



Second Revision No. 1-NFPA 30A-2022 [Global Comment]

[SEE ATTACHED FILE FOR CHANGES FOR MOBILE FUELING OPERATIONS IN OPEN PARKING STRUCTURES.]

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
30A_SR-1_Mobile_Refueling_Global.docx		
30A_Global_SR-1_Mobile_Fueling_for_ballot.docx	For ballot	

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Tue Oct 25 18:28:13 EDT 2022

Committee Statement

Committee Statement: Measures to safely provide mobile fueling services within open parking structures and different scenarios and practices that were not prudent were considered. The resulting language is intended to provide strict regulations for mobile fueling operations within certain areas of a specific subset of open parking garages where any credible risks posed by the activity are sufficiently mitigated.

Aligning Chapter 14 with the International Fire Code's Section 5707 by permitting tank vehicle aggregate capacities up to 1600 gallons was discussed. This discrepancy causes confusion for the industry. The 1200 gallon aggregate limit was based on the mobile fueling industry's custom-built tankers at the time of initial code adoption (in 2016). The industry has now moved on to 1600 gallon vehicles as the standard.

Response Message: SR-1-NFPA 30A-2022

14.2.7 Buildings and Parking Structures.

Mobile fueling operations shall be prohibited in buildings and in parking structures.

14.2.7.1*

Mobile fueling operations shall be ~~prohibited in buildings~~permitted in open parking structures when approved.

A.14.2.7.1

Because legacy and current building codes restrict motor fuel dispensing in certain parking structures, the original design of a building and the codes in effect at the time of construction, in addition to the existing conditions, should be considered prior to approving new operational activity.

14.2.7.2*

~~Mobile~~When approved, mobile fueling operations conducted in above-ground open parking structures shall be ~~prohibited on or in parking structures unless approved~~comply with 14.2.7.2.1 through 14.2.7.2.16 in addition to the other requirements of this chapter.

A.14.2.7.2

Subsection 14.2.7.2 provides minimum requirements to conduct on-demand mobile fueling in above-ground open parking structures in accordance with 14.2.7.2.1. The authority having jurisdiction can require a mobile fueling operational permit to set forth further requirements and constraints due to local geography, culture, weather, and other considerations. In addition to the requirements in 14.2.7.2, mobile fueling operations should comply with all applicable local, state, and federal traffic safety requirements.

14.2.7.2.1*

Open parking structures shall meet the definition in the jurisdiction's adopted building code.

A.14.2.7.2.1

Where a jurisdiction does not have an adopted building code, the definition of *Open Parking Structure* in NFPA 88A can be used.

14.2.7.2.2

Mobile fueling shall not occur in parking garages where other occupancies exist above or below.

14.2.7.2.3

Mobile fueling operations shall not occur within 7.6 m (25 ft) of attached occupancies.

14.2.7.2.4

Means shall be provided to prevent liquid spills from leaving the dispensing area.

14.2.7.2.5

The attendant shall remain at the dispensing nozzle during fuel flow.

14.2.7.2.6

The mobile refueling vehicle shall not be parked in the parking structure when not performing a dispensing event.

14.2.7.2.7

Mobile fueling vehicles shall comply with Section 14.3.

14.2.7.2.8

Operations shall comply with Section 14.4.

14.2.7.2.9*

Mobile fueling vehicles shall be positioned in a manner to preclude vehicles from driving over the dispensing hose.

A.14.2.7.2.9

A ramp over a hose is sufficient to comply with 14.2.7.2.9.

14.2.7.2.10

Fuel dispensing shall occur at street level.

14.2.7.2.11

The mobile refueling vehicle and the vehicle being fueled shall both be on the same level within the structure.

14.2.7.2.12*

Fuel dispensing shall occur no more than 15 m (50 ft) from openings in exterior walls where the openings are accessible to firefighting apparatus.

A.14.2.7.2.12

Considerations for accessibility include, but are not limited to, an approved driving surface capable of supporting the fire apparatus, required turning radius, and reach of the aerial ladder.

14.2.7.2.12.1

Openings in 14.2.7.2.12 that are exterior walls shall be adjacent to roads, ways, or public streets.

14.2.7.2.13

The simultaneous fueling of more than one vehicle from a single mobile fueling vehicle shall be prohibited.

14.2.7.2.14

Operators shall place a drip pan or absorbent pad under each fuel fill opening prior to and during dispensing operations.

14.2.7.2.14.1

Drip pans and absorbent pads shall be safely removed from the site and handled and disposed of in accordance with local and state requirements.

14.2.7.2.15

Mobile fueling vehicles shall be equipped with a listed shutoff valve assembly and a fuel limit switch set to a maximum of 57 L (15 gal).

14.2.7.2.16

The authority having jurisdiction shall be authorized to specify time-of-day and day-of-week limitations on mobile fueling operations.

14.3.1*

Mobile fueling vehicles shall comply with all applicable local, state, and federal requirements and shall be one of the following:

- (1) A tank vehicle complying with NFPA 385 with chassis-mounted tanks that do not exceed an aggregate capacity of ~~4542 L (1200 gal)~~ 7274 L (1600 gal)
- (2) A vehicle with chassis-mounted tanks, each of which does not exceed 415 L (110 gal), that does not exceed an aggregate capacity of 4542 L (1200 gal);
- (3) A vehicle that carries a maximum of 227 L (60 gal) of motor fuel in listed metal safety cans not to exceed 20 L (5.3 gal) in capacity;



Second Revision No. 2-NFPA 30A-2022 [Global Comment]

[SEE ATTACHED FILE FOR FLEET REFUELING].

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
30A_SR-2_Fleet_Refueling_Global.docx		
30A_Global_SR-2_Fleet_Refueling_for_ballot.docx	For ballot	

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Wed Oct 26 08:32:48 EDT 2022

Committee Statement

Committee Statement: There are operating requirements for the other facilities, but not for fleet facilities. There has been confusion where unattended self-serve facilities are confused with fleet facilities due to the lack of these requirements. This new language clearly identifies the requirements for fleet facilities. AHJs have applied unattended requirements to fleet facilities. There have been cases where AHJs have said that fire suppression requirements are needed where this should not be the case. Therefore, separate requirements were developed such that the AHJ has specific requirements for fleet facilities, where employees can be trained, where unattended self-service facilities are intended for the public.

Response Message: SR-2-NFPA 30A-2022

3.3.15.6 Unattended Self-Service Motor Fuel Dispensing Facility.

A motor fuel dispensing facility that is not a fleet vehicle motor fuel dispensing facility and has no attendant or employee on duty. The customer or vehicle operator conducts the dispensing operation. This includes coin, currency, membership card, and credit card dispensing operations.

9.6 Operating Requirements for Fleet Vehicle Motor Fuel Dispensing Facilities.

9.6.1

The dispensing of motor fuels shall be conducted only by employees or other authorized affiliates of the business or operation.

9.6.2

If dispensing is conducted after normal working hours of the facility or when normal facility telecommunications are not available for use, then a telephone or other approved, clearly identified means to notify the fire department shall be provided on the site in a location approved by the authority having jurisdiction.

9.6.3

A listed, automatic closing-type hose nozzle valve that meets the requirements of 6.6.2 and has a latch-open device shall be provided.

9.6.4

Operating instructions shall be conspicuously posted in the dispensing area.

9.6.4.1

The instructions in 9.6.4 shall include the location of emergency controls and a requirement that the user stay outside of their vehicle and in view of the fueling nozzle during dispensing.

9.6.5

In addition to the warning signs specified in 9.2.5.4, emergency instructions shall be conspicuously posted in the dispenser area.

9.6.5.1

The instructions in 9.6.5 shall incorporate the following or equivalent wording:

Emergency Instructions

In case of fire or spill:

- (1) Use emergency stop button.
- (2) Report accident by calling (specify local fire number). Report location.



Second Revision No. 7-NFPA 30A-2022 [Global Comment]

Chapter 16 Marine Mobile Fueling

16.1

This chapter shall apply to the practice of the dispensing of Class I, II, and III liquid fuels from a mobile fueling vehicle into the tank(s) of a marine pleasure craft, recreation vessels, personal watercraft, and commercial marine vessels less than 272 metric tons (300 tons).

