

Statewide Fire Prevention Code (SFPC) Sub Workgroup Meeting Summary

March 7, 2022 9:00 a.m. – 9:54 a.m.

Virtual Meeting: <https://vadhcd.adobeconnect.com/va2021cdc/>

ATTENDEES:

VA Department of Housing and Community Development (DHCD) Staff:

Jeff Brown: *State Building Codes Director, State Building Codes Office (SBCO)*

Richard Potts: *Code Development and Technical Support Administrator, SBCO*

Florin Moldovan: *Code and Regulation Specialist, SBCO*

Paul Messplay: *Code and Regulation Specialist, SBCO*

Travis Luter: *Code and Regulation Specialist, SBCO*

Jeanette Campbell: *Administrative Assistant, Building and Fire Regulations (BFR)*

Sub Workgroup Members:

Andrew Milliken: *Virginia Fire Services Board (VSFB), Chairman of Fire Codes and Standards Committee*

Dustin Wakefield: *Virginia Department of General Services (DGS), Division of Engineering and Buildings (DEB)*

Joshua (Jay) Davis: *State Fire Marshal's Office, Virginia Department of Fire Programs (VDFP)*

Linda Hale: *Virginia Fire Prevention Association (VFPA)*

Jimmy Moss: *Virginia Building and Code Officials Association (VBCOA)*

Steve Shapiro: *Apartment and Office Building Association (AOBA)*

Other Interested Parties:

Ron Clements: *Chesterfield Building Official, member of VBCOA*

Randy Grumbine: *Factory-Built Housing, Virginia Manufactured and Modular Housing Association (VAMMHA)*

Robert Davidson: *Davidson Concepts*

Shahriar Amiri: *Arlington County Building Official*

Sean Farrell: *Prince William County, member of VBCOA, member of BHCD*

Sub Workgroup Members Not in Attendance:

Mike O'Connor: *Virginia Petroleum and Convenience Marketers Association (VPCMA)*

Lou Wolf: *SBW Architects, American Institute of Architects (AIA), Virginia Chapter*

Matthew Lannon: *Virginia Restaurant, Lodging & Travel Association (VRLTA)*

Jodi Roth: *Virginia Retail Federation (VRF)*

Welcome:

Jeff Brown: Welcomed members to the meeting and let them know that DHCD staff could assist with any questions.

Discussion:

Jeff: Gave an overview of the agenda. There were three items carried over from the last meeting, and one new Sub-workgroup proposal (FP 103.1)

Proposals**FP103.1 (SFPC SWG Proposal No.1) – 21**

Jeff: Summarized the proposal, which was developed after the last SFPC sub-workgroup meeting. It contains the changes that were initiated by the Virginia Fire Services Board – Code and Standards Committee, and were all consensus for approval by this group. He asked all members to review the document for accuracy, which is located on the cdpVA website or in the file pod on the left in the Adobe meeting room. There are still a few days available to make any edits or corrections if needed before the March 12 cutoff date to include in the April general workgroup meeting.

Revised SFPC Section 901.4.3

Jeff: This proposal was carried over from the last meeting. Andrew revised the text according to the feedback. The document was shared on-screen with the original text and the revised text.

Andrew Milliken: This is an update from the last section that was not quite consensus. Dustin provided some updated language to clarify that it was about occupied structures.

Jeff: Asked if there was any further discussion from the group, and since there was none, this was marked as consensus for approval (CA). This will be added to the group of other proposals that are consensus for approval. Andrew will update cdpVA.

Revised SFPC Section 3107.13.2

Jeff: This was carried over from the last meeting. The issue was trying to get back to the IFC table, which was deleted from the SFPC. The group decided not to reference the table in the IFC. In this revision, the table from IFC 6104.3 was brought back into the SFPC here into section 3107.13.2.

Andrew: His suggestion is to put it back into 6104.3 following the model code, as long as everyone agrees that it refers to outdoors, and not construction.

Shahriar: Above ground LP gas systems, depending on the capacity, have a required separation from buildings and adjacent property that can be built on. In the case where he is, most buildings are podium buildings which have a parking garage 3-4 stories deep, and a plaza level, which is a building sitting on top of a building. What would this mean in Arlington, where there's a shortage of land, and everything goes on top of the roof? How would the separation distance apply in this case?

Andrew: NFPA 58, the standard for installing LP gas systems, provides specific requirements for when they have to be on the roof or in the building.

Jeff: This table was initially deleted, as it was being left under the IFC. Now, it is being put back in as a reference to tent or membrane structures.

Andrew: Yes, this is for outdoor installations.

Jeff: This is the reason for putting it in section 3107.13.2 instead of back in chapter 61.

Florin: This proposal was already agreed upon by the group. The only change that the DHCD staff made was to incorporate the table into the SFPC and change the numbering. This was done instead of referencing the IFC table 6104.3, which would only compile the existing confusion about which code to use. This kept the intent of the change the same, so DHCD staff haven't changed anything that wasn't already agreed on.

Jeff: Andrew suggested to bring the table back into the original section 6104.3 in the SFPC.

Florin: This table may be referenced in other sections as well, so that would need to be considered.

