



STATE FIRE MARSHAL  
FIRE EXTINGUISHER ADVISORY COMMITTEE

January 16, 2024, Meeting Minutes, 9:00 A.M. to 12:00P.M.  
Pacific Daylight Time (PDT)

Office of the State Fire Marshal  
715 P Street Sacramento, Ca 95814  
2-201 The Natural Resources Building

Meeting ID: 853 2721 2514

MEMBERS PRESENT

Robert Vasquez, California Association of Life Safety and Fire Equipment (CAL SAFE)  
Marcus Hernandez, City of Morgan Hill  
Darrell Hefley, Jorgensen Company  
Isaac DeFee, Cintas Corporation  
Randy Rousseau, La Sierra Fire Equipment  
J.R. Nerat, Presto  
James Knowles, Amerex  
Randy Dysart, CAL SAFE (retired)

MEMBERS ABSENT

Edie Wade, Brooks Equipment  
Rebeca Leda, Sacramento Metropolitan Fire District  
Shelly Beach, San Bernadino County Fire Department  
John Huffman (Alternate), Jorgensen Company  
Garth Embree (Alternate), Amerex

GUESTS PRESENT

Jon Joseph, Symons Fire Protection San Diego  
Daryl Bambridge, Cintas Corporation

## OSFM STAFF

Brice Bennett, Chairperson, OSFM

Chief Daniel Berlant

Chief Andrew Henning

Chief Greg Andersen, OSFM

Chief Jeffrey Schwartz, OSFM

Cortney Walker, OSFM

Adam Stewart, OSFM

Alex Rapphahn, OSFM

### 1. CALL TO ORDER

#### A. Welcome and Logistics Briefing

Chairperson Brice Bennett called the meeting to order at 9:02 A.M. Pacific Daylight Time (PDT). Logistics briefing was provided by Chairperson Brice Bennett.

#### B. Roll Call/Determine Quorum

Roll call was conducted by Adam Stewart and determined that a quorum (8 of 11) of members was present.

#### C. Introductions

All attendees introduced themselves.

#### D. Approval of Previous Minutes

Chairperson Brice Bennett asked for approval of the minutes for the October 24, 2023, meeting. It was moved by Member James Knowles to approve the minutes as presented; motion seconded by Member Robert Vasquez. Motion was carried with a unanimous vote in favor of approval of the October minutes as presented.

#### E. Announcements

Chairperson Brice Bennett introduced State Fire Marshal Daniel Berlant and new Assistant Deputy Director of Fire Engineering, Chief Andrew Henning. Chief Daniel Berlant stated that he was excited to join the committee meeting and stated that he looks forward to accomplishing some of the goals OSFM and the committee are working on for 2024. He stated that he was especially excited for getting Title 19 accomplished and across the finish line for this year. Chief Daniel Berlant also introduced Chief Andrew Henning and his new role for the division. Chief Andrew Henning stated that he looked forward to the new year and accomplishing the goals of OSFM and the committee have set for 2024.

Chief Greg Andersen thanked everyone for being at the committee meeting and thanked everyone for all their hard work and commitment to making this program successful. Chief Greg Andersen also mentioned that

Fire Engineering has made progress on filling many key positions in the program.

Chairperson Brice Bennett introduced Manager Cortney Walker for an announcement on new positions within the program and division. Manager Cortney Walker introduced Adam Stewart as the new Program Assistant for the FE Program. Manger Cortney Walker mentioned that Wanda Albritten has moved over to the Fire-Retardant Program and is still with the division. She also introduced Alex Rapphahn and Taylor Machado as the two new Program Assistants for the AES Program.

## 2. OLD BUSINESS

### A. Title 19 Portable Fire Extinguishers Regulations Update

Chairperson Brice Bennett stated that we are in the queue with Code Development to move forward with Office of Administrative Law. Chairperson Brice Bennett mention that himself and Taylor Machado are going to be participating in an Office of Administrative Law course that is coming up soon. He mentioned that Chief Andersen has been the main source of knowledge and help for this process with Title 19, but Chairperson Brice Bennett and Taylor Machado will have a better understanding and be available to help with moving Title 19 forward, after attending this course. Chairperson Brice Bennett mentioned that fire extinguishers are not something that changes frequently, but our hope is to generally have less than a five-year revisit to these regulations.

