

FIRE CODE EDIT WORKGROUP
March 17, 2020
Adobe Connect Remote Meeting

Attendees:

Mike O'Connor	VPCMA
Elizabeth Rafferty	Williams and Mullen
Todd Strang	Spotsylvania Fire Marshal
Ernie Little	VFPA
Garrett Dyer	SFMO
Andrew Milliken	Stafford County
Jimmy Moss	VBCOA
John Catlett	Code Consultant – Booster Fuels
Shaun Pharr	VAMA
Russell Furr	Alexandria Fire
John Walser	Fairfax County Fire
Greg Long	MWAA Fire Marshal
Linda Hale	Loudoun County Fire
Cindy Davis	DHCD
Jeff Brown	DHCD
Richard Potts	DHCD
Thomas King	DHCD

Note: No members of the Board of Housing and Community Development attended the subworkgroup meeting.

Welcome and Introductions.

5701.2

FSB Comments: Restores critical exemptions. This section generally acknowledges that some flammable and combustible liquids are regulated by other laws or provisions of this code.

Consensus Approval

5701.3

FSB Comments: Restores important references and clarifications. The specific design, construction and maintenance requirements for storage of flammable liquids is in more than one document.

Consensus Approval

5703.1

FSB Comments: Restores reference to Chapter 6 and NFPA 70.

Consensus Approval

5703.1.1

FSB Comments: Restores the limits and exceptions for classified areas while also clarifying areas are to be classified in accordance with the applicable building code.

TABLED – Need to remove construction language

Table 5703.1.1

FSB Comments: Table for the above.

TABLED – See above

5703.1.2

FSB Comments: Removes installation language and provides maintenance language, also this restores and exception.

TABLED – Need to remove construction language

5703.1.3

FSB Comments: This is important language from the IFC in cases not regulated by the applicable building code. There may be situations where the code does not specifically cover the hazardous location that should have Class I electrical equipment and wiring.

Recommendation: Removes the word “Specifically covered”

Approved as Amended

5703.2

FSB Comments: Provides reference to Chapter 9 for fire protection system maintenance.

Recommendation: Check with DEQ for conflicts.

Consensus Approval (see recommendation)

5703.6

FSB Comments: Restores editorial scoping language.

Consensus Approval

5703.6.1

FSB Comments: Restores scoping language and references to other state and federal agencies.

Consensus Approval

5703.6.3

FSB Comments: Modified this section to only apply to piping believed to be leaking, see 5703.6.2.3.1.

Withdrawn

5703.6.3.1

FSB Comments: Restores important guidance about dangerous testing arrangements as well as expense responsibilities. The fire code official may require testing of existing piping. Existing piping is to be tested to the same criteria as new piping, except that piping containing flammable or combustible liquids is not to be pneumatically tested. The introduction of air into these pipes can create a vapor and air mixture that reaches the flammable range.

Recommendation: Changes the language to “the applicable building code”

Approved as Amended

5703.6.4

FSB Comments: Restores maintenance sections regarding vehicle impact protection.

Recommendation: Changes “shall be provided” to “shall be maintained”

Approved as Amended

5703.6.5

FSB Comments: Restores maintenance for corrosion protection. Deterioration of piping and components can cause leaks and spillage of flammable and combustible liquids. Using noncorrosive materials, protective coatings, galvanic protection or a combination of these methods can protect the piping and components.

Consensus Approval

5703.6.8

FSB Comments: Restores piping support maintenance requirements. Pipe supports are necessary to reduce stress on the pipe from both external and internal sources.

Recommendation: Reworded to change from language that could be interpreted as a retrofit mandate.

Approved as Amended

5703.6.10

FSB Comments: Restores maintenance language to ensure that all joints are liquid tight. Pipe joints are to be liquid tight. The code recognizes only three types of generic mechanical joints as being adequate for pipes carrying flammable and combustible liquids

Consensus Approval

5704.2.5

FSB Comments: The vapor from flammable and combustible liquids can cause an explosion when the vapor-air mixture is in an explosive ratio. Explosion control is required to be maintained in a facility storing certain liquids.

Consensus Approval

5704.2.7

FSB Comments: Added last minutes to address a missed provisions related to maintenance.

Consensus Approval

5704.2.7.4

FSB Comments: Restores reference to NFPA 30, exposure to external fire would heat a stationary above-ground tank to a greater volume of flammable vapor.

TABLED for DEQ discussion

5704.2.7.6

FSB Comments: Restores reference to NFPA 30 and a pointer for applicable building code.

Consensus Approval

5704.2.8.5

FSB Comments: Restores technical guidance while pointing back to the applicable building code. Anchoring of a tank prevents it from floating away.

Consensus Approval

5704.2.8.9

FSB Comments: Restores technical guidance as well as reference back to 5004.3.

Consensus Approval

5704.2.8.11

FSB Comments: Restores important operational criteria that must be maintained if required.

Recommendation: Check with DEQ.

Consensus Approval – See recommendation

5704.2.9

FSB Comments: Restores editorial scoping language for 5704.2.9 and restores important language for tanks that are in violation of the code requirements that was applicable when installed or approved.

Consensus Approval

5704.2.9.1

FSB Comments: For existing, noncompliant above-ground storage tanks that constitute a hazard, such as an underground tank being used above ground, straightforward guidance and a clear-cut authorization, as provided by this section, to remove the tank is needed. These situations are different from an abandoned or out-of-service tank.

Consensus Approval

5704.2.9.3

FSB Comments: Restores reference to NFPA 30 and applicable building code.

Consensus Approval

5704.2.9.4

FSB Comments: Restores reference to NFPA 30 and provides editorial scoping language.

Consensus Approval

5704.2.9.5

FSB Comments: None, added last minute to address a section previously deleted.

Consensus Approval

5704.2.9.5.1

FSB Comments: Changed language from construction to maintenance and operation.

Consensus Approval

5704.2.9.5.2

FSB Comments: Tanks storing Class IIIB liquids and connected to fuel-burning equipment, however, are subject to overfill protection requirements in accordance with Section 5704.2.7.5.8

due to the potential for the creation of hazardous conditions as discussed in the commentary to that section.

Consensus Approval

5704.2.9.7.5

FSB Comments: Restores operational requirements for overfill prevention. To prevent spillage during filling, above-ground tanks must be limited to 95 percent of their capacity by an overfill protection system. Several methods are acceptable that provide design flexibility utilizing either an audible or visible alarm when the tank becomes 90-percent full, including draining the fill hose into the above-ground tank without exceeding the 95-percent capacity; an automatic shutoff at 95-percent full; or a means of reducing the fill rate to not more than 15 gallons per minute (gpm) (0.95 L/s) so that, at that reduced flow rate, the tank will not overfill for 30 minutes, after which the fill flow will stop automatically.

Recommendation: Check with DEQ for the firm number of flow rates (Mike O'Connor)

Approved as Amended – See recommendation

5704.2.9.7.5.2

FSB Comments: Restores operational requirements and an additional safety measure for the filling procedure.

Consensus Approval

5704.2.9.7.6

FSB Comments: Restores operational requirements

Consensus Approval

5704.2.11

FSB Comments: Restores editorial scoping language for the following subsections. Underground tanks are exposed to conditions not associated with above-ground tanks. Leakage of flammable and combustible liquids is harder to detect. Protection from loads being placed on top of or adjacent to the underground tank is needed to prevent damage to the underground tank. The underground tank must be protected from flooding and from floating in areas having a groundwater table that may be above the bottom of the underground tank.

Consensus Approval

5704.2.11.3

FSB Comments: Restores operational requirement for spill container and reference to NFPA 30 for overfill protection.

Consensus Approval

5704.2.11.4

FSB Comments: Leakage from underground tanks is to be detected by either monitoring or an approved leak detection system.

Consensus Approval

5704.2.11.4.2

FSB Comments: Leakage detection systems must be maintained in accordance with NFPA 30.

Consensus Approval

5704.3.3.5

FSB Comments: Shelf storage is not regulated by the building code. Shelving for containers and portable tanks is to be adequate to support the container and portable tank under normal loads and seismic loads. Failure of shelving could cause damage to containers and portable tanks or leakage.

Consensus Approval

5704.3.3.5.1

FSB Comments: Shelf storage is not regulated by the building code.

Consensus Approval

5704.3.3.6

FSB Comments: Operational maintenance of aisle widths. Rack storage indicates that a larger quantity of flammable and combustible liquids is available for use. Requiring a minimum aisle width of 4 feet (1219 mm) between racks and a minimum main aisle width of 8 feet (2438 mm) provides room to access the flammable and combustible liquids while reducing interference with other racks or other containers and portable tanks.

Recommendation: Adds “unless otherwise approved” after the specific requirements for aisle width.

Approved as Amended

5704.3.4

FSB Comments: Restored editorial scoping language for the following subsections. The quantity of flammable and combustible liquids in an area is limited to reduce the potential fire hazard.

Consensus Approval

5704.3.4.1

FSB Comments: Adjusted the language to indicate that quantities exceeding the MAQ require approval by the Building Official. Whereas Table 5003.1.1(1) lists the MAQs for occupancies other than Group M, Table 5704.3.4.1 lists the flammable and combustible liquid MAQ for Group M occupancies.

Recommendation: Change the specific Table reference to “applicable building code”.

Approved as Amended

Table 5704.3.4.1

FSB Comments: Restores reference to the table for wholesale or retail sales.

Tabled – Supplemental Historical Document

5704.3.4.2

FSB Comments: Restored key exceptions to quantity limits while maintaining that quantities above the MAQ must be approved by the Building Official.

Recommendation: Modified to refer to building official and as approved.

Approved as Amended

5704.3.4.3

FSB Comments: Restored key exceptions to quantity limits.

Recommendation: Alter language to refer to applicable building code instead of the specific sections that a Building Official must approve under.

Approved as Amended

5704.3.4.4

FSB Comments: Restores key provisions for quantities under the minimum to be regulated by the code.

Recommendation: None

Approved as Amended

5704.3.5

FSB Comments: Restores editorial scoping language for the following subsections. The location of flammable and combustible liquids in a control area can increase the fire hazard.

Consensus Approval

5704.3.5.1

FSB Comments: Restores the technical criteria while pointing to the Building Official for approval. The storage of Class I liquids in basements in amounts not exceeding the MAQ in Table 5003.1.1(1) (including the increases allowed by the table notes) is allowed by this section. Since storage is typically thought to be a safer condition than any use condition (no transport, no transfer, and so on. storage in a basement of amounts at least equal to what is allowed for use-open system MAQs in a basement (Section 5705.3.7.2) is allowed.

Recommendation: Remove reference to the table and alter to refer to as approved with the applicable building code.

Approved as Amended

5704.3.7.2.2

FSB Comments: Pile and storage arrangements are typically not regulated by the building code so this section provided technical guidance for proper storage. Aisles in a liquid storage room are to be maintained to the same aisle criteria as for rack storage. A minimum aisle width of 4 feet (1219 mm) between piles and a minimum main aisle of 8 feet (2438 mm) is to provide clearance for personnel to access the flammable and combustible liquids without interference with other piles.

Recommendation: Alter the text to refer to the compliance within this section instead of blanket requiring that separation in aisles have proscriptive requirements.

Approved as Amended

5704.3.7.3

FSB Comments: Restores reference to associated sections as well as indicating compliance with the applicable building code.

Recommendation: Add the phrase “Where provided or required...” to the start of the section.

Approved as Amended

5704.3.7.4

FSB Comments: Restores reference to associated sections as well as indicating compliance with the applicable building code.

Recommendation: Add the phrase “Where provided or required...” to the start of the section.

Approved as Amended

5704.3.7.5

FSB Comments: Restores reference to associated sections as well as indicating compliance with the applicable building code.

Consensus Approval

5704.3.7.5.1

FSB Comments: None

Consensus Approval

5704.3.8

FSB Comments: Provides additional guidance regarding the arrangement of storage in liquid storage warehouses.

Consensus Approval

5704.3.8.1

FSB Comments: Provides additional guidance regarding the arrangement of storage in liquid storage warehouses.

Recommendation: Add the phrase “Unless otherwise approved by the applicable building code” to the beginning of the last sentence.

Approved as Amended

5704.3.8.1.1

FSB Comments: Additional guidance for storage arrangements in liquid storage warehouses.

Consensus Approval

5704.3.8.1.2

FSB Comments: Additional guidance for storage arrangements in liquid storage warehouses.

Consensus Approval

5704.3.8.2

FSB Comments: Minor changes and additional references to maintenance requirements.

Consensus Approval

5704.3.8.3

FSB Comments: Minor changes and additional references to maintenance requirements.

Recommendation: Adds the phrase “shall be operated and maintained in accordance with...”

Approved as Amended

5704.3.8.4

FSB Comments: Minor changes and additional references to maintenance requirements.

Recommendation: Restructure the sentence to begin by referencing that “Automatic sprinkler systems...” are what is being regulated.

5704.3.8.5

FSB Comments: Restores the option for maintaining hose lines when approved by the fire code official. The requirements for hose lines stated in this section are consistent with the requirements of Chapter 9.

Recommendation: Adds the phrase “Where provided or required by the applicable building code...” to the beginning of the section.

Consensus Approval

5704.4.3

FSB Comments: Restores reference to maintenance requirements as well as an exception.

Tabled for applicability to building code fixes

5704.4.7

FSB Comments: Weather protection is not required for outdoor storage; however, where an overhead structure is erected, it must conform to the requirements of Section 5004.13. The code reference notes that an open structure consisting of only a noncombustible roof structure does not change the storage facility to indoor storage.

Tabled for applicability to building code fixes

5705.3.6.2.3

FSB Comments: Simply added NFPA 13 reference for clarity. This section lists four restrictions on solvent quantities in machines.

Tabled

5705.5

FSB Comments: Added NFPA 13 and 13R reference for clarity. Alcohol-based hand rubs are essential in health care occupancies for controlling the spread of unwanted infectious microorganisms.

Consensus Approval

5705.5.1

FSB Comments: They are portable devices not regulated by the building code. Though these provisions are not occupancy specific, in health care occupancies, hand-rub dispensers are often located in the patient room. But due to a variety of clinical issues, including patient population (psychiatric and pediatric patients), care delivery models (teaching hospitals with multiple residents in contact with patients) and patient room space constraints (lack of available space for mounting a dispenser away from constricted traffic flow, electric outlets and electric switches), mounting the dispenser in the patient room may not be possible or may compromise effective patient care. In these instances, dispensers mounted in the corridor best meet the clinical needs.

Consensus Approval

5706.2.6

FSB Comments: Restored references to maintenance requirements. Indoor above-ground storage tanks must be maintained to control leaks and spills to prevent the spread of liquid and vapors.

Recommendation: Adds the phrase “Where provided or required by the applicable building code...” to the beginning of the section.

Approved as Amended

5706.3.3

FSB Comments: Restores editorial scoping language for the following subsections. Sumps and basins may be necessary to temporarily store drilling materials that may contain petroleum products. The use of sumps and basins is regulated to control their size, service life and security.

Consensus Approval

5706.3.3.3

FSB Comments: Security is an operational issue. Security for the open storage of oil or petroleum products in sumps, basins and ditches is needed to prevent unauthorized access. Individuals may not realize the hazard presented by this open storage and accidentally introduce ignition sources.

Consensus Approval

5706.4.2

FSB Comments: Restores the technical provisions to highlight the intent of the requirement.

Consensus Approval

5706.4.4

FSB Comments: Restores guidance regarding the use of natural ventilation. The low flash point for Class I liquids requires that where Class I liquid is present, the area is to be ventilated to prevent the accumulation of a vapor-air mixture above the LFL. Ventilation can be either mechanical or natural.

Consensus Approval

5706.4.9

FSB Comments: Restored the reference to 5704.2.10. Flammable and combustible liquids that leak or spill from a tank must be controlled by dikes and drainage.

Recommendation: Changes “provided” to “shall be maintained”.

Approved as Amended

5706.4.10

FSB Comments: Restored the reference to Chapter 9 and the following subsections.

Consensus Approval

5706.5.1.2

FSB Comments: Restored operational placement criteria for weather protection canopies. Also restored the reference to 5705.3.7.5.1.

Recommendation: Trim the section down to remove the proscriptive requirements and limits the provisions to “maintained in accordance with the applicable code.”

5706.5.1.3

FSB Comments: Restored operational placement criteria for weather protection canopies. Also restored the reference to 5705.3.7.5.1.

Recommendation: Removes the reference to Section 5705.3.7.5.1

Approved as Amended

5706.5.1.5

FSB Comments: Restored reference to maintenance requirements.

Recommendation: Removes reference to Section 5703.4.

Approved as Amended

5706.5.1.6

FSB Comments: Where flammable or combustible liquids are present, spills must be controlled to prevent the spread of liquid and vapors.

Consensus Approval

5706.8.1

FSB Comments: Restored the reference to 5704.2.7.3. A vapor-recovery system must be maintained with an independent system for venting overpressure or a vacuum. An overpressure condition can damage the vapor-recovery system, creating leaks or other damage. The leak or damage could allow the vapor from a flammable or combustible liquid to escape and generate a vapor-air mixture in the flammable range.

Withdrawn

5803.1

FSB Comments: Provides guidance as to what particular sections apply. This instruction is removed in the current version. When the amounts stored or used do not exceed the maximum allowable quantities per control area (MAQs), certain factors that must be adhered to include systems and processes, release of hazardous materials into the air, Material Safety Data Sheets (MSDS), hazard identification signs, and sources of ignition requirements.

Recommendation: Adds the phrase “in accordance with the applicable building code” to the middle of the section.

Approved as Amended

5803.1.1.2

FSB Comments: Restored proper reference to the MAQ for quantities used for maintenance and equipment purposes. Table 5003.1.1(1) and the applicable building code contains categories of storage, use-closed systems and use-open systems.

Recommendation: Remove reference to the Table.

Approved as Amended

5803.1.5

FSB Comments: Restores the reference to Chapter 6 and NFPA 70 for maintenance of electrical equipment.

Consensus Approval

5804.1

FSB Comments: Provides guidance for when quantities exceed the MAQ. The current language does not provide any guidance. Sections 5003.1 through 5003.11 give the requirements for the indoor storage of flammable gases; equipment; maintenance; markings and signs.

Recommendation: Inserts “shall be maintained” before “in accordance with the applicable...”

Approved as Amended

5804.1.1

FSB Comments: Changes construction language to maintenance language for explosion control systems.

Consensus Approval

5806.2

FSB Comments: Restores proper reference to potential local ordinances as noted in the IFC.

Consensus Approval

5807.1.10

FSB Comments: Provides reference to Chapter 6 for maintenance of electrical equipment to be consistent with other sections.

Consensus Approval

5808.2

FSB Comments: Restores critical guidance for where operations are to be conducted to avoid disaster. Restrictions against installation of hydrogen fuel gas rooms below grade are similar to those restricting the location of flammable and combustible liquids in basements.

Consensus Approval

5808.3

FSB Comments: Explosion hazards are the primary concern, and placement of materials that have an ability to cause an explosion in below-grade spaces is not appropriate. Such spaces are more difficult to evacuate, create a fire and explosion hazard to the structure above and are very difficult for the fire department to access.

Recommendation: Adds the phrase “Unless otherwise approved by the applicable building code...” to the beginning of the section.

Approved as Amended

5808.4

FSB Comments: Adds operation language in addition to the maintenance requirements.

Consensus Approval

5808.5

FSB Comments: Adds operation language in addition to the maintenance requirements.

Consensus Approval

5808.5.1

FSB Comments: Continues to delete construction requirements while restoring sections on operations.

Consensus Approval (Deleted)

5808.5.2

FSB Comments: Continues to delete construction requirements while restoring sections on operations.

Consensus Approval (Deleted)

5808.5.3

FSB Comments: The local alarm is intended to alert the occupants to an emerging hazardous condition in the vicinity. The monitor control equipment must also initiate operation of the

mechanical ventilation system in the event of a leak or rupture in the gaseous hydrogen system to prevent an accumulation of flammable gas.

Recommendation: Alters the text so that it's clear that at no time can flammable gas exceed 25% of LFL

Approved as Amended

5808.5.4

FSB Comments: Gas detection systems must be maintained to be self-monitoring and fail-safe in that all safety systems are activated to alert any occupants that a problem exists and to prevent more hydrogen from being generated by any appliances in the room when hazardous conditions cannot be monitored.

Recommendation: Adds the phrase “Unless otherwise required by the applicable building code...” to the beginning of the section.

Approved as Amended

5808.6

FSB Comments: Restores reference to Chapter 9 for maintenance of explosion control systems. The requirements of this section are intended to address the circumstance resulting from a catastrophic failure of the hydrogen fuel gas room.

Consensus Approval

5808.7

FSB Comments: Restores reference to Chapter 6 for maintenance of standby power. The ventilation system and gas detection system are life safety systems and, therefore, must be dependable. Both safety systems must remain active in the event of a failure of the primary power supply.

Recommendation: Changes reference from Chapter 6 to Chapter 12.

Approved as Amended

Closing Comments

DHCD Staff and Mr. Milliken noted that they would need to work together prior to the next meeting to address any construction provisions still in Chapter 57 and draft any additional amendments as necessary.