Sean Farrell: If this table goes back into chapter 61, to Shahriar's point, it would impact the installation of these containers everywhere. If the table remains in 3107, it would cover just those tent areas. If that's correct, I would be in favor of it being in 3107 but not in chapter 61.

Florin: Agrees

Jay Davis: Agrees. He is in favor of putting it in 31, but not in 61.

Florin: Is anyone opposed to putting it in 31, or are there any other concerns? Remember, the content was already agreed upon in the last meeting. With no further comments, this will be marked as consensus for approval (CA). DHCD staff will add it to cdpVA for Andrew to review.

Jeff: This proposal and the last one will be added to FP103.1 (SFPC SWG Proposal No.1) and be submitted in cdpVA as one proposal, by DHCD staff on behalf of the SFPC sub-workgroup.

SFPC Section 1207

Florin: This section is on the agenda to set the stage for a broader conversation in our next meeting. In the last meeting, the group approved several modifications to section 1207. It was also agreed that referencing the IFC was not the best idea, as it might lead to confusion. Looking closer at 1207, it seemed that there was some confusion about provisions applicable to mobile energy storage systems, which should fall under construction code. For example, when units are in a building, being recharged and getting ready for recommission and deployment. The more applicable location for this is the VCC. The SFPC should only include provisions for maintenance and operations. There was also discussion surrounding this in the VEBC workgroup meeting, and it was referred to the SFPC sub-workgroup. There are also some discussions, outside of this sub-workgroup, by other stakeholders about bringing the 2024 IFC Energy Storage System provisions into the 2021 VCC. This item is open for discussion, but it will set the stage for the next sub-workgroup meeting to work out where the provisions should be located.

Shahriar: There's been a lot of discussion about charging stations in Arlington and Northern Virginia, including building officials, fire personnel, manufacturers, energy advocates and others. There was a major building in Crystal City which attempted to put a Tesla mega-pack in use as a 5G backup. Shahriar denied the permit. Cars are not regulated by the building officials, but the damage they can cause can be extensive. New York City has recently had 10 fatalities from faulty batteries. If a car catches on fire, it takes an estimated 5-9 hours and 30,000 gallons of water to put it out. Even after that, a fire may reignite and burn until it is fully burned out. Thermal runoff from lithium-ion batteries has great toxicity both in water and fumes, and can actually penetrate the skin. In addition to charging stations and electric vehicles, other companies are using large battery packs for emergency generators and backup energy. One proposal they want to create is a section in chapter 4 of the VCC for special occupancy energy storage units, which would bring in section 1207 of the 2024 IFC, and put it in the VCC for new construction requirements. Ongoing testing and maintenance would be added to the SFPC. They are also looking at electric charging stations. Does it merit additional sensors, early warning, moving the lower-level charging stations up toward the surface? This technology changes quickly, so discussion is needed now. Some stations now have signs saying that particular car makes cannot use the station, due to the potential fire hazard.

Florin: Is there a time expected for the submission of this proposal?

Shahriar: There are a lot of details to be worked out, especially because there are many variables for fire protection used in energy storage systems. There's a meeting scheduled for March 15 to discuss a draft. Knowing that the deadline is May 1st, they will attempt to work within those parameters.

Florin: There are several references to energy storage systems in the 2021 IBC and VCC that will also need to be coordinated.

Jay: This is fascinating. He would be interested in joining the meetings for situational awareness. He doesn't necessarily deal with below-ground level charging stations. However, there are several large buildings with large deep cell power sources in trailers used for backup and alternate energy. If it takes 5 hours and 30k gallons of water for one car fire, as well as toxic runoff, this kind of storage would be many

times worse. This is important for the VCC, including placement in proximity to buildings and firefighting needs.

Shahriar: He appreciates the collaboration between Building Officials and Fire Officials.

Sean: Section 307.1.1 of the VCC addresses battery storage and energy systems. However, this may not be the best location for the reference to the storage systems in the IFC. He would also like to sit in on the conversations with the group Shahriar spoke of.

Shahriar: There are many fire officials from various Virginia localities in the discussions, as well as UL and other laboratories. To Jay's point, there was a charging station proposed on a rooftop in Arlington, which was the size of two 18-wheel trailers.

Sean: They have industries in Prince William County reaching out to him for modification requirements to these types of systems. The conversation is needed.

Shahriar: The other struggle is that building code doesn't have retroactive requirements. Electric vehicle charging comes in after the buildings have already been built. Condominium owners are asking for the stations to be installed in existing buildings. Part of the conversation is how to alert the fire department and get them early warning and ventilation. If there's a lithium-ion battery, it cannot be put out until it burns out, which is extremely dangerous.

Sean: A 500 space garage, with 250 spaces utilizing battery charging stations could be disastrous.

Shahriar: Currently, the Amazon building in design has 200 electrical charging stations below grade to G-4 level. He sent the revised meeting invite to Jeff for distribution to this sub-workgroup.

Jeff: Will send the link out after this meeting.

Other / Next steps / Next meeting:

Florin: Asking for further discussion, and none was offered. He summarized what was discussed, including adding the CA items to the group proposal in cdpVA. The next meeting will contain additional discussion about 1207. The meeting date hasn't been set yet, but the invite and agenda will be distributed beforehand. He thanked everyone for participating.