### B. PFAS Information Update

Chairperson Brice Bennett stated that no new real information has been updated with PFAS from Chief Hosler. Chairperson Brice Bennett stated that as of January 1<sup>st</sup>, 2024, the only people that should have PFAS are Federal Facilities that have not acquired the new mill spec. He mentioned that there is a mill spec for PFAS but is not approved. Once it is approved by the military and the Federal Government, there is a one-year clock for those facilities to change out their systems to the new product.

Member Robert Vasquez asked if there was a possibility of getting an update for end users to warn about the PFAS mill spec not being approved yet?

Chief Greg Andersen stated that the mill spec for PFAS has been approved, just not at the Federal level yet. He mentioned the local level has been approved.

Member Robert Vasquez asked has it been UL listed?

Member James Knowles in summary mentioned to Member Robert Vasquez that he and others would have to tell the market that there are no viable products until there is one available.

Member J.R. Nerat stated that there are products that have gone through the testing phase and are waiting for findings of their long-term material compatibility tests. He mentioned that products are coming but stated that they have to go through the official listing process.

### 3. NEW BUSINESS

#### A. Advisory Committee Appointment – Letters of Interest

Chairperson Brice Bennett mentioned that we stagger our appointments of our members by one and two years. He stated that three members will be reappointed through our system with the Fire Marshal and are awaiting signatures.

#### B. Renewals Stats

Chairperson Brice Bennett mentioned current renewal status. Chairperson Brice Bennett stated that there are currently 1,854 certificates of registrations, which is just over 80 percent of last year's numbers. He mentioned that currently there are 407 B through F concern licenses. He stated that he has had three type A's request to be downgraded.

#### C. Portable Fire Extinguishers and Lithium Batteries

Chairperson Brice Bennett stated that he wanted to bring up a new topic for the committee that he has discussed with Member James Knowles regarding thermal fire extinguishers and lithium batteries. Chairperson Brice Bennett wanted to get a general take on this topic from the committee and stated a question of what kind of fire extinguisher to use relating to this topic?

Member James Knowles started the conversation by stating that this is an open discussion with no end result because the market is ever evolving. He stated that himself and a few others in the committee participate in NFPA 10 and have learned some things about this topic and wanted to bring back to the committee to get a discussion started on the ever-evolving subject for context but knowing at the end of the discussion, there will be no complete solution to this topic.

Member James Knowles first wanted to start by discussing the hazard itself. After doing a little research, Member James Knowles deduced that lithium-ion batteries are now the most popular battery technology out there and that this technology is still ever evolving. Member James Knowles mentioned the wide range of this hazard from a small watch or vape pen battery to lithium-ion battery powered transit buses or heavy machinery.

He mentioned to the committee that because lithium-ion batteries are used in so many different places and is an emerging technology that has a hazard, each of these batteries are packaged differently. With that said, Member James Knowles posed the question generally speaking, if there was a thermal runaway with a battery, how do you introduce the agent to the battery itself to put a fire. He stated it would be different depending on how the battery is being used and size of the battery.

Member James Knowles stated the next thing that we need to understand is the process of this hazard. He mentioned that batteries are going to be under some kind of load, one being that it is delivering electrical power or in a charging mode receiving electricity. He stated in either case of those processes, the heating up or thermal runaway of the product failing would be visible off gassing. Member James Knowles stated off gassing would be the first part of our hazard, which is a flammable class B gas. He mentioned because batteries are under some type of load, this hazard now becomes a class C fire. He also stated that the battery itself is made up of small amounts of class A and D material, therefore making this hazard a class C, B, D, and class A fire.

Member James Knowles stated the last notable mention on lithium-ion batteries is that these battery fires are a lot less common than gasoline fires. With that said, he mentioned that gasoline fires have a straight solve to putting out the fire. With the battery type fires, there is not a straight solve to putting out the fire. Member James Knowles stated that we are talking about incipient stage fires with the committee because our focus is extinguishers and what solution do we deliver from a handheld perspective on this hazard. Member Knowles stated that currently there is no UL listed viable solution on the market. He then discussed the steps on how you would propose getting a new UL solution listed. Once listed, you would need the handheld fire extinguisher to go through the testing procedure for class A, B, C, and D. Member Knowles mentioned that he is not aware of any unit on the market that has accomplished that.

Member J.R. Nerat mentioned that him and Member James Knowles had a pretty heavy debate at the NFPA 10 committee and like Member Knowles stated earlier, they wanted to bring that knowledge to the committee group. Member J.R. Nerat mentioned the first thing that he came away with from the committee is that lithium-ion batteries are not a new concern. The NFPA 10 committee dealt with them well over ten years ago with the airline companies. Member Nerat stated that lithium-ion batteries are primarily considered a class B or class A vapor fire depending on the housing. He reiterated the main point that Member Knowles stated earlier with lithium-ion batteries, which is, when they overheat and start to burn, there is no access to it. He stated if you can't get the extinguishing agent on to it, you will not be able to put it out.

Member J.R. Nerat mentioned to really understand lithium-ion battery fires, there is three ways to identify the susceptibility of these battery fires. He mentioned one has to do with the purity of the battery, there is no industry standard on the construction of lithium-ion batteries. He stated, that due to poor construction of these batteries in a lot of third world countries, the batteries are much more susceptible to catching on fire. The second notable issue that could happen, is during charging. Sometimes the batteries can overheat and catch fire. Third cause Member Nerat mentioned is impact on the battery itself, this can cause these batteries to catch fire as well. Member J.R. Nerat stated another big take away from NFPA 10 was, that people need to be conscious when dealing with an incipient battery that has caught on fire. In some of these cases, they can explode. Member Nerat stated that lithium-ion battery fires are a long-term problem and the industry and NFPA 10 has not agreed upon a real solution to these types of fires.

Member James Knowles stated that the conversation about this topic is very complex and trying to classify this type of fire will be difficult and will not have an answer in the near future. Member Knowles mentioned that he does not see a classification for lithium-ion battery fires anytime in the near future.

Member J.R. Nerat stated that he would caution anyone who reads information online about this topic and where the content comes from. He mentioned that there is a lot of information online about testing for lithium-ion batteries and agents that have been tested to put out these types of fires. Member Nerat cautions a lot of those sites suppling information and test findings because most are not from a reputable source.

Member James Knowles mentioned that he thinks a class C rating is very important. He mentioned when having an energized circuit, that presents itself as a solution, should be rated as a class C, otherwise the operator is threatened.

Member Randy Dysart asked the question with EV vehicles, or storage units that are used in homes have voltages within the parameters of a class C rating?

Member James Knowles stated that a class C rating is 100,000 volts and well within the range. He mentioned that nobody has gotten to that point yet to get a C rating.

Chief Greg Andersen stated that there is a couple of standards out there that are very specific when you look at energy storage standard systems. Chief Andersen is aware that there is a testing standard for vehicles like

EV cars but is not familiar with that standard and is waiting for a manufacturing standard that is acceptable.

Member James Knowles stated that working for Amerex, his business deals quite a bit with road buses. He stated that there is no standard out there that regulates the protection of lithium-ion battery powered mass transit vehicles.

Chairperson Brice Bennett stated why he wanted to bring this topic of lithium-ion batteries to the committee. He gave some examples of different situations that he has come across in the field or has heard of dealing with EV vehicles catching on fire. Chairperson Brice Bennett mentioned that every vehicle was handled differently with no real solution. He stated that it would be a good topic to start to discuss with the committee and get everyone's thoughts.

Member J.R. Nerat stated that he wants to make sure people understand from an OSHA, or safety in the workplace standpoint, when you deal with Federal codes and litigation, you have to be cognizant of the fact a novice person trying to handle a lithium-ion battery type fire, would not understand the danger of explosion try to put out that fire with an extinguisher.

Member Randy Rousseau stated a question for Member J.R. Nerat. Member Rousseau asked what did he and the NFPA 10 committee recommend to the airlines for onboard fires?

Member J. R. Nerat stated that he and the committee recommended some liquid halogenated agents and water-based agents.

Member Marcus Hernandez asked a question to the committee if anyone has recently asked a manufacturer of consumer size batteries what they recommend?

Member James Knowles answered that he is not aware of any conversation that has been had about that and is not aware of an answer to that question.

Member J.R. Nerat followed up to Member Hernandez's question by stating, the only real solution fire departments are using on EV type fires is isolation and storage. He mentioned the only real way to help prevent these types of fires to homes, buildings, is education. He stated anything that is an EV rated vehicle can be a hazard and can start fires if damaged.

Member James Knowles stated that he agrees with Member J.R.Nerat that education and best practices will help prevent some of these type battery fires.

Member Randy Dysart asked the question, does temperature itself play a part in stopping off gassing?

Member James Knowles stated that ambient temperature will have an effect but not a noticeable effect. He mentioned that it would not be a preventative measure.

Member J.R. Nerat stated that all batteries are sealed, and you would need to access what's going on inside the battery, which would require some sort of penetration or breach. Member Nerat stated depending on the size of the battery, there is no one approach or concept that will work across all batteries.

Chairperson Brice Bennett thanked the committee for the discussion on the topic of lithium-ion batteries and looks forward to further conversations on the subject. Chairperson Brice Bennett mentioned that the conversation with the committee is a good venue for us to be responsible as the portable fire extinguisher committee within California, so we can help give recommendations to the public.

Member James Knowles stated his biggest concern more than anything is vape pens. He mentioned that more people are getting burned or house related fires has been from vape pens and people not using common sense practices.

Member Randy Rousseau mentioned an outdoor event coming up soon and working with organizers, he mentioned the number one concern was fires in RV's started from kids remote controlled cars overheating while charging.

Jon Joseph asked a question to Member J.R. Nerat; how many fires are occurring during charging versus not charging?

Member J.R. Nerat answered that there is no real standard answer to that question. He mentioned from the data that he has seen, most fires are from impact driven batteries, not during the charging phase.

#### 4. OPEN FORUM

Chairperson Brice Bennett opened the floor to open forum.

Member Darrell Hefley stated that he wanted to bring up the discussion again about the package that is going to go through based on NFPA 10, 2018 edition. He mentioned that he and the committee have held off discussing what would be done on an ongoing basis to review NFPA 10 editions that come out. He mentioned to the committee on making this an agenda item on the next committee meeting. He wanted to further discuss how often we should review NFPA 10 additions with the possibility of regulation changes for Title 19.

Member J.R. Nerat stated that NFPA 10 standard for portable fire extinguishers has gone with a four-year cycle.

Member Darrell Hefley suggested to Chairperson Brice Bennett that since we are on a four-year cycle reviewing NFPA 10, could the committee meet more frequently to discuss NFPA 10 and any additions to avoid having several additions go by without review. He mentioned coming up with some standard within the committee to have a process that constantly looks at whether any new things should be added to Title 19.

Chief Greg Andersen mentioned that the division is in the process of hiring a regulations coordinator to deal with these exact issues. Chief Greg Andersen agreed on making that a topic for the next meeting.

Member J.R. Nerat stated that he is on the NFPA 10 committee and has been asked by a couple people if something could be done about the different language and font size on the name plates of extinguishers. He mentioned that if any of the committee members have any suggestions, to reach out to him independently.

## 5. PUBLIC COMMENT

Chairperson Brice Bennett opened the floor to public comment.

Chairperson Brice Bennett mentioned for rest of the meetings this year, will be looking to have the meetings on the third Tuesday of each quarterly month. He also mentioned that we will still be alternating each meeting from Northern and Southern California. The next meeting will be held in Riverside.

Member Randy Dysart mentioned a conflict or challenge with tags, labels, collars etc. He mentioned a license number is not generated until after inspection and process is complete. Member Dysart asked if there is a way to get a temporary license number issued with new applications?

Chairperson Brice Bennett stated that the system does not allow us to generate a license until the inspection and process is complete.

Chairperson Brice Bennett stated that he would get back to Member Dysart on that question.

## 6. MEETING ADJOURNMENT

A motion to adjourn was made by Member Marcus Hernandez and seconded by Member J.R. Nerat. Motion was carried with a unanimous vote to adjourn the meeting. Chairperson Brice Bennett adjourned the meeting at 10:23 A.M. (PDT).