16.1.1

This chapter shall not apply to the following:

- (1) Marine fueling in accordance with Sections 11.8 or 11.9
- (2) Fueling from portable containers in cases of emergency for personal use

16.1.2*

Marine mobile fueling operations shall not be conducted unless approved by the authority having jurisdiction and the owner of the property on which the fueling will occur.

A.16.1.2

When considering approval, see Chapters 11 and 14 and NFPA 303.

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Tue Nov 08 14:19:20 EST 2022

Committee Statement

Committee Statement: Requirements are added to allow AHJs the authority to regulate marine refueling operations as there have been unsafe marine refueling practices witnessed by the committee members. A separate marine mobile fueling chapter was created to eliminate confusion instead of using either fixed marine fueling in chapter 11 or mobile refueling in chapter 14. The 272 metric ton limit is consistent with 11.1.2 and NFPA 303.

Response Message: SR-7-NFPA 30A-2022



Second Revision No. 8-NFPA 30A-2022 [Global Comment]

[SEE ATTACHED WORD FILE FOR REVISIONS TO CHAPTERS 1, 3, AND 15 RELATED TO EV CHARGING AT FUEL DISPENSING FACILITIES].

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
30A_SR-8_EV_Charging_Global.docx		
NFPA_30A_Ch._15_figures_permission_.pdf	Staff use only	
30A_Global_SR-8_EV_Charging_for_ballot.pdf	For ballot	

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Tue Nov 08 14:26:01 EST 2022

Committee Statement

Committee Statement: The scope of the committee is safeguarding against fire and explosion hazards associated storage, handling and dispensing of flammable liquids and control of fire hazard and fire protection. This includes potential sources of ignition/fire hazards and requirements to protect against potential fire risks. Identification of EV Charging as an activity within the scope of the document and addressing potential risks associated with this activity relative to the storage, handling, and dispensing of flammable liquids and gases is appropriate.

Further it is appropriate and consistent with other activities addressed in the code to add a specific chapter to address a unique activity. EV charging is significantly different than the placement of other fixed electrical equipment (e.g., tire inflation machines, vacuum, or vending machines) that may be installed at a motor fuel dispensing facility. Existing codes including Chapter 8 address the EV power transfer systems, but not the vehicle and charging activity or occurrence of temporary hazards (spills, releases) associated with the flammable liquid and gas storage, handling, and dispensing.

Chapter 15 addresses the activity of charging an electric vehicle in proximity to the storage, handling and dispensing of flammable liquids and gases. The EV power transfer system is just one component of the EV charging activity. The scope includes repair garages, and this addition was initially referenced in Committee Input 11.

Responses to Public Comments (PCs) that are Reject but See Related Second Revision SR-8 are below.

PC-32 (Sec 1.2). The PC was partially accepted except for removing the reference to ESS. The proposed chapter is not intended to address charging of an ESS. Section 1.1.6 was revised to align with the scope of Chapter 15 and annex material was added to clarify which codes apply outside of the 100 ft area.

PC-12 (Sec 3.3.8). The comment was rejected but the definition was changed because the previous EVCS definition was too broad. The Electric Vehicle Charging Area was revised to specifically define the area encompassing the charging activity. The EVCA is used for EV Charging Area because the Federal Highway Administration uses the term

EV Charging Space.

PC-14 (SD Sec 3.3.10) A specific reference to NFPA 855 is provided in the revised section 15.4.4.

PC-34 (Global) The committee agrees that EV power transfer systems are different than a tire inflation machine, vacuum or vending machine and that existing codes do not adequately address potential risks associated with EV charging at a motor fuel dispensing facility. Further, once a vehicle is connected to a charger, the combined vehicle, connector, cable and charging equipment are an electrical appliance subject to requirements associated with hazardous (classified) areas.

EV power transfer systems are substantially different than a tire inflation machine, vacuum, or vending machine. EV power transfer systems are significantly higher power units that are part of a fueling activity requiring interaction by a driver to initiate and complete a power transfer. Further, none of the codes identified address EV charging, only the installation of EV Power Transfer systems. While the commenter states that they are “not aware of a single reported injury, death, or loss of property as a result of shock, electrocution, fire, or arc flash due to a hazard arising with the installation or use of electric vehicle power transfer systems at these facilities”, incidences of lithium-ion batteries igniting during charging events or just sitting idle have been reported and have been associated with battery recalls to repair/replace defective batteries. Further, uses and misuse of an EV and the power transfer system over time could affect the performance of this equipment and increase potential ignition/fire risks associated with vehicle charging. In addition, spills and releases from liquid fueling equipment can impact the charging area placing the facility, driver, other patrons, and vehicles at risk.

The deletion of 1.1.6 was rejected. This section is added to clarify that reasonable safeguards associated with the activity of charging an electric vehicle in proximity to the storage, handling and dispensing of flammable liquids and gases is within the scope of this document.

The changes to 1.2 were rejected. Consistent with the scope of this document, the purpose of the proposed chapter includes providing reasonable safeguards for EV Charging at a motor fuel dispensing facility.

The definition for electric vehicle supply equipment (3.3.10) has been deleted and replaced with the broader term EV Power Transfer Systems (EVPTS) described in 70:625 in response to other comments; however, the remaining definitions are important to the understanding of the requirements for EV Charging. These definitions appear in both Chapter 3 and the proposed Chapter 15. NFPA Manual of Style requires all definitions must appear in Chapter 3, but they are also permitted to appear in the administrative section of a chapter. Definitions are extracted from NFPA 70 and NFPA 855 with the exception of the EV Charging Area (EVCA), which defines the area to be outside the hazardous (classified) areas and the Tank Vehicle, which is defined to include both a cargo mounted tank and a tractor and semi-trailer. Further, the definition of Electric Vehicle Charging Area (section 3.3.8) is essential to the identification of the EV charging area for purposes of the hazardous (classified) areas described in section 15.3.2 of the first draft.

The changes to the chapter 15 title were rejected. The purpose of this Chapter is to address the activity of charging an electric vehicle. The EV power transfer system is just one component of the EV charging activity.

The deletion of 15.2 was rejected. The definition for electric vehicle supply equipment (First Draft 15.2.4) has been deleted and replaced with the broader term EV Power Transfer Systems (EVPTS) described in 70:625 in response to other comments; however, the remaining definitions are important to the understanding of the requirements for EV Charging. These definitions appear in both the proposed Chapter 15 and Chapter 3. NFPA Manual of Style requires all definitions must appear in Chapter 3, but they are also permitted to appear in the administrative section of a chapter. Definitions are extracted

from NFPA 70 and NFPA 855 with the exception of the EV Charging Area (EVCA) which defines the area to be outside the hazardous (classified) areas. Further the definition of Electric Vehicle Charging Area (section 15.2.2) is essential to the identification of the EV charging area for purposes of the hazardous (classified) areas described in section 15.3.2 of the first draft.

The changes to 15.3 were rejected. This section does not address installation requirements for EV power transfer systems. Rather, it defines the hazardous (classified) areas for the storage, handling and dispensing areas to be applied to the EV charging activity. These hazardous (classified) areas address both the permanent hazard associated with the dispenser and other fixed equipment and the temporary hazard (spills and releases) associated with dispensing and transfer of flammable and combustible substances. ESS are being installed as standalone equipment as part of the control equipment for the EV power transfer systems. Reference to ESS has been retained for purposes of the hazardous (classified) areas and other requirements in the proposed chapter.

The deletion of 15.3.2 was rejected. While hazardous (classified) areas are defined in Chapter 8 of this document, the proposed hazardous (classified) areas restrict EV charging activities within the hazardous (classified) areas regardless of the height of the EV Power transfer system and connection to the EV in order to; address both the permanent hazard associated with the dispenser and other fixed equipment, and the temporary hazard (spills and releases) associated with dispensing and transfer of flammable liquids and gases. ESS are being installed as standalone equipment as part of the control equipment for the EV power transfer systems. Reference to ESS has been retained for purposes of the hazardous (classified) areas and other requirements in the proposed chapter. (Relevant to PC-43)

The deletion of First Draft 15.6 (Second Draft 15.5) was rejected. Damage to EV power transfer systems and the EV could result in an electrical hazard or fire. This section requires design of the charging area to minimize movement through the area by vehicles other than those intending to charge. This is consistent with the requirements of section 6.3.7 for dispensing equipment.

The deletion of FD 15.7 (SD 15.6) was rejected. Signage provides emergency contact information to persons charging a vehicle in the event of an emergency. This is consistent with the requirements of section 9.5.3 for the motor fueling area.

The deletion of FD 15.9 (SD 15.7) was rejected. While the EV power transfer system has breakers and shut-off switches at control panels, an emergency stop provides an easy to locate and use single location for a person charging a vehicle to ensure that the power has been disconnected from the charging unit and all dispensing equipment.

The deletion of FD 15.11 (SD 15.8) was rejected. The committee believes it is prudent to provide a fire extinguisher in the EV charging area to address small fires that may occur. Specific requirements for EV Charging on a motor fuel dispensing facility are appropriate. It is recognized that a fire extinguisher may not be appropriate for a battery fire, but may reduce potential for the fire to spread to other areas or persons.

PC-60 (Global) The committee does not agree that Chapter 8 of 30A and Articles 511, 514, and 625 of NFPA 70 adequately address EV charging at a motor fuel dispensing facility. Existing codes only address the EV power transfer equipment and not the EV or the area where the activities associated with EV charging take place. EV power transfer systems are significantly higher power units that are part of a fueling activity requiring interaction by a driver to initiate and complete a power transfer. While the commenter states that "the installation and use of electric vehicle power transfer systems does not increase the risk of an electrical or fire hazard at motor fuel dispensing facilities", incidences of lithium-ion batteries igniting during charging events or just sitting idle have been reported and have been associated with battery recalls to repair/replace defective batteries. Further, uses and misuse of an EV and the power transfer system over time could affect the performance of this equipment and increase potential ignition/fire risks

associated with vehicle charging. In addition, spills and releases from liquid fueling equipment can impact the charging area placing the facility, driver, other patrons, and vehicles at risk. See responses to PC No. 34 to address remainder of comments.

PC-36 (Global). Specific requirements for EV Charging on a motor fuel dispensing facility are appropriate. The committee does not agree that Chapter 8 of 30A and Articles 511, 514, and 625 of NFPA 70 adequately address EV charging at a motor fuel dispensing facility. Existing codes only address the EV power transfer equipment and not the EV or the area where the activities associated with EV charging take place. EV power transfer systems are significantly higher power units that are part of a fueling activity requiring interaction by a driver to initiate and complete a power transfer. While the commenter states that available data indicates that there are “25 electric vehicle fires per 100,000 vehicles, while gasoline and hybrid vehicles had 1,530 fires/100k vehicles and 3,475 fires/100k vehicles, respectively”, incidences of lithium-ion batteries igniting during charging events or just sitting idle have been reported and have been associated with battery recalls to repair/replace defective batteries. Further, uses and misuse of an EV and the power transfer system over time could affect the performance of this equipment and increase potential ignition/fire risks associated with vehicle charging. In addition, spills and releases from liquid fueling equipment can impact the charging area placing the facility, driver, other patrons, and vehicles at risk. It is also important to note that the Commenter points out that “When located at the same property as liquid fueling, Tesla designs stations so that charging equipment is typically located on the periphery of the property in close proximity to existing electric utility infrastructure.”

The deletion of 15.2.1 through 15.2.6 was rejected. Specific requirements for EV Charging on a motor fuel dispensing facility are appropriate. Providing definitions of key terms is important for users to understand the requirements of the chapter.

The changes to 15.3.2 were rejected. Specific requirements for EV Charging on a motor fuel dispensing facility are appropriate. EV charging is significantly different than the placement of other fixed electrical equipment (e.g., tire inflation machines, vacuum, or vending machines) that may be installed at a motor fuel dispensing facility. Existing codes including Chapter 8 address the EV power transfer systems, but not the vehicle and charging activity or temporary hazards (spills, releases) associated with the flammable liquid and gas storage, handling, and dispensing.

The deletion of First Draft 15.5 was rejected. Specific requirements for EV Charging on a motor fuel dispensing facility are appropriate. Collision protection has been consolidated into the revised section 15.4

The deletion of First Draft 15.6 (Second Draft 15.5) was rejected. Specific requirements for EV Charging on a motor fuel dispensing facility are appropriate. Vehicle traffic through the charging area or while a tank vehicle is transferring to a storage tank can result in accidents resulting damage to equipment and possible fire hazards.

The deletion of FD 15.7 (SD 15.6) was rejected. Specific requirements for EV Charging on a motor fuel dispensing facility are appropriate. Signage in the EV charging providing information to respond to an emergency is needed.

The deletion of FD 15.8 was rejected. Specific requirements for EV Charging on a motor fuel dispensing facility are appropriate. See material moved to 15.4.

The deletion of FD 15.9 (SD 15.7) was rejected. Specific requirements for EV Charging on a motor fuel dispensing facility are appropriate. As is the case with the dispensing area, an emergency shut-off is needed to ensure power is disconnected from the charging area and dispensing area in the event of a fire or other emergency.

The deletion of FD 15.11 (SD 15.8) was rejected. Specific requirements for EV Charging on a motor fuel dispensing facility are appropriate. The committee believes it is prudent to provide a fire extinguisher in the EV charging area to address small fires that may occur. It is recognized that a fire extinguisher may not be appropriate for a battery fire but may

reduce potential for the fire to spread to other areas or persons.

PC-17 and PC-41 (Sec 15.3) This section has been revised as locations adjacent to property lines and buildings are outside the scope of this chapter.

PC-43 (Sec 15.3.2). See response to Sec. 15.3.2 in PC-34.

First Draft Section 15.3.2(6) [SD section 15.3.2(7)] has been revised to eliminate the 25 ft set back and replace it with a 10 ft hazardous (classified) area around the transfer valves and vapor return connection of the tank vehicle.

PC-20 and PC-44 (FD Sec 15.3.3) The section on Location Beneath Canopies was deleted. EV charging can be conducted under a canopy but still complies with the hazardous (classified) areas. Section 15.3.3.2 was deleted because the ESS is addressed as part of the EV power transfer system.

Section 15.3.2.2 is added so that the requirements in 15.3.2 are consistent with NFPA 58.

Pooling requirements have been revised to be specific to surface spills of flammable liquids draining through or pooling within the charging area and moved to new Section 15.3.3.

PCs 21, 22, 23 and 46 (FD Sec 15.3.4) This section has been deleted because these requirements are defined in NFPA 70 and NFPA 855.

PCs 24, 25, 49 and 50 (SD Sec 15.4) This section has been revised to include EV power transfer systems and ESS installation, operation, and maintenance requirements and collision protection. Specific requirements have been removed and replaced with references to appropriate codes, such as NFPA 70 and building codes. Collision protection requirement has been revised to require collision protection as approved by the Authority Having Jurisdiction consistent with the requirements for dispensers in Section 6.3.4.

PC-26 (FD Sec 15.6, SD Sec 15.5). The reference to the motor fuel dispensing facility has been retained since charging areas can be located outside the motor fuel dispensing facility and not subject to the requirements of this proposed chapter. The term "inhibit" was revised to "minimize" as proposed.

SD Section 15.5, Maneuvering on Site, has been revised to the EV charging area which is inclusive of the charger and related equipment. Vehicle traffic through the charging area or while a tank vehicle is transferring to a storage tank can result in accidents resulting damage to equipment and possible fire hazards. (PC-36 and PC-60).

PC-51 (SD Sec 15.5.2) This section was updated to include the EVCA as this definition encompasses the newly proposed EVPTS.

First Draft 15.9 (SD 15.7), Emergency Electrical Disconnects, has been revised to limit the area to which it applies to 100 feet. The EVCA is used for EV Charging Area because the Federal Highway Administration uses the term EV Charging Space. The requirement for a separate emergency shutoff for an attended motor fuel dispensing facility was deemed too difficult to implement.

PC-30. First Draft section 15.10 on Lighting has been deleted. Lighting requirements are addressed by other codes such as building codes.

PC-31. First Draft section 15.12 on Maintenance has been deleted. A reference to maintenance has been incorporated into the revised section 15.4.

Response SR-8-NFPA 30A-2022
Message:

[Public Comment No. 32-NFPA 30A-2022 \[Section No. 1.2\]](#)

[Public Comment No. 20-NFPA 30A-2022 \[Section No. 15.3.3.1\]](#)

[Public Comment No. 41-NFPA 30A-2022 \[Section No. 15.3.1\]](#)

[Public Comment No. 23-NFPA 30A-2022 \[Section No. 15.3.4.3\]](#)

[Public Comment No. 49-NFPA 30A-2022 \[Section No. 15.5.2\]](#)

[Public Comment No. 17-NFPA 30A-2022 \[Section No. 15.3.1 \[Excluding any Sub-Sections\]\]](#)

[Public Comment No. 24-NFPA 30A-2022 \[Section No. 15.4\]](#)

[Public Comment No. 31-NFPA 30A-2022 \[Section No. 15.12\]](#)

[Public Comment No. 22-NFPA 30A-2022 \[Section No. 15.3.4.2\]](#)

[Public Comment No. 30-NFPA 30A-2022 \[Section No. 15.10\]](#)

[Public Comment No. 34-NFPA 30A-2022 \[Global Input\]](#)

[Public Comment No. 51-NFPA 30A-2022 \[Section No. 15.6.2\]](#)

[Public Comment No. 50-NFPA 30A-2022 \[Section No. 15.5.3\]](#)

[Public Comment No. 43-NFPA 30A-2022 \[Section No. 15.3.2\]](#)

[Public Comment No. 60-NFPA 30A-2022 \[Global Input\]](#)

[Public Comment No. 21-NFPA 30A-2022 \[Section No. 15.3.4.1\]](#)

[Public Comment No. 44-NFPA 30A-2022 \[Section No. 15.3.3.2\]](#)

[Public Comment No. 46-NFPA 30A-2022 \[Section No. 15.3.4\]](#)

[Public Comment No. 14-NFPA 30A-2022 \[Section No. 3.3.11\]](#)

[Public Comment No. 12-NFPA 30A-2022 \[Section No. 3.3.8\]](#)

[Public Comment No. 25-NFPA 30A-2022 \[Section No. 15.5\]](#)

[Public Comment No. 36-NFPA 30A-2022 \[Chapter 15\]](#)

[Public Comment No. 26-NFPA 30A-2022 \[Section No. 15.6\]](#)

1.1.3*

This code shall not apply to those motor fuel dispensing facilities where only liquefied petroleum gas (LP-Gas), liquefied natural gas (LNG), compressed natural gas (CNG), or hydrogen is dispensed as motor fuel, or where both gaseous fuel storage and dispensing equipment are at least 15 m (50 ft) from any other motor fuel storage or dispensing equipment of different chemical composition.

A.1.1.3

See NFPA 2, NFPA 52, and NFPA 58 for requirements for facilities where only these fuels are dispensed.

1.1.5*

This code shall not apply to mobile fueling operations involving liquefied petroleum gas (LP-Gas).

A.1.1.5

Mobile fueling operations involving liquefied petroleum gas (LP-Gas) are within the scope of NFPA 58.

1.1.6*

This code shall apply to areas and equipment for the purpose of charging ~~the battery or other energy storage device for an electric vehicle~~ where located on within 30 m (100 ft) of the storage, handling, and dispensing of flammable liquids or gases at a motor fuel dispensing facility or a repair garage.

A.1.1.6

Where areas and equipment for the purpose of charging electric vehicles are located greater than 30 m (100 ft) from the storage, handling, and dispensing of flammable liquids and gases, the manufacturer's instructions and the requirements of applicable state and local building codes, NFPA 10, NFPA 70, NFPA 70B, NFPA 70E, and NFPA 855 should apply.

1.2* Purpose.

The purpose of this document shall be to provide reasonable safeguards for dispensing liquid and gaseous motor fuels into the fuel tanks of automotive vehicles and marine craft and charging ~~the battery or other energy storage device for an electric vehicle~~ where located ~~on~~at a motor fuel dispensing facility.

3.3.7* Electric Vehicle (EV).

An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, and electric motorcycles, ~~and the like~~, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current. Plug-in hybrid electric vehicles (PHEV) are electric vehicles having a second source of motive power. [**70**, 20202023]

A.3.3.7 Electric Vehicle (EV).

Off-road, self-propelled electric mobile equipment, such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, boats, and the like, are not considered electric vehicles. [**70**, 20202023]

3.3.8* Electric Vehicle Charging StationArea (EVCSA).

~~Any space that can be served by electric vehicle supply equipment and a charger energy supply system, or used by an EV for the purpose of charging the battery or other energy storage device in an EV.~~The area containing the electric vehicle power transfer system

(EVPTS) and the EV while charging at the full extent of the output cable in all directions from the EVPTS.

A.3.3.8 Electric Vehicle Charging Area (EVCA).

See NFPA 70, Article 625 for EVPTS.

3.3.9 Electric Vehicle Connector.

A device that, when electrically coupled (conductive or inductive) to an electric vehicle inlet, establishes an electrical connection to the electric vehicle for the purpose of power transfer and information exchange. [70, 625-2023]

~~3.3.10 Electric Vehicle Supply Equipment (EVSE).~~

~~The conductors, including the ungrounded, grounded, and equipment grounding conductors, and the electric vehicle connectors, attachment plugs, personnel protection system, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle, including an electric vehicle charger with an integrated energy supply system.~~

3.3.10 Energy Storage Systems (ESS).

One or more devices, assembled together, capable of storing energy in order to supply electrical energy at a future time ~~to the local power loads, to the utility grid, or for grid support.~~ [855, 20202023]

3.3.16 Output Cable to the Electric Vehicle.

An assembly consisting of a length of flexible EV cable and an electric vehicle connector (supplying power to the electric vehicle). [70, 20202023]

3.3.20 Tank Vehicle.

Any single self-propelled motor vehicle equipped with a cargo tank mounted thereon, tank full-trailer, or tractor and tank semi-trailer combination used for the transportation of flammable or combustible liquids or gases.

Chapter 15 Electric Vehicle Charging Stations

15.1 Scope.

This chapter shall apply where electric vehicle charging ~~stations~~areas (EVCSEVCA) are installed within 30 m (100 ft) of the storage, handling, and dispensing of flammable liquids or gases at a motor fuel dispensing facility and repair garages.

15.2 Definitions Specific to Chapter 15.

15.2.1* Electric Vehicle (EV).

An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, and electric motorcycles, ~~and the like,~~ primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current. Plug-in hybrid electric vehicles (PHEV) are electric vehicles having a second source of motive power. [70, 1002023] (See 3.3.7.)

A.15.2.1

Off-road, self-propelled electric mobile equipment, such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, boats, and the like, are not considered electric vehicles. [70, 1002023] (See A.3.3.7.)

15.2.2* Electric Vehicle Charging Station Area (EVCSA).

~~Any space that can be served by electric vehicle supply equipment and a charger energy supply system, or used by an EV for the purpose of charging the battery or other energy storage device in an EV.~~ The area containing the electric vehicle power transfer system (EVPTS) and the EV while charging at the full extent of the output cable in all directions from the EVPTS. (See 3.3.8.)

A.15.2.2

An electric vehicle power transfer system (EVPTS) is described in NFPA 70, Article 625. The EVPTS includes the charging unit, output cable, electric vehicle connector, and supporting equipment such as control cabinets.

15.2.3 Electric Vehicle Connector.

A device that, when electrically coupled (conductive or inductive) to an electric vehicle inlet, establishes an electrical connection to the electric vehicle for the purpose of power transfer and information exchange. [70, 625.22023] (See 3.3.9.)

~~15.2.4 Electric Vehicle Supply Equipment (EVSE).~~

~~The conductors, including the ungrounded, grounded, and equipment grounding conductors, and the electric vehicle connectors, attachment plugs, personnel protection system, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle, including an electric vehicle charger with an integrated energy supply system. (See 3.3.10.)~~

15.2.4 Energy Storage Systems (ESS).

One or more devices, assembled together, capable of storing energy in order to supply electrical energy at a future time to the local power loads, to the utility grid, or for grid support. [855, 20202023] (See 3.3.10.)

15.2.5 Output Cable to the Electric Vehicle.

An assembly consisting of a length of flexible EV cable and an electric vehicle connector (supplying power to the electric vehicle). [70, 1002023] (See 3.3.16.)

15.3 General Requirements.

~~15.3.1 Location Adjacent to Buildings or Property Lines.~~

~~EVCS, ESS, and EVSE installed outdoors at motor fuel dispensing facilities shall be located as follows:~~

- ~~(1) 3 m (10 ft) or more from property lines~~
- ~~(2) 3 m (10 ft) or more from buildings, other than canopies, having combustible exterior wall surfaces or buildings having noncombustible exterior wall surfaces that are not part of a 1-hour fire-resistive assembly~~
- ~~(3) 1 m (3 ft) or more from buildings having exterior wall surfaces that are part of a 1-hour fire-resistive assembly~~

15.3.1 Location of Electric Vehicle.

All parts of the EV being served shall be located on the premises.

15.3.2 Location Adjacent to Storage, Handling, or Dispensing of Flammable or Combustible Liquids or Gases.

~~ESS, EVCS, EVSE, and EV while charging, and the electric vehicle connector when the output cable to the EV is extended to its maximum length, shall be located as follows:~~

- ~~(1) 6 m (20 ft) or more in all directions from a dispensing device or areas handling or dispensing flammable or combustible liquids or gases~~
- ~~(2) 3 m (10 ft) or more in all directions from an underground storage tank fill connection or vapor recovery connection or vent line storing flammable or combustible liquids or gases~~
- ~~(3) 3 m (10 ft) or more in all directions from a remote/submersible pump transferring flammable or combustible liquids or gases~~
- ~~(4) 3 m (10 ft) or more in all directions from the shell or ends of an aboveground tank or the aboveground tank fill connection, vapor recovery connection, or open end of the vent~~
- ~~(5) 3 m (10 ft) or more in all directions from vapor processing equipment and vacuum assist blowers~~
- ~~(6) 7.6 m (25 ft) or more in all directions from the location of a tank vehicle while transferring flammable or combustible liquids to an aboveground or underground storage tank~~

15.3.2.1*

~~ESS, EVCS, EVSE, and EV while charging, and the electric vehicle connector when the output cable to the EV is extended to its maximum length,~~EVCA shall be located outside the following hazardous (classified) areas as follows:

- ~~(1) 6 m (20 ft) or more in all directions from a dispensing device or areas handling or dispensing flammable or combustible liquids or gases~~
- ~~(2) 3 m (10 ft) or more in all directions from an underground storage tank fill connection opening or vapor recovery connection or vent line storing flammable or combustible liquids or gases~~
- ~~(3) 3 m (10 ft) or more in all directions from a storage tank vapor recovery connection and the open end of a vent~~
- ~~(4) 3 m (10 ft) or more in all directions from a remote/submersible pump transferring flammable or combustible liquids or gases~~
- ~~(5) 3 m (10 ft) or more in all directions from the shell or ends of an aboveground tank, the tank fill opening, or the aboveground tank fill connection, vapor recovery connection, or and the open end of the vent~~
- ~~(6) 3 m (10 ft) or more in all directions from vapor processing equipment and vacuum assist blowers~~
- ~~(7) 7.63 m (25.10 ft) or more in all directions from the location of a tank vehicle while transferring flammable or combustible liquids to an aboveground or underground around the transfer valves and vapor return connection on a tank vehicle while transferring to a storage tank~~

A.15.3.2.1

In addition to the permanent hazard associated with the dispenser, there is also a temporary hazard associated with the dispenser hose and nozzle during refueling of a vehicle and accidents such as a drive off with the nozzle still in the vehicle that can result in

releases of liquids or vapors, or deliberate intent. This temporary hazard can occur within the reach of the hose and nozzle. The hazardous (classified areas) consider the potential for a release of liquid or vapor within the area of the maximum length of dispensing hose [1.5 m (18 ft)] (see 6.5.1) and the potential height of the nozzle while handling or fueling the vehicle [1.2 m (4 ft)].

Regarding 15.3.2.1(7), a hazardous (classified) area of 3 m (10 ft) in all directions around the tank fill connection and the transfer valves is required in 15.3.2.1. The transfer from a tank vehicle to a storage tank is a transient event in which the tank vehicle can be positioned on either side of the fill opening. The hazardous (classified) areas around the tank vehicle transfer valves and vapor return connection are defined by the physical location of the tank vehicle while transferring to the storage tank.

During transfer to a storage tank, the tank vehicle is separated from the fill opening to allow for handling and placement of the transfer hose and in the case of an aboveground storage tank, in accordance with Table 9.2.2.3. For example, considering the typical length of a transfer hose [5.5 m (18 ft) to 6 m (20 ft)], the resulting separation between the transfer valves and the fill opening would be approximately 6 m (20 ft). This added to the hazardous (classified) area around the transfer valves would result in an effective hazardous (classified) area that extends as much as 9 m (30 ft) from the tank fill opening to the extent of the transfer valves hazardous (classified) area during transfer operations. Figure A.15.3.2.1(a) and Figure A.15.3.2.1(b) show two examples of a tank vehicle location during transfer.

Figure A.15.3.2.1(a) Effective Hazardous (Classified) Areas During Transfer Operations (Example 1).

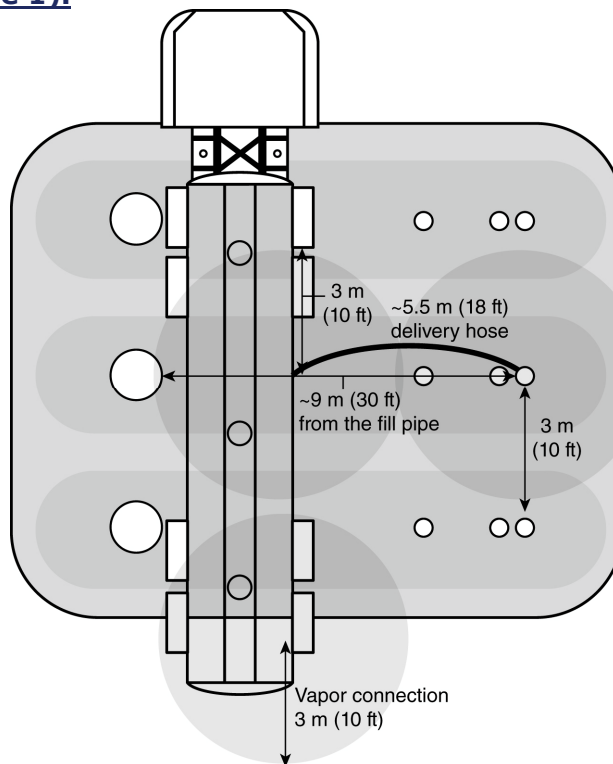
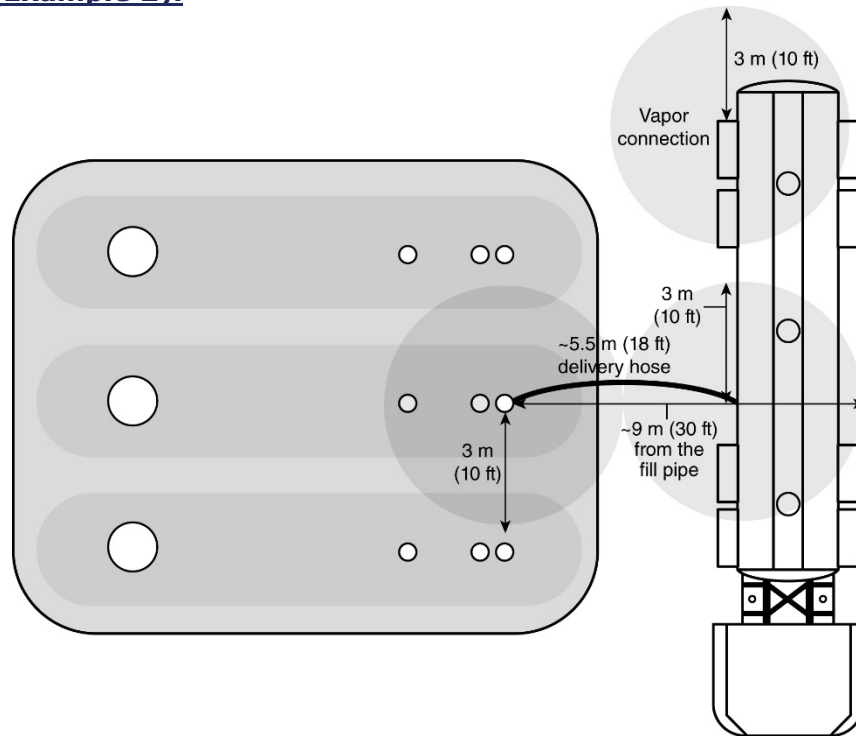


Figure A.15.3.2.1(b) Effective Hazardous (Classified) Areas During Transfer Operations (Example 2).



15.3.2.2

For locations adjacent to storage, handling, or dispensing of LPG, ESS and EVCA shall be located outside the hazardous (classified) areas in accordance with NFPA 58.

15.3.3 Location in Areas of Pooling.

EVCA shall be designed so that surface spills of flammable liquids cannot drain through or pool within the EVCA.

15.3.3 Location Beneath Canopies.

15.3.3.1

EVCS or EVSE installed under a canopy also covering dispensers for flammable or combustible liquids or gases shall meet the separation distances in 15.3.2.

15.3.3.2

ESS shall not be installed under a canopy also covering dispensers for flammable or combustible liquids or gases.

15.3.4 Requirements for ESS and EVSE Systems.

15.3.4.1*

ESS, EVSE, the electric vehicle connector, and the output cable to the EV shall be listed.

A.15.3.4.1

Appropriate EV standards include the following:

- (1) UL 9540, *Energy Storage Systems and Equipment*

- ~~(2) UL 2202, Standard for Electric Vehicle Charging System Equipment, for EV charging systems~~
- ~~(3) UL 2202 and UL 1973, Standard for Batteries for Use in Stationary, Vehicle Auxiliary Power and Light Electric Rail (LER) Applications, for battery integrated chargers~~
- ~~(4) UL 2594, Standard for Electric Vehicle Supply Equipment~~
- ~~(5) UL 2750, Outline of Investigation for Wireless Power Transfer Equipment for Electric Vehicles~~

15.3.4.2

~~Any modification of the ESS, EVSE, electric vehicle connector, and the output cable to the EV shall be listed or listed by report.~~

15.3.4.3*

~~EVSE shall be designed to protect the employees and the public from electrical hazards, including arc flash.~~

A.15.3.4.3

~~See NFPA 70E for more information on electrical hazard protection.~~

15.4 Installation, Operation, and Maintenance Requirements.

15.4.1

~~EVCS shall be designed and constructed in accordance with state and local building codes, ordinances, and this code.~~
EVPTS shall be designed, listed, and installed in accordance with applicable state and local building codes, NFPA 70, the manufacturer's installation instructions, and this code.

15.4.2

~~ESS or EVSE and EVPTS shall be protected against collision damage by guard posts or other approved means.~~
means acceptable to the authority having jurisdiction.

15.4.3*

EVPTS shall be operated and maintained in accordance with the manufacturer's instructions.

A.15.4.3

See Chapter 34 of NFPA 70B for additional guidance.

15.4.4

ESS shall be installed and operated in accordance with applicable state and local building codes, NFPA 855, the manufacturer's installation instructions, and this code.

15.4.2

~~EVCS shall be designed so that pooling of flammable or combustible liquids cannot occur within its area.~~

15.4.3

~~EVSE shall be the type specified and installed in accordance with Article 625 of NFPA 70.~~

15.4.4

~~ESS shall be the type specified and installed in accordance with NFPA 855.~~

15.4.5

~~ESS and EVSE shall be installed in accordance with their listing, the equipment manufacturer's installation instructions, approved design plans, and this code.~~

15.5 Collision Protection.

15.5.2

~~When guard posts are installed, they shall be designed as follows:~~

- ~~(1) Posts shall be constructed of steel not less than 100 mm (4 in.) in diameter.~~
- ~~(2) Posts shall be filled with concrete.~~
- ~~(3) Posts shall be spaced not more than 1.2 m (4 ft) on center.~~
- ~~(4) Posts shall be set not less than 0.9 m (3 ft) deep in a concrete footing of not less than 380 mm (15 in.) diameter.~~
- ~~(5) The top of the posts shall be set not less than 0.9 m (3 ft) above ground.~~
- ~~(6) Posts shall be located not less than 0.9 m (3 ft) from the ESS.~~

~~[855:4.3.7.3]~~

15.5.3

~~ESS or EVSE shall be securely bolted in place per manufacturer's instructions.~~

15.5 Maneuvering on Site.

15.5.1

Motor vehicle traffic patterns at motor fuel dispensing facilities shall be designed to ~~inhibit~~minimize movement of vehicles that are not being charged from passing through the charging area.

15.5.2

~~ESS, EVCS, or EVSE~~EVCA shall not impede or obstruct tank vehicle fuel deliveries.

15.6 Signage.

Emergency instructions shall be conspicuously posted in the area of the ~~EVCSEVPT~~Equipment and incorporate the following or equivalent wording:

In case of fireemergency:

- (1) Use emergency stop button.**
- (2) Report ~~accident~~emergency by calling (specify local fire service number).**
- (3) Report this location _____. (*Installer fills in address.*)**

15.7* ~~Operation.~~

~~EVSE shall be operated in accordance with the manufacturer's instructions.~~

15.7.1

~~The attendant shall be familiar with EVSE operation and be able to supervise and respond to an emergency.~~

15.7.2

~~EVSE thermal fluids shall not be dumped into sewers, into streams, or on the ground.~~

15.7 Emergency Electrical Disconnects.

15.7.1

~~EVSE~~EVCA shall be provided with one or more clearly identified emergency shutoff devices or electrical disconnects and labeled with an approved sign stating "EMERGENCY ELECTRIC VEHICLE CHARGING SYSTEM SHUTOFF" or equivalent language.

15.7.2

Emergency shutoff devices or electrical disconnects shall be installed in approved locations accessible to patrons, but not less than 6 m (20 ft) or more than 30 m (100 ft) from the ~~EVC~~EVCA.

15.7.3

Emergency shutoff devices or electrical disconnects shall disconnect power to all ~~EVSE~~EVPTS and ~~ESS~~ serving the ~~EVC~~EVCA not supplied by circuits that are identified as intrinsically safe and to all associated power control and signal circuits serving the ~~EVC~~EVCA and ~~ESS~~.

15.7.4

Emergency shutoff devices or electrical disconnects for the ~~EVC~~EVPTS shall be actuated by the emergency electrical disconnect required in Section 6.7 ~~unless the EVCS is greater than 30 m (100 ft) from any of the equipment in 15.2.2.~~

15.7.5

Resetting from an emergency shutoff condition shall require manual intervention.

15.7.6

~~At attended motor fuel dispensing facilities, an additional emergency shutoff or electrical disconnect device shall be accessible to the attendant.~~

15.8 Lighting.

~~Lighting shall be selected and installed in accordance with applicable building codes and standards and sufficient for safe operation and security.~~

A-15.8

~~See Chapter 34 of NFPA 70B for additional guidance.~~

15.8 Fire Extinguishers.

15.8.1

~~At least one portable fire extinguisher shall be provided for each group of EVSE. Each EVPTS shall be within that does not exceed a maximum travel distance of 23 m (75 ft) to any single at least one portable fire extinguisher.~~

15.8.2

Portable fire extinguishers shall be selected, and installed, inspected, and maintained in accordance with 9.2.5.3 ~~and NFPA 10.~~

15.8.3

Portable fire extinguishers shall be inspected and maintained in accordance with NFPA 10.

~~15.9 Inspection and Maintenance.~~

~~15.9.1~~

~~EVSE shall be periodically inspected by a person who is knowledgeable in the operation of the equipment to verify that it is in proper working order.~~

~~15.9.2~~

~~When maintenance to the EVSE is necessary, the following precautions shall be taken before such maintenance is begun:~~

- ~~(1) Only persons knowledgeable in performing the required maintenance shall perform the work.~~
- ~~(2) All electrical power to the EVSE and to all associated control circuits shall be shut off at the main electrical disconnect panel.~~
- ~~(3) During the maintenance period, all power and associated control circuits shall be capable of being locked in the open position and tagged with the identity of the worker servicing the equipment.~~
- ~~(4) All vehicular traffic and unauthorized persons shall be prevented from entering the EVCS.~~



Second Revision No. 10-NFPA 30A-2022 [Chapter 2]

Chapter 2 Referenced Publications

2.1 General.

The documents or portions thereof listed in this chapter are referenced within this code and shall be considered part of the requirements of this document.

2.2 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 2, *Hydrogen Technologies Code*, 2023 edition.

NFPA 10, *Standard for Portable Fire Extinguishers*, 2022 edition.

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2022 edition.

NFPA 14, *Standard for the Installation of Standpipe and Hose Systems*, 2019 2023 edition.

NFPA 30, *Flammable and Combustible Liquids Code*, 2024 edition.

NFPA 31, *Standard for the Installation of Oil-Burning Equipment*, 2020 edition.

NFPA 33, *Standard for Spray Application Using Flammable or Combustible Materials*, 2021 edition.

NFPA 51, *Standard for the Design and Installation of Oxygen–Fuel Gas Systems for Welding, Cutting, and Allied Processes*, 2023 edition.

NFPA 51B, *Standard for Fire Prevention During Welding, Cutting, and Other Hot Work*, 2024 edition.

NFPA 52, *Vehicular Natural Gas Fuel Systems Code*, 2023 edition.

NFPA 54, *National Fuel Gas Code*, 2024 edition.

NFPA 55, *Compressed Gases and Cryogenic Fluids Code*, 2023 edition.

NFPA 58, *Liquefied Petroleum Gas Code*, 2023 edition.

NFPA 70[®], *National Electrical Code*[®], 2023 edition.

NFPA 72[®], *National Fire Alarm and Signaling Code*[®], 2022 edition.

NFPA 80, *Standard for Fire Doors and Other Opening Protectives*, 2022 edition.

NFPA 82, *Standard on Incinerators and Waste and Linen Handling Systems and Equipment*, 2019 edition.

NFPA 85, *Boiler and Combustion Systems Hazards Code*, 2023 edition.

NFPA 86, *Standard for Ovens and Furnaces*, 2023 edition.

NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*, 2024 edition.

NFPA 91, *Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Particulate Solids*, 2020 edition.

NFPA 101[®], *Life Safety Code*[®], 2024 edition.

NFPA 211, *Standard for Chimneys, Fireplaces, Vents, and Solid Fuel–Burning Appliances*, 2024 edition.

NFPA 220, *Standard on Types of Building Construction*, 2024 edition.

NFPA 253, *Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source*, 2023 edition.

NFPA 326, *Standard for the Safeguarding of Tanks and Containers for Entry, Cleaning, or Repair*, 2020 edition.

NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids*, 2022 edition.

NFPA 855, *Standard for the Installation of Stationary Energy Storage Systems*, 2023 edition.

2.3 Other Publications.

2.3.1 API Publications.

American Petroleum Institute, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001-5571.

API 607, *Fire Test For for Quarter-turn Valves and Valves Equipped with Nonmetallic Seats*, 7th edition, 2016.

2.3.2 ASME Publications.

American Society of Mechanical Engineers, Two Park Avenue, New York, NY 10016-5990.

ASME B31.3, *Process Piping*, 2019.

Boiler and Pressure Vessel Code, 2021.

2.3.3 ASTM Publications.

ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.

ASTM D5/D5M, *Standard Test Method for Penetration of Bituminous Materials*, 2020.

ASTM D56, *Standard Test Method for Flash Point by Tag Closed Cup Tester*, 2021.

ASTM D93, *Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester*, 2020.

ASTM D323, *Standard Method of Test for Vapor Pressure of Petroleum Products (Reid Method)*, 2020a.

ASTM D3278, *Standard Test Methods for Flash Point of Liquids by Small Scale Closed-Cup Apparatus*, 2021.

ASTM D3828, *Standard Test Methods for Flash Point of Liquids by Small Scale Closed Cup Tester*, 2016a (reapproved 2021).

ASTM D4359, *Standard Test for Determining Whether a Material Is a Liquid or a Solid*, 2020.

2.3.4 CSA Group Publications.

CSA Group, 178 Rexdale Blvd., Toronto, ON, M9W 1R3, Canada.

CSA B51, *Boiler, Pressure Vessel, and Pressure Piping Code*, 2019.

CSA B401, *Vehicle Maintenance Facilities Code*, 2018.

CSA SPE-2.1 SERIES 18, *Best practices for defueling, decommissioning, and disposal of compressed natural gas vehicle fuel containers and liquefied natural gas vehicle fuel tanks*, 2018.

CSA SPE-2.2.1, *Best practices for CNG vehicle system leak inspection* , 2020.

2.3.5 UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

UL 25, *Meters for Flammable and Combustible Liquids and LP-Gas*, 2016.

UL 79, *Power-Operated Pumps for Petroleum Dispensing Products*, 2016.

UL 79A, *Power-Operated Pumps for Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0–E85)*, 2015 (2020).

UL 87, *Power-Operated Dispensing Devices for Petroleum Products*, 2016.

UL 87A, *Power-Operated Dispensing Devices for Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0–E85)*, 2015 (2019).

UL 330A, *Outline of Investigation for Hose and Hose Assemblies for Use with Dispensing Devices Dispensing Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0–E85)*, 2019 (2020).

UL 567A, *Emergency Breakaway Fittings, Swivel Connectors and Pipe-Connection Fittings for Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0–E85)*, 2015 (2019).

CAN/UL/ULC 842, *Valves for Flammable and Combustible Liquids*, 2020.

UL 842A, *Valves for Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0–E85)*, 2015 (2019).

UL 2080, *Fire Resistant Tanks for Flammable and Combustible Liquids*, 2000.

UL 2085, *Protected Aboveground Tanks for Flammable and Combustible Liquids*, 1997 (2010).

UL 2245, *Below-Grade Vaults for Flammable Liquid Storage Tanks*, 2006.

CAN/UL/ULC 2586, *Hose Nozzle Valves for Flammable and Combustible Liquids*, 2021.

UL 2586A, *Hose Nozzle Valves for Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0–E85)*, 2015 (2019).

2.3.6 U.S. Government Publications.

U.S. Government Publishing Office, 732 North Capitol Street, NW, Washington, DC 20401-0001.

Title 49, Code of Federal Regulations, Part 571.108, “Lamps, Reflective Devices, and Associated Equipment.”

2.3.7 Other Publications.

Merriam-Webster’s Collegiate Dictionary, 11th edition, Merriam-Webster, Inc., Springfield, MA, 2003 2020 .

2.4 References for Extracts in Mandatory Sections.

NFPA 30, *Flammable and Combustible Liquids Code*, 2021 edition.

NFPA 70[®], *National Electrical Code*[®], 2020 2023 edition.

NFPA 855, *Standard for the Installation of Stationary Energy Storage Systems*, 2020 2023 edition.

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
30A_SR-10_Chapter_2.docx		

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Fri Nov 11 14:02:48 EST 2022

Committee Statement

Committee Statement: This revision was developed by NFPA staff for editorial purposes, in accordance with 4.4.9.6.2 and 4.4.9.6.3 of the Regulations for Governing the Development of NFPA Standards (www.nfpa.org/regs). These revisions pertain to SR-8.

Response Message: SR-10-NFPA 30A-2022



Second Revision No. 4-NFPA 30A-2022 [Section No. 4.3.6.3]

4.3.6.3

~~Means shall be provided to sound an audible alarm when the liquid level in the tank reaches 90 percent of capacity. Means shall also be provided either to automatically stop the flow of liquid into the tank when the liquid level in the tank reaches 98 percent capacity or to restrict the flow of liquid into the tank to a maximum flow rate of 9.5 L/min (2.5 gpm) when the liquid in the tank reaches 95 percent capacity. These provisions shall not restrict or interfere with the operation of either the normal vent or the emergency vent.~~

4.3.6.3.1

~~Means shall be provided to sound an audible alarm when the liquid level in the tank reaches no more than 90 percent of capacity.~~

4.3.6.3.2

~~Means shall also be provided either to automatically stop the flow of liquid into the tank when the liquid level in the tank reaches 98 percent capacity or to restrict the flow of liquid into the tank to a maximum flow rate of 9.5 L/min (2.5 gpm) when the liquid in the tank reaches no more than 95 percent capacity.~~

4.3.6.3.3

Tanks storing Class IIIB liquids with deliveries less than 95 L (25 gal) at one time shall not be required to comply with 4.3.6.3.1 and 4.3.6.3.2 .

4.3.6.3.4

~~These provisions shall not restrict or interfere with the operation of either the normal vent or the emergency vent.~~

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Wed Oct 26 08:43:13 EDT 2022

Committee Statement

Committee Statement: Section 4.3.6.3.3 was added to allow small used oil tanks in repair garages (covered by 4.2.1 for storage of liquids) from being required to be filled with a tight fill connection to be exempt from this requirement which is currently ignored. Currently, these small underground containers are filled by pouring the used oil into the UST. Since Class III liquids have low fire ignition risk at ambient temperatures there is no basis for controlling these USTs as though they were a fire hazard in repair garages which are within the scope of NFPA 30A.

Federal rules as well as NFPA 30 rules require two maximum liquid level trigger levels; one is at 90% and one at 95%. In NFPA 30 either an alarm at 90% or a shutdown at 95% is required, but not both (See NFPA 30 21.7.1.5 for underground tanks). However, for USTs in NFPA 30, NFPA 30A has always been more stringent requiring both the 90% alarm and the 98% shut off. The 98% trigger in the existing NFPA 30A 4.3.6.3 is unreasonable for smaller USTs because of reaction times that are illustrated in the attached spreadsheet and because it is inconsistent with NFPA 30. The change from 98 to 95% provides consistency across federal rules, and between NFPA 30 and 30A, as well as industry practices.

The phrase "...reaches no more..." was added in two places in the proposed final draft language since these values are not specified values but are only maxima; that is, an owner operator may choose to use a lower liquid level trigger point than the 90 and 95% levels.

Response SR-4-NFPA 30A-2022
Message:



Second Revision No. 5-NFPA 30A-2022 [New Section after 7.8.14.1.1]

7.8.14.1.2

The defueling of CNG and LNG vehicles shall be conducted in accordance with manufacturer's instructions.

7.8.14.1.3

In the absence of manufacturer's instructions, the defueling of CNG and LNG vehicles shall be conducted in accordance with CSA SPE-2.1 SERIES 18, *Best practices for defueling, decommissioning, and disposal of compressed natural gas vehicle fuel containers and liquefied natural gas vehicle fuel tanks* .

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Wed Oct 26 09:48:15 EDT 2022

Committee Statement

Committee Statement: The reference to the CSA document is appropriate in the absence of manufacturer's instructions. Revision is related to Public Input 43.

Response Message: SR-5-NFPA 30A-2022



Second Revision No. 3-NFPA 30A-2022 [New Section after 9.6.9]

9.7.10 Portable Fire Extinguishers.

9.7.10.1

Fuel delivery tank vehicles shall be provided with at least one portable fire extinguisher selected, installed, inspected, and maintained as required by NFPA 10 .

9.7.10.2

The fire extinguisher shall be a minimum 9.1 kg (20 lb) ABC dry chemical agent type and shall also be rated with an agent discharge rate of 0.45 kg/sec (1 lb/sec) or greater.

9.7.10.3

The fire extinguisher shall be readily accessible from the ground level whenever fuel dispensing or tank filling is under way.

9.7.10.4

Installed fire extinguishers, including replacements or exchanges, shall meet the requirements of 9.7.10 .

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Submittal Date: Wed Oct 26 08:36:57 EDT 2022

Committee Statement

Committee Statement: For fleet fueling trucks, there are no requirements for fire extinguishers within NFPA 30A, so these requirements were developed to address this deficiency. These requirements are generally based on NFPA 385, as users seldom reference that document. Section 9.3.1 of NFPA 385 (2022) gives the option to use multiple 2-A rated fire extinguishers. However, there are currently no such rated extinguishers available on the market. Also, using multiple extinguishers is not a viable strategy when a single attendant is present.

Response Message: SR-3-NFPA 30A-2022



Second Revision No. 6-NFPA 30A-2022 [New Section after 12.6]

12.7 Leak Inspection of CNG Vehicles.

12.7.1

The leak inspection of CNG vehicles shall be conducted in accordance with manufacturer's instructions.

12.7.2

In the absence of manufacturer's instructions, the defueling of CNG vehicles shall be conducted in accordance with CSA SPE-2.2.1, *Best practices for CNG vehicle system leak inspection* .

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Wed Oct 26 09:59:37 EDT 2022

Committee Statement

Committee Statement: The CSA reference is recommended for leak inspection. Revision is related to Public Input 44.

Response Message: SR-6-NFPA 30A-2022



Second Revision No. 9-NFPA 30A-2022 [Chapter D]

Annex D Informational References

D.1 Referenced Publications.

The documents or portions thereof listed in this annex are referenced within the informational sections of this code and are not part of the requirements of this document unless also listed in Chapter 2 for other reasons.

D.1.1 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 1, *Fire Code*, 2024 edition.

NFPA 2, *Hydrogen Technologies Code*, 2023 edition.

NFPA 10, *Standard for Portable Fire Extinguishers*, 2022 edition.

NFPA 30, *Flammable and Combustible Liquids Code*, 2024 edition.

NFPA 52, *Vehicular Natural Gas Fuel Systems Code*, 2023 edition.

NFPA 58, *Liquefied Petroleum Gas Code*, 2023 edition.

NFPA 70[®], National Electrical Code[®], 2023 edition.

NFPA 70B, *Recommended Practice for Electrical Equipment Maintenance*, 2019 edition.

NFPA 70E[®], Standard for Electrical Safety in the Workplace[®], 2024 edition.

NFPA 77, *Recommended Practice on Static Electricity*, 2024 edition.

NFPA 88A, *Standard for Parking Structures*, 2023 edition.

NFPA 302, *Fire Protection Standard for Pleasure and Commercial Motor Craft*, 2020 edition.

NFPA 303, *Fire Protection Standard for Marinas and Boatyards*, 2021 edition.

NFPA 497, *Recommended Practice for the Classification of Flammable Liquids, Gases, or Vapors and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas*, 2024 edition.

NFPA 855, *Standard for the Installation of Stationary Energy Storage Systems*, 2023 edition.

Flammable and Combustible Liquids Code Handbook, 2018 edition.

D.1.2 Other Publications.

D.1.2.1 NACE AMPP Publications.

NACE International Association for Materials Protection and Performance, 15835 Park Ten Place, Houston, TX 77084-5145.

NACE SP0169, *Control of External Corrosion of Underground or Submerged Metallic Piping Systems*, 2013.

D.1.2.2 API Publications.

American Petroleum Institute, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001-5571.

API RP 1621, *Bulk Liquid Stock Control at Retail Outlets*, 5th edition, 1993, reaffirmed 2020.

API RP 1626, *Storage and Handling of Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and Filling Stations*, 2nd edition, 2010, reaffirmed 2020.

API RP 1632, *Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems*, 3rd edition, 1996, reaffirmed 2010.

D.1.2.3 ICC Publications.

International Code Council, 500 New Jersey Avenue, NW, 6th Floor, Washington, DC 20001.
International Mechanical Code (IMC), 2021.

D.1.2.4 PEI Publications.

Petroleum Equipment Institute, 6514 E. 69th Street, Tulsa, OK 74133.

PEI RP200, *Recommended Practices for Installation of Aboveground Storage Systems for Motor Vehicle Fueling*, 2019.

PEI RP500, *Recommended Practices for Inspection and Maintenance of Motor Fuel Dispensing Equipment*, 2019.

D.1.2.5 STI/SPFA Publications.

Steel Tank Institute/Steel Plate Fabricators Association, 944 Donata Court, Lake Zurich, IL 60047.

STI R892, