that.

So I am just going to use this and hold this up. You all have seen this; it has been submitted to you. There's a series of red X's. This proposal, on all of the procedural guidelines that are before you and all the rules that you have to follow under the California administrative law does not pass muster and should not go forward. You should take advantage of AB 127, exercise your sole discretion, and disapprove the proposal.

Ted Grant of Atlas EPS addressed the Commission: I am the Technical Director and I have been in the foam/plastic industry for 20 years. Atlas became involved in this project when we were contacted by BEARHFTI who was looking for a source of non-flame-retardant EPS for this study. Purportedly they were looking at otherwise sourcing it from Norway. We discussed it within our company and we decided that, if we participated and were allowed to witness the testing and be part of the advisory group, we would learn something about our materials. Since I have been in the industry there have been flame retardants in our products and all of our experience in burn testing of construction products is with flame retardant EPS. So we went into this with an open mind, hoping to gain some insight for product innovation, understanding that the market is looking for change in our industry.

We manufactured experimental EPS – we don't normally make construction products with non-flame-retardant configuration – and we learned some things. What we learned was very surprising. You could have knocked me over with a feather when we saw our foam from the experimental, non-flame-retardant version burn below grade. In hindsight, because our product is 98 percent air, it brings oxygen to the party. Even if it is buried it has a source of oxygen. We found the non-flame-retardant material would burn with a candle, which in our experience simply does not happen, we usually need a block of wood to catch the material on fire.

Of all the tested products that were for storage conditions in a miniature storage test the non-flame-retardant material caught fire very quickly. I think it was stated in the report that it was equivalent to ABS pipe. ABS pipe required I think eight to nine minutes, it was very boring to watch, finally it took fire. Not so with the non-flame-retardant EPS. And we found out that the EPS that we sell currently performed admirably in situ and also in storage conditions. It was very robust in its performance and its resistance to ignition.

What we did not learn: We did not learn how the material burned below a slab. During the course of the study, which was for frost-protected shallow foundations, we were using four-foot

long samples. I think Greg you said something like ten-foot, that was misspoken. In order to test below a slab, I made it known to the researcher we would need to increase the density of the foam plastic to hold the slab weight of three and a half inches of concrete. What we used was 1.5 PCF, which is traditionally called 15 PSI in our industry. At least 25 PSI would be required for a slab, sometimes people specify greater amounts of that. In terms of fire that's fuel, so that fuel was not tested. There are details below a slab that we would have wanted to test such as if you have radon mitigation venting or if you have corrugated material or waffle material for hydroponic heating, which is very common in our industry to manufacture products that are not flat, in order to accept the hydroponic tubing. So that testing actually did not occur. Neither was testing for smoke. In an interior environment a slab we would have wanted to collect how much smoke was developed during the testing because there are rules in the building code currently for the maximum amount of smoke obscuration you can have from an interior exposed test. Even though it was not exposed that is where the smoke would go.

Our takeaway was that there needs to be further study. We probably have not done a good job of educating the public that we have .8 percent of a flame retardant in our product, which is 98 percent air, and we have switched to the new polymer flame retardant after we worked with EPA Design for Environment so we have done what we think is responsible as a company. I do not believe after witnessing the test we would want to make a non-flame-retardant product in response to the market.

We do know our business very well. We know that we ship on flatbeds with exposed material coffee cups or material used for packaging. I know they are out there but they go into OEMs, they go into other environments. They do not go on flatbed trucks, they do not go into construction environments, they are not 38,000 board-foot of material at once is what we ship. We cut with hot wires. Non-flame-retardant foams are mostly shape molded; they do not see a hot wire in order to shape them or cut them for a construction application.

We know that in California, because it is a very heavy termite infestation area, foam plastics in contact with grate have to have a termiticide in them. The termiticides available for our industry are Borate, which is a flame retardant, which would go against the requirements of this proposal. So just keep that in mind, that is what you are basically mandating. My boss always says, we can't be all things to all people. There are alternatives available. There is Foam Glass. I hear a lot of passion in this room for selecting materials that do not have flame retardants, as if flame retardants are a generic term. They are specific chemicals. But if you do not want a flame retardant there are products currently on the market and selecting those materials will drive change quicker than doing code changes.

Dr. Marcelo Hirschler of GBH International addressed the Commission. He stated he represented the North American Flame Retardant Alliance, NAFRA. He stated, I have obtained a doctorate and I have over 500 publications, mostly on fire safety. I have been a member as has others here of the phase one group, but as have others here, not been allowed to participate in the phase two group.

I live in California. Living in California I heard from our new governor that fire safety is a high priority for California, and I am horrified that now the state has a report demonstrating that fire safety is severely compromised by this proposed change and its being under consideration.

The report from the OSU demonstrated the decrease in fire safety product will be present in a construction site if allowed. Since most of you are not geeks on fire testing, I want to show you something. The fire-retardant foam needed this to ignite, ASTM E108 ignition source B. The non-fire-retardant foam needed this to ignite; this is the ASTM D2859 methenamine pill. If you look at what was distributed to you, there is a picture from page 58 of the report. The picture shows the effect of this ASTM D2859 methenamine pill on non-fire retardant and fire retardant. The OSU report states that there is a slight difference in ignitability between the non-fire-retardant foam and the fire-retardant foam. That is nonsense. There is a massive difference in ignitability between the two. I showed you the ignition sources needed to ignite one and the other and you see what happens in the picture that you got there.

It is not just not ignitability. The OSU report on page 53 shows you the flame spread from the same ignition source once it gets burning on non-flame-retardant foam and flame-retardant foam, and you notice the massive difference between the two. This is not a minor difference in fire safety, it is a massive difference in fire safety.

The project as already was said by Mike Fischer, did not develop any new tests as required in AB 127. The project significantly lowers fire safety. Let me give you another example of how the project lowers fire safety. One, the project has a cockamamie way of assessing fire risk, which has nothing to do with accepted engineering practice or with the typical standard for assessing fire risk, which is ASTM E1776, it does not do any of that but it creates some kind of a table for fire risk. When you look at that table for fire risk you find that the fire risk of non-fire-retardant EPS foam is higher than, of course, fire retardant foam. It is also higher than polyethylene sheets, the polyethylene sheets that you typically would use on a construction site to protect products. At the ICC code hearings last year, a proposal was put forward by the California Fire Chiefs and was accepted as submitted without change that would require that all of these tarpaulins that are used on construction sites meet the fire test ASTM E84 class A or a very low heat release. None of these products meet anything like that so we are going to have on a construction site new products that we know products that are much better than that are no longer allowed. So the problem is primarily what is going to happen on the construction site, what is going to happen there?

Ted told you a problem is also under slab and we do not know what it is because OSU has not tested anything under slab, tested underground but not under slab so we do not know what happened there. But on the construction site where all these products are going to be stored until they are installed, we have a huge increase in fire safety.

I also want to point out, and this is going to be the last thing I am going to say, I also want to point out that this project was looked at ICC five or six times, both by the committees in the IBC and in the IRC and by the membership and it was rejected every time. There is a requirement for the California codes to adopt the ICC unless there is a massive reason not to

do that. There is no reason not to do that. In fact, there is every reason not to change from the ICC codes, which have demonstrated fire safety.

I urge you to disapprove this proposal, thank you for your attention.

Commissioner Booth asked, on this test, was it covered in concrete?

Dr. Hirschler stated, no, no, this is just the ignitability.

Commissioner Booth stated, I understand; no you answered my question. I just wanted to know if it was covered in concrete.

Dr. Hirschler stated, just to explain further, what is ASTM D2859? It is the test that every carpet sold in this country has to pass.

Commissioner Booth stated, I understand. Thank you, you answered my question. I just had one other question if you can answer it. Is there a cost to add or delete the fireproofing material in the polystyrene foam?

Dr. Hirschler stated, I am assuming that Ted Grant would answer that question better than I do, but non-fire-retardant construction foam is not sold in this country.

John Woestman from the Kellen Company addressed the Commission, stating he was representing the Extruded Polystyrene Foam Association, that's XPSA. Our members, for lack of an easier way to describe it, make the pink, green and blue stuff, the foam insulation that you see.

I want to look at this proposal from a technical perspective, but from the perspective that let's assume that we manufacturers brought this proposal in front of you instead of SFM's office. Let's also assume that AB 127 did not exist. So let's just look at this proposal from the technical merits that are in front of you. Let's assume that we wanted to introduce a revised polystyrene insulation product to the market for very limited applications, in this case at grade under concrete slabs and let's assume we wanted to rely on the OSU reports. And a couple of takeaways that I think we can see in the OSU reports that are concerning and should be concerning is this new product catches fire very easily. When it catches fire it spreads significantly. Two very important things, very simple, but two very important things. This product that we are assuming we might want to introduce or code change proposals does not pass any of the current fire test requirements in the code. So let's just exempt it from all the fire tests, let's bring a proposal forward that exempts this product from all the fire tests. And to help address that potential issue of misapplication let's put some information on the product label so everybody can see when they put it in the wrong place.

We would expect in the code development arena that fire safety professionals, fire code officials, they would look at this, they would look at this proposal, and if I brought it to the ICC code development arena the committee would vote 14-0 in opposition to this. They would say to me; they would probably tell me I was laughable in presenting this based on the technical justification that we have here.

So I would encourage you to disapprove this proposal.

Vice Chair Winkel stated, John, you are positing a hypothetical situation in terms of it is not the way things were presented to us but it is an interesting point; is that correct?

Mr. Woestman stated, correct, yes.

Commissioner Booth stated, on the OSU test that was done, I assume obviously you looked at it. Do you have any technical objections to either the way it was done or the assembly that was tested?

Mr. Woestman stated, the testing helped us learn a lot about how it performed and honestly it scares the heck out of us in how it performs.

Mr. Ted Grant stepped forward stating he was responding to Commissioner Booth's question. He stated, it would increase cost.

Lorraine Ross of Intech Consulting stated she was representing Dow Chemical/Dow Building Solutions, a major manufacturer of extruded polystyrene, to be different than expanded polystyrene, which was the only product tested in this particular research report.

Ms. Ross stated, I have 35 years' experience in foam insulation, in code development related to foam insulation, to research and development, fire testing and actual installation and use. In the past I worked for the company that actually commercialized polyiso insulation products, which are also a member of the insulation industry and used extensively in the state of California.

I am going to have to give you a very brief history of foam plastics and how it ended in the code. Foam plastics came in the market in the 1960s, got expanded use in the 1970s with the first energy crisis. Some people in the room don't remember that, we do. At the time that product was being used primarily in agricultural buildings, it was also being used in residential construction in walls and foundations. At the time, because this product is combustible, people thought that it's just like wood. Wood is combustible, foam plastic is just like wood and it is going to perform the same way. After a series of very tragic fires, one in particular involving the death of two children in a basement that had exposed foam in it, a lawsuit was filed by the parents, correctly.

This gained the attention of the US Federal Trade Commission, who launched into a three-year investigation into the way foam plastic was being tested, the way it was being advertised and the way it was being used. As a result, there were 24 respondents to that investigation, mostly foam plastic insulation manufacturers but it also included ASTM, it also included trade associations. The industry came together, put together a \$5 million at time in 1976, you can calculate what that investment was, to come up with safe uses of foam plastic insulation. One of the major outcomes, the first step was the development of code language. Surface burning characteristics, flame spread not to exceed 75, smoke not to exceed 450, and it also included the use of thermal barriers to separate the occupant from the foam.

The first code, and I find this ironic, the first code in the United States to include those criteria was the 1976 Uniform Fire Code here in the state of California, the Uniform Building Code. It quickly spread into the BOCA code, which was one of the other legacy codes, if you are code geeks you know what we are talking about, also the Standard Building Code, otherwise known as the Southern Building Code. With the consolidation of all those three into the ICC these basic requirements have continued.

So let's look at what this proposal does. It asks us to not test our products, these products without flame retardants. Just don't test them, just put them out there. Responsible manufacturers are really having a hard time with this. How can we throw away 35 years 40 years of safe use of foam plastics and say, well, it is okay because AB 127 and now the SFM, and now if you accept this which I hope you don't, the California Building Standards Commission is telling us, you don't have to test anymore? I just wonder if the FTC will get involved in this again. I don't know that.

This is really the crux of what you are asking us to do. Put product out there with no fire testing. Manufacture a product in our plants. And this product is combustible, make no mistake. Asking us to make this product in our plants without flame retardants. The reason Mr. Grant mentioned that it is going to cost, because we are going to have to do major modifications in our plant to use a more highly flammable product, if we even chose to do it.

So we are asking you or urging you respectfully to disapprove this. I can get into a whole lot more detail and I probably will since we have more time than I would have at the ICC. You have heard already that the ICC has rejected this proposal five times. One of the reasons they rejected it at one point was there was no data. Now we have data. We have the OSU report. That OSU report proves this product is not safe. It ignites more quickly. In fact, they did test it below dirt. They were looking at the shallow foundation applications. It burned the entire length. They never evaluated below slab; they are making extrapolations that we think are not valid.

Some of the other pieces here I think I would like to address too. We have heard a lot about health. We have heard a lot about health and safety, environmental impacts, et cetera. No one is going to dispute that that is not important, of course it is. Manufacturers are trying to make that balance. And all of the concerns that were articulated today about health, it is kind of asking you and putting you in a tough position. So make a distinction, make a balance, is health a problem or is fire a problem? I am going to tell you that there have been over the last ten years' assessments by governmental organizations, risk assessments around the world about the use of particular flame retardants in polystyrene insulation. It has allowed the continued use of flame retardants in polystyrene insulation. You heard that there was information from the EPA and information from REACH, which is the EU equivalent, Environment Canada, et cetera. I did hear comments about the new polymeric FR that we are using in our product. EPA Design for the Environment has found that that is the most advantageous substitute for the HPCD that was used before. There are now countries that have evaluated the polymeric FR in polystyrene and found them to be suitable. Those include, as I said, the US EPA, Environment Canada, EU REACH, the Nordic states, Australia, New

Zealand, Japan, and most recently China said this is an okay product. All those governments, those independent government assessments say it's okay, and now we hear that it's not okay.

We are very much aware of the ACS article that was referenced by the last speaker. We are also aware that the main researcher was and is an employee of ROCKWOOL Insulation, which is a non-foam insulation that is a major competitor to foam insulation, so we dispute those findings. Dow itself has data that will prove that the information and conclusions reached in that report are wrong.

Let's get back to really the end of it. The Oklahoma study, as I mentioned, is definitely flawed. There are real problems in there. We have heard a lot about the technical aspects of this and it is just hard for me and my client to understand how in the face of recent wildfires you are going to approve or asking for approval of a product that can be lit off with a spark or a tossed cigarette. And it is higher density than packaging. I would dismiss that part. You have a flatbed driving down the road and a forested area and there is a spark or whatever. This thing is going to light off. And that OSU report proves it, the state of California owns that report now.

So in addition to the technical I just want to make a couple of comments about the process. I have learned a lot about the administrative regulations of the state of California over the last couple of years and I know that in Part 1 Article 4 there is specific direction as to public participation. You have heard a lot about the phase one and phase two. I wrote this down and I am going to read it to make sure I am accurate. And this was right after AB 127 was passed. Phase one was convened by then-State Fire Marshal Tonya Hoover. There were 32 members of that working group representing every aspect of the construction industry including foam insulation manufacturers, their respective trade associations, code-accredited testing laboratories, UL, Factory Mutual, Intertek and some others, fire service, contractors and builders, the NGOs, legislative staff. Over the course of a year I personally attended ten meetings here in Sacramento of this working group, and that doesn't even begin to count the number of intervening conference calls that were held about this. All of this information, the agendas, the minutes, everything about that working group were posted and you can find them on the SFM's website. All of this led to a final report in 2015.

And then in June of 2016 the Legislature approved \$125,000 for OSU to evaluate the fire performance of non-FR frost-protected shallow foundations expand to polystyrene. An advisory group of 15 people, 5 of whom were university professors, was formed. No participation from builders/contractors and only one foam manufacturer, and he came today, Ted Grant, who provided the experimental non-FR EPS, participated in that. There was little continuity, almost none, really none. I think there was one NGO who is no longer here with the Green Science Policy Institute, Avery Lindeman, was on phase one and phase two, but that was about it. Specifically, I represented both Dow and the trade associations on phase one.

When we found out about the OSU study, I contacted the major researcher, Robert Agnew, directly, as to be participating on that. We were denied. It was only until the OSU report was issued that Dow found out that OSU actually tested their product. They tested a Dow product. They went to Home Depot or somewhere and bought it off the shelf. And we just wonder why

OSU didn't contact us? I think you are hearing a trend here. We feel that we were shut out of the process.

So when the OSU report was posted on the website in December of 2017 our coalition contacted the SFM several times throughout 2018 because we saw in there that there was a recommendation for a code change proposal. So we kept calling the office to find out whether or not they were going to move forward with it, we were told, no. It was only when the Code Advisory Committee, the BFO CAC issued their agenda for the July 31, August 1 meeting that we discovered that yeah, oh yeah, there's code language there. And we came forward at that time, made our case. We were grateful that the CAC recommended long-term further study. I have to point out, I was at that hearing. Many people were in this room. One of the major reasons that they came to that conclusion was that there was almost no participation, no stakeholder outreach, which is required by the administrative code. It says, maintain a list. The proposing agency should maintain a listing of all interested groups. Certainly, the SFM had the list, they had the list from people who participated in phase one. Never heard a word. After the Fire Marshal decided to go forward with the 45-day Express Terms we requested and were granted a meeting with Chief Matheson and his staff. We went and reviewed our concerns with them, asked once again to have a stakeholder meeting that would at least bring builder and contractors, people that will be handling this product, and see what they had to say about it. Never happened.

So we believe that for two reasons, on both fronts, both technically from the nine point criteria and also from the process identified by California administrative code, that the requirements to put this forward are not fulfilled. So I am going to end there and say we respectfully request that you disapprove this and thank you very much. I am happy to answer any questions.

Vice Chair Winkel stated, Commissioner Winkel wearing my commissioner hat. Basically I want to make sure this is an accurate restatement. The CAC recommendation, this is in our record but I just want to make sure, recommended long-term further study?

Ms. Ross replied, yes.

Commissioner Booth stated, a question on the OSU testing, I understand you are objecting to it. Is the objection based on the methodology, in other words, how it was constructed and done, or the process by you not being there at the test?

Ms. Ross stated, right. Because the advisory committee that they formed on the front end was so limited I scope they did not have the proper input to do a proper experimental design. So we have real problems with the way the assessment was done, the way it was designed. We also have a major issue because polystyrene, there's two types, right, there's XPS, extruded polystyrene which Dow and some others manufacture, and there's EPS. They only evaluated EPS with FR and non-FR. They never evaluated non-FR XPS, yet this proposal says polystyrene. It doesn't say only expanded polystyrene, it says polystyrene and that is not true.

Commissioner Booth stated, okay. So the methodology and the materials you object to?

Ms. Ross stated, methodology, materials, and the process was flawed.

Commissioner Booth stated, it was an interesting history on polystyrene, et cetera, that you gave us but I think you left out a very critical element, which was in 1967 the advice given to Benjamin Braddock in the movie *The Graduate*, that really set things going.

Commissioner Klausbruckner stated she had a question for Greg. She asked, are you aware of any fire loss history in the proposed application that you are currently eliminating, basically, which is use of the foam under a slab. Is there a fire loss history where in that particular fire the foam under the slab contributed to the fire within the building, whether it is a residence or otherwise?

Mr. Andersen replied, no.

Ms. Ross stated, all of the currently marketed foam that is in the market today is flame retardant. There is no non-flame-retardant foam insulation available in the US market.

Commissioner Klausbruckner asked, are there older buildings that have non-flame-retardant materials under the slab?

Ms. Ross stated, not in the United States. It was brought up about Norway, that they use it below in basements. The other fact of that is that Norway does not use foam insulation in walls or ceilings so the opportunity for misuse is just not there. They use it below foundations and they use it below roadways. But all foam insulation had flame retardants going back history-wise because there is no other way to meet that basic requirement that came into the codes in 1976.

Commissioner Klausbruckner stated, now I have a follow-up question for you. Is your major concern misuse or is it basically applying non-flame-retardant to areas where you should not be if this regulation passes, or is your major concern with the actual foam encased in concrete?

Ms. Ross stated, our major concern is that we have a long history of safe use of foam with the current codes as they stand. It is an option so we don't have to do it. We won't make it. We feel it is a terrible risk, a terrible fire risk, whether it is below concrete or not. That the product has a huge potential for misuse. It is going to be on the jobsite mixed up or in a Home Depot with two different things and a homeowner comes in and takes the wrong product. That there is a huge potential for misuse. Even the OSU report cites the example of the worst misuse that we have experienced in this country, which did not include real building insulation but acoustic insulation, was the Station nightclub fire. And that was a terrible misuse of product in the worst possible way you can imagine.

We are also concerned for our industry. Our industry, as I said with the FTC investigation, it was not everybody's foam burned, some people's foam burned, but the entire industry got into the soup on that. And if you have manufacturers that are out there, or maybe it is an imported product now. Now it has not been tested and I don't know how you are going to regulate that. It has some fire; the entire industry is going to get a black eye and we are going to be back into a bad situation.

I'll highlight that right now people who want to use below grade insulation without flame retardants can purchase foam glass. It is a commercially available product. If people want to use it they can order it right now, they don't have to use foam. That sounds strange for me to be promoting a competitive product but that product is out there and if they want to use it they should.

Commissioner Booth asked, that is a considerably more expensive product however, correct?

Ms. Ross stated, well sure it is. But if it has a benefit that you want then, yes.

Commissioner Sasaki stated, as part of my practice I look at fire-damaged buildings. My job is to assess fire damage, that's part of my job, and I have looked at hundreds of fire-damaged structures. Many of them, and all of them, with concrete foundations, some with perimeter foundations but many with slabs on ground, on grade. In the course of looking at these many fire-damaged buildings typically on a slab on ground is what you have, particularly for residential construction and we are looking at a fairly large fire-damaged set of residential buildings in Oakland. There have been a number of large construction fires likely due to arson. And my job is to look at these fire-damaged slabs and determine whether or not the concrete can be saved or can be repaired, but part of that is also looking at the plumbing fixtures that extend through the slabs. In the most recent one what we have is we have PVC plumbing pipe coming through this. The worst slab, and I was out there last week, and this is very typical, the fire damage extends, yes, to the top of slab, and sometimes down. In this case this is a 11-inch post-tension slab, in some cases an inch or two beyond that. And what I mean by fire damage is when you look down the hole of a four-inch diameter PVC pipe, which is a fairly large diameter, there is discoloration but there is not necessarily what I would call extreme fire damage, meaning it didn't catch on fire. And the reasons are because concrete is an incredibly good insulator. So part of my investigations are to take concrete cores of this fire-exposed concrete. And I have taken hundreds of cores. Some very large fires, some fires for Caltrans. And what we find is we find that the depth of fire damage into the concrete is shallow. And this is 100 percent of the time. So you may have a fire, a spalled surface that might be two inches of spalling, but when we examine the concrete below the area of spalling what we find is we find that the depth of fire damage is typically limited to less than three-eighths of an inch. As you go beyond that three-eighths of an inch the temperatures drop drastically.

I understand, this is more from the technical standpoint, that there has been no testing of this configuration, and I understand that the material product itself is flammable. But in this configuration, based on my personal observations of fire damage, it is hard for me to see where this particular construction that is being proposed is going to increase the risk for occupants or others in these buildings. So what I have here is we have a lack of testing of this particular configuration. But we do have sort of our practical knowledge about how fires progress, how they occur. And then what's in front of the Commission here is an issue of, the issue of public safety and whether or not we have confidence in what the proponents have been describing. I am just trying to explain sort of my thought process in trying to evaluate this proposal or this amendment.

Ms. Ross asked, was there foam insulation underneath these slabs that you have investigated?

Commissioner Sasaki replied, no.

Ms. Ross stated, secondly, I think there is no one here who would dispute the fact that if you had foam encased in concrete it would be okay. The problem is getting it manufactured. If you look at what we call the supply chain, it doesn't get immediately transported off the end of the line at the plant to the encapsulation. We look at life cycle all the time. You have to look at every point and see what that risk is. We are telling you that our plants are designed to handle products and we add flame retardants, not just because of the code once it is installed, we are looking at safety in our own plants. These products are flammable. So we have to look at safety within the plant. And we are telling you that non-FR, to manufacture that product is a hazard, to transport it, to store it, to let it on the jobsite. And you have had experiences here in California with construction fires, I know, that have shut down the interstate, so you have to think about that part as well.

Vice Chair Winkel stated, we have gotten somewhat astray in terms of the end use conditions are the ones that the code is dealing with. I think these are relevant comments but this is not meant to be a debate.

Vice chair Winkel stated, I think we are done with testimony here. Those folks who have been waiting on the phone to testify on Item 12a, Item 17, which is the omission or the use of non-fire-retardant treated foam underneath concrete slabs. Is there anyone on the telephone who is waiting to speak on that?

Dr. Michael Lipsett addressed the Commission: I am a retired public health physician who worked in California state service for nearly 30 years, serving as the Chief of the Environmental Health Investigations Branch in the Department of Public Health.

In my capacity as a physician I urge the Commission to adopt the Fire Marshal's proposal. There is a long history of flame retardants being marketed with little chronic toxicity testing data and unsubstantiated industry reassurances about their safety. A perfect example of this is Hexabromocyclododecane (HBCD), for years the predominant flame retardant used in foam insulation, which has now been banned throughout much of the world because of its persistence and toxicity to humans and the environment. In recent years HBCD has been replaced by poly-FR mentioned by Dr. Charbonnet and I think it was the Dow representative. This new flame retardant, this polymer is being advertised as green and safe; however, there are virtually no independent data related to its potential environmental face or long-term effects. It was mentioned also that German researchers reported earlier this month that when this chemical is subjected to UV light and heat it will degrade into scores of different compounds, some of which bear structural similarities to banned flame retardants. So is poly-FR yet another regrettable substitution of one toxic flame retardant for another? There are virtually no data on which to base such an assessment, despite what the Dow representative

stated with respect to the putative safety of this product. She cited various government agencies' approval or they are not regulating it. This is a total red herring.

Let's not forget that government agencies, US and others, have routinely allowed the use of chemicals for use based on incomplete data. Decisions that were later found to have compromised public health. Other flame retardants in particular come to mind. For instance, Fire Master 550, which is used in polyurethane foam as a substitute for the PBDEs or polybrominated diphenyl ethers, these were flame retardants that were found in California homes and residences at the highest levels in the world due to our former furniture flammability standard. In the absence of relevant data why continue to require the use of poly-FR or other flame retardants in foam insulation in an application where there is no demonstrable fire safety benefit? I urge you to adopt the Fire Marshal's proposed code change and to allow consumers, builders, architects and others the choice of using a less-toxic product without compromising fire safety.

A short recess was taken

Vice Chair Winkel reconvened the meeting and returned to public comment.

Adam Wood active San Francisco firefighter and board member of the San Francisco Firefighters Cancer Prevention Foundation addressed the Commission: Firefighters in San Francisco realized that we had a problem with cancer before we fully understood what was causing that problem. We have got an elevated risk versus the general population for eight different families of cancer. Our female firefighters in San Francisco are contracting breast cancer at a rate six times higher than premenopausal women in the general population. And in a department of roughly 1500 firefighters we currently have a caseload of over 70 active and retired firefighters battling cancer.

We now know that one of the primary sources of our carcinogenic exposures is chemical flame retardants. And with that knowledge we feel an urgent need to speak out against the unnecessary use of these chemicals, partly to protect future generations of firefighters, but also because firefighters as a profession have been used by the chemical industry to promote the use of these products before we fully understood the threat they posed to our health and how little they actually do to stop the spread of fire. Today through our work we are intensely exposed to these chemicals in their most toxic state, when they are on fire. These are the same chemicals that break down over time into fine powdered form contaminating all of our home and work environments.

We strongly support SFM's proposal. It achieves the goal of fire safety while providing consumers and builders with the choice not to unnecessarily place the health of firefighters and the public at risk.

Bill Kelley, Chief Building Official for the County of Marin addressed the Commission. He stated, my comments today reflect the position of Marin, in alignment with our letter to you dated October 12, 2018. But I am also speaking today on behalf of the County Building Officials Association of California, a California ICC chapter and California State Association of

Counties affiliate organization, in representation of the chapter president and the executive board. I have also been asked to speak today on behalf of the California Building Officials, California's statewide, preeminent ICC chapter, in alignment with their letter to you dated January 15, 2019, as a representative of CALBO's president and executive board. Notwithstanding these three testimonies today I will still be brief.

The County of Marin, the County Building Officials Association of California and the California Building Officials urge your support of SFM's proposed amendments under agenda items 12a, 12b, and 12h to permit the optional application of below slab rigid polystyrene insulation without integral fire retardant. We all agree the common sense of the supporting arguments for this proposal are simple and compelling. The presence of fire-retardant chemicals in rigid polystyrene contribute to environmental toxicity and firefighter health risks, while serving no practical fire resistive benefit in below slab applications where there is insufficient oxygen to support combustion. No appreciable burden or risk would result for building inspectors as we are already used to confirming labeling requirements on the jobsite when inspecting water, gas piping, electrical cabling as well as numerous other construction materials in conforming to code. So we already have established protocols for this method of insuring compliance.

As code officials our conviction is that continuing our past practice of requiring this hazardous exposure to remain would be not only ineffective and unnecessary but frankly, irresponsible. We believe we and you now have a moral and environmental obligation to correct it. On behalf of these organizations we urge you to exercise your discretion and support the proposed amendments.

Jay Fleming, Deputy Chief on the Boston Fire Department addressed the Commission: I have been a firefighter for 40 years. Most importantly for this hearing, I was the fire marshal for 9 of those years, and as such I actually enforced the strictest fire codes in the country relative to requiring fire retardants and that was because of the Coconut Grove fire back in 1942.

We used to get a lot of questions, particularly me as the fire marshal, about was it really necessary. And so fortunately for me I work near probably the largest fire safety library in the world at the National Fire Protection Association, so I started going down there looking for proof that these were worth it. The problem was I could not find it, and I was shocked to see that there was so little evidence that the massive use of these flame retardants actually made a difference. There was evidence that they changed the way these materials performed in fire tests but there was not any real information or research that supported that they changed the way fires burnt in the real world. In fact, the only evidence I could find was that when you add flame retardants to plastic materials it caused more smoke to be produced and it caused it to be more irritating and more toxic. As a consequence, that might decrease the time that you had to escape a house. But more importantly, the risk to firefighters, as was mentioned earlier, is exponentially greater because of the atmosphere that we are operating in, despite the fact that we have self-contained breathing apparatus.

When I first got on the job in 1978 a lot of the firefighters were dying of cancer but it was all lung and bowel. My father died of bowel. But I was with him when they X-rayed his lungs and

they thought he had smoked four packs a day and he had never smoked in his life. We thought that because we were wearing self-contained breathing apparatus that we would not get those types of cancers and to a great extent we were right. What we did not understand, that now we do, was that we were going to get these other types of cancers, the types of cancers that have been associated with flame retardants, and we were going to get them at a younger age.

I have been to many funerals of friends who died in structural fires. I was in three buildings where firefighters died at the time that they were dying. I would go to the funerals and I would feel sad but I never thought it was tragic because it is just an unfortunate part of the job. But I am going to more and more funerals where my friends and coworkers are dying of cancers and I feel that these are tragic because there was no benefit to the risk that they absorbed.

I went over SFM's report, I thought it was excellent. I want to comment on a couple of things. If you will notice, when the industry refers to the fire safety benefits of flame retardants they do two things, they either refer to some generic reduction in fire deaths over the last 40 years that they intend to take credit for, of which there is no evidence that ties those two together, or two, they will cite some catastrophic fire like the Rhode Island nightclub fire that has nothing to do with this bill. Those are the only two pieces of evidence that they ever provide. That on top of the fact that when you add flame retardants you can change the way that these materials burn in lab scale fire tests.

The other thing that I wanted to mention, and I was not involved with phase one or phase two but I have been involved with California SFM task forces in the past. When the industry typically talks about consensus it sounds great, of course we want consensus. What that means, though, if you are on an NFPA committee or an Underwriters Laboratories committee, of which I have done both, consensus means a two-thirds majority. The industry knows this. And so because of that definition typically when you suggest consensus what you are actually doing is suggesting that you give the industry the right to veto anything that they don't like. And I read the phase one report and it was very fair because both sides were able to make comments. I did not find any of the industry concerns to be compelling.

I just wanted to stress that I have lived with this issue for over 25 years and I have tried to find the benefit. Because when you have spent your life trying to save people from fires you are extremely careful. I have had friends die in fires so I do not want any fires. But more importantly, I will put firefighters' lives at risk. I will send them into a burning building and I am not always sure they are going to come back. I will do that if there is a benefit. There is no benefit, no documented, clear cut benefit that the use of these products has saved a single life in a fire. I have looked for it and I can't find it. Instead of assuming the fire safety benefit and then putting the burden of proof on the people who think there is a health risk I think the opposite should happen. We should assume there is a health risk, there is tons of documentation, and make the industry prove the benefit. Make them find the evidence that this chemical makes a difference.

Wes Sullens, Director of Codes, Technical Development at the US Green Building Council addressed the Commission: The USGBC is a mission-based nonprofit with over 11,000 member companies worldwide.

We support SFM's proposal 12a, Item 17. Our organization worked closely with the lead and our members continued to participate as stakeholders while SFM reviewed flammability standards for building insulation. As mentioned previously, the code change would make adding flame retardants optional for certain applications. That is a proposal we support fully to allow the building owners the voluntary choice to select alternatives that minimize the potential environmental impacts.

I wanted to address the scale and use of these products and construction techniques. With the rise in requirements for zero energy homes and buildings in California it is possible that under slab insulation will become increasingly important for certain project types because of the need for energy efficiency and squeezing every bit out of envelopes. So it is possible that insulation strategies of tomorrow may look different than those of yesterday.

And in summary, California is a global leader in sustainability and green building. We applaud SFM for bringing this proposal forward and recommend the BSC approve this code change.

Avery Lindeman addressed the Commission: I am representing myself. I worked for four years at Green Science Policy Institute and represented the Institute in SFM's phase one working group on flammability standards for building insulation materials. I also served on the advisory task force for the research conducted at OSU as part of phase two.

Researchers at OSU felt strongly that academic freedom and academic integrity be maintained throughout the phase two process. As a result, my understanding is that they did not accept task force participants who stipulated that they would only participate if they were granted the ability to approve or disapprove publication of the final report. My understanding is that at least one person who testified in opposition today fell into that category.

The advisory task force for phase two did include several fire officials and fire safety experts, a building official, an insulation manufacturer who you heard from, and a fire protection engineer from the NFPA Research Foundation.

The researchers at OSU were impartial, thorough and professional. They conducted small and medium-scale tests intended to illustrate fire risk for installed or in situ below grade insulation and for insulation and other construction materials in bulk storage. The conditions used for the in-situ testing were specifically chosen to represent an unlikely worst-case scenario. Three outsiders observed this testing. The first was myself, the second was Ted Grant from Atlas EPS whose testimony you heard, and the third was Jesse Beitel of Jensen Hughes who was representing the American Chemistry Council (ACC) and had also participated in the phase one working group on behalf of the ACC. For those who may not know, the ACC is a trade association that includes major foam plastic insulation and plastic industry members. In fact, my understanding is that the ACC formally requested to SFM's office that they be allowed to observe the testing and that this request was approved. The ACC opted to send Jesse Beitel,

who attended and took copious notes. As observers all three of us were able to ask questions and comment on the research in real time. Though they had the opportunity, neither Jesse Beitel nor Ted Grant provided the types of critiques you have heard from the opposition today when they were present at the testing.

OSU's research, which was summarized in a formal report, clearly demonstrates that this proposed code change would not reduce fire safety. In addition, the prescribed labeling addresses concerns about potential mix-ups or unknowing misuse of materials. The full details of OSU's research, including a literature review and the experimental fire testing, are clearly and transparently laid out in that report. In addition, SFM's office has addressed the numerous comments they received on this proposal during the code action committee process.

The team at OSU and the staff at the SFM have managed a diverse and vocal group of stakeholders throughout this lengthy process. They have conducted extensive due diligence which supports the proposed changes and I respectfully urge your approval.

Mark Leno, former California elected official, addressed the Commission: I am speaking in support of the proposal. I served 14 years representing San Francisco in the State Assembly and Senate, most of them battling the toxic flame-retardant industry. Very briefly I would like to share my experience.

Over eight years and four bills the chemical industry spent more than \$20 million on disinformation campaigns, all based on the fear that our legislation to limit the use of toxic flame retardants would kill you and your children. Their lobbyists lied, their so-called expert witnesses who were paid by them to lie, and their credibility was destroyed by a four-part, front page Chicago Tribune investigative exposé. Their front group called Citizens for Fire Safety was exposed to be fraudulent. It was not an advocacy community of teachers, firefighters, students, clergy, labor and business leaders, but was revealed to merely be three international, multibillion-dollar chemical corporations, solely funded by them to deceive legislatures and the public. They were never concerned about the serious detrimental health and environmental effects to communities, families and firefighters, they were only concerned about their profits.

Concluding, as California's new Technical Bulletin 117-2013 has demonstrated, we can have equally fire safe standards without the use of these worthless, toxic flame retardants. I ask for your support of this very thoughtful proposal.

Dr. Vyto Babrauskas addressed the Commission: I represent myself and am speaking in favor of the proposal. I earned the first Ph.D. ever awarded in fire protection engineering in 1976 and that was from Cal Berkeley. I support SFM's proposal to allow the choice of building insulation without flame retardants below slab. This material will not create a fire safety risk to the overlying structure or building occupants. When installed below grade the insulation will not be exposed to ignition sources and the oxygen supply to any combustion process would be extremely limited. But most important is that historically toxicity issues receive little interest from the codes and this is the right time that this gets changed.

Furthermore, the testing by OSU found that there was no significant difference in the fire performance of polystyrene foam insulation with and without added flame retardants. NeuroGen Brain and Spine Institute scientists have extended a scope with additional tests and have seen results similar to OSU.

I have authored academic literature describing how flame retardants are unnecessary for fire safety when located behind the thermal protection afforded by barriers such as a concrete slab.

To get back to my previous point, we should do all we can to make societally sound decisions. It is not sound to have situations where the toxic harm potential is high while fire safety benefits are miniscule or nil. We do not have to speculate about the latter point, we will not be pioneering. I will point out that Sweden and Norway have been using non-FR building insulation foams for around a decade now and have found no fire safety impacts in the actual world.

For these reasons I strongly encourage the Building Standards Commission to approve SFM's proposed code changes.

Vice Chair Winkel thanked Dr. Babrauskas and turned Item 12a back to the Commission.

Commissioner Klausbruckner stated, can you refresh my memory, were there any amendments to any of these sections?

Vice Chair Winkel stated, there were a number of withdrawals.

Mr. Andersen stated, those were withdrawals but not amendments.

Vice Chair Winkel stated, I think the Commissioners questioned the items as we went through them. I would ask the Attorney General's representative to give us a little bit of a quick discussion about what we are supposed to be considering. And I guess the question is, should we consider the entire motion or do we want to subdivide it between 17 and the bulk or is that our pleasure?

Ms. Barbu stated, it is at the Commission's pleasure. If there is any reason to divide them, like you might vote differently on certain items, you could do that, and if not you could entertain a motion on the entire item. But just a reminder to the Commission that some of the public comments made may have been a little bit off the record that was produced, so those should not be considered, those comments that are not on the record that was before you.

Vice Chair Winkel stated, that also applies to the Commission as far as discussion about keeping to the record of what is before us.

Ms. Barbu stated, correct.

Vice Chair Winkel stated, I would ask whoever wants to make a motion, you can decide whether you want to make the motion for the entire 12a item or whether you want to divide the question between Item 17 subset and all of the rest or some other combination.

Initial Motion: Commissioner Sasaki moved to approve the entire package, 12a, as presented. Commissioner Klausbruckner seconded.

Commissioner Klausbruckner stated, flame retardant foams, in my opinion, do work in many instances. I do not want to be flying a plane with exposed foam that is not flame retardant. But in this case, and as Dr. Babrauskas mentioned during his testimony, in most cases where it is encased in concrete or other materials there is no fire loss history, not in this country or in any other country. I think we are moving in the correct direction in taking a second look at flame retardant products and seeing which applications are valid and which applications we may want to do further research in. As far as transportation and construction, that is not within the scope of this evaluation. However, I will point out that there is plenty of other combustible materials on a construction site. We have construction fires. Additionally, there are plenty of products that are very combustible on open truck beds moving from one side of this country to the next.

Executive Director Marvelli stated she had a procedural comment. Earlier today you requested this with three withdrawal items. If it is an approve of the package, it is approving as amend because he is requesting today to withdraw several items.

Amended Motion: Commissioner Sasaki amended the motion to move for adoption and approval of the 12a package, including the withdrawal of those three items. Commissioner Klausbruckner seconded.

Commissioner Patel asked, just to be clear on the motion, so we are approving items 12a through 12g, 12a as amended?

Vice Chair Winkel stated, no, just 12a. We approved some of the other subset items previously but we held off on a, b, f and h. But right now the only motion that is before us is 12a, which had a subset of items but the motion is to approve 12a as a whole item, which is basically SFM's amendments as amended.

Motion carried 7 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted "Yes": Commissioners Alegre, Booth, Klausbruckner, Mikiten, Patel, and Sasaki, and Vice Chair Winkel.

Comment by Chair:

Vice Chair Winkel noted the meeting was approaching the scheduled end time and asked how best to proceed procedurally.

Ms. Barbu stated it would be better procedurally to continue the item to the next meeting if it could not be finished.

Mr. Andersen stated 12b should be fairly short.

Commissioner Booth asked if they could be lumped together.

Ms. Barbu stated you could lump them together, but if you now lump them together and you cannot finish them then you are kind of in limbo.

Vice Chair Winkel stated, I am trying to get a sense of the audience, I do not want to shortchange. Basically, for clarity what we are talking about is if these are continued this would be rescheduled to a time and date certain in the future, which is likely going to be somewhere on the order of a month to six weeks, rather than coming back tomorrow or anything like that. Can I see a show of hands? Are there folks who if we tried to dispose of these items would feel shortchanged? I do not want to foreclose debate on any of these things and I am trying to get a sense from the audience of how many folks would like to testify or would they be repeating comments they had already made, which is my sense, but I can't speak for you. I think the questions that are in the remaining items are the same that were disposed of in 12a, especially for item 17. I do not want to leave anybody feeling shortchanged.

12b. Office of the State Fire Marshal (SFM 02/18) Proposed adoption of the 2018 edition of the International Residential Code with amendments for incorporation into the 2019 California Residential Code, Part 2.5 of Title 24.

Vice Chair Winkel asked Mr. Andersen if he could address Items 12b, 12f and 12h.

Mr. Andersen stated, the residential code, we are just bringing in the corresponding things for the WUI. We are correlating with our photovoltaic. We are actually removing the things that we had brought in with the intervening and adopting the model code; the same with item 3 in the energy storage systems and the correlating language for the flammability standards. Other than that, we are just moving our amendments forward to the next edition and then adopting the new version.

Questions or Comments from the Commissioners:

No questions or comments from the Commissioners.

Questions or Comments from the Public:

No questions or comments from the public.

Motion: See Item 12h.

12f. Office of the State Fire Marshal (SFM 06/18) Proposed adoption of the 2018 edition of the International Fire Code with amendments for incorporation into the 2019 California Fire Code, Part 9 of Title 24.

Mr. Andersen stated, the Fire Code has a little bit more. The Fire Code we are actually withdrawing, just like we did in the Building Code, SFM 06/18-1-16, the same thing on the matter on the common use. We have the correlating language with the changes in the high-rise. This is all under item 1, SFM 06/18-1-48, 06/18-1-50, 06/18-1-56, and 06/18-1-61. That is all on the same topic on just redoing the high-rise. We missed those in correlates. On that it is all editorial.

In carbon monoxide item 2 we are withdrawing 06/18-3-3.1; that is on the carbon monoxide, the exception. There was some discussion that may be in contradiction to the intent of the law so this is going to need some more work.

Other than that we are moving forward with the regulations through all the different work groups.

Higher education.

The only one that might bring up something that is actually different than the building code is the gaseous hydrogen mobile fueling, which we did in a work group. This would allow mobile fueling of gaseous hydrogen mobile. There were some safety guidelines in there. It is very different than liquefied hydrogen, which in this regulation prohibits it, liquefied. By the way, this will take 10 to 15 minutes to get half a tank of hydrogen, this process, but it gives an option to the industry out there. It does limit the size of the containers; they can be up to 2 kilograms. The safeties are very similar to that with a gas line except you don't have a spill hazard because everything is going up. And yes, you cannot do it in a building.

Vice Chair Winkel stated, there was one withdrawal under the Fire Code, 18-1-78 that you did not refer to, I think it is item 9. Did you just skip over that one? Is that still intended?

Mr. Andersen replied, that was already withdrawn in our 15-day so that has already been taken out.

Vice Chair Winkel stated, it is not on the list, I just wanted to make sure.

Mr. Andersen stated, this is just the things on the little cleanup that we had. Yes, we withdrew item 9. And we changed item 10 to match what is in the building code on the stair width. So we did receive some public comments on those. We addressed all those issues in the same way because it correlates with the building code.

Questions or Comments from the Commissioners:

Commissioner Klausbruckner stated, in the interest of time I have one comment for maybe possibly improving in the interim cycle. On page 62 of 107, Section 5809.4.1 which is in reference to mobile hydrogen fueling, the Exception discusses how fueling hydrogen-fueled vehicles on a public street during a roadside emergency is okay. You may want to expand on what is a roadside emergency. If it is just somebody running out of fuel so be it, but if it is something else there might be some serious hazardous issues associated with that.

Mr. Andersen stated, that was a point of discussion, we talked about what an emergency is.

Commissioner Klausbruckner stated, if you could expand on it or improve on it in the interim cycle that's fine.

Mr. Andersen replied, certainly.

Questions or Comments from the Public:

Kevin Reinertson, Riverside County Fire, representing the California Fire Chief Association, addressed the Commission: We support the SFM's rulemaking packages for all three packages. We have some neutral positions but we will leave those where they are at.

One particular item of the Fire Code: Greg referenced the hydrogen fueling. I wanted to go on record that these are not building standards and that the Commission's approval of these is just to have them printed into the code, I'm hoping, for local jurisdictions to adopt. I just wanted to make that point. And that is it, thank you very much.

Vice Chair Winkel stated, the State Fire Marshal is concurring with that comment.

Mr. Andersen stated, we put that in the FSOR (Final Statement of Reason) also, that we are bringing it in because it is not a building standard.

Vice Chair Winkel stated, that is in the record; that is in agreement with Mr. Reinertson's comment.

Motion: See Item 12h.

12h. Office of the State Fire Marshal (SFM 08/18) Proposed adoption of amendments to the 2016 California Referenced Standards Code, Part 12 of Title 24, for incorporation into the 2019 California Referenced Standards Code, Part 12 of Title 24.

Mr. Andersen stated, this item only has one proposal and that is to bring the change in the Referenced Standard to match with the foam insulation under the foundation, with the exact same language just in the one section.

Vice Chair Winkel stated, it is as published in our book with no withdrawals or amendments.

Mr. Andersen replied, absolutely. He added, there was one thing on my talking point. I did want to bring up. In our battery storage systems, we will have a little bit of cleanup we may have to do because we brought in the intervening code cycle and then we are taking it out now and that is our intent. They did change some sections around during their coordination package and so we may have missed a couple of things and we don't want a duplicate saying the exact same thing. There is no conflict but we will catch it on the editorial. I just wanted to get that on the record.

Vice Chair Winkel thanked Mr. Andersen for putting that on the record.

Questions or Comments from the Commissioners:

No questions or comments from the Commission.

Questions or Comments from the Public:

No questions or comments from the Public.

Motion: Vice Chair Winkel entertained a motion considering the proposals as amended for SFM Items 12b which is the California Residential Code, 12f for the California Fire Code

and 12h for the California Referenced Standards Code of SFM proposed adoption of amendments. Commissioner Booth moved for approval of 12b, 12f, and 12h as amended. Commissioner Klausbruckner seconded.

Vice Chair Winkel clarified, we are voting on the entirety of those three packages. Is the Commission clear on what the motion and the second is?

Commissioner Sasaki responded, yes.

Motion: carried 7 yes, 0 no, and 0 abstain, per roll call vote as follows:

The following Commissioners voted “Yes”: Commissioners Alegre, Booth, Klausbruckner, Mikiten, Patel, and Sasaki, and Vice Chair Winkel.

11. Future Agenda Items

Vice Chair Winkel stated he would like to put on the agenda for the Commission to consider looking at the various ways that each agency has presented code changes, of which there is a wide variety, and that we should look at ones that seem to be successful versus less successful and come up with maybe some style and whatever we can do within the administrative regulations that we have of guidance for agencies, including the Building Standards Commission, but other agencies about code changes for the future.

Commissioner Klausbruckner agreed. She added, if we are going to switch to electronic format eventually that format might be easier if it is expanded to show the entire code chapters with the strikethrough and the underline as a possibility. This way we are not carrying 12 volumes, it will be easier.

12. Adjourn

Motion: Commissioner Sasaki moved to adjourn the meeting. Commissioner Winkel seconded. Motion carried by affirmation.

Vice Chair Winkel adjourned the meeting at approximately 4:43 p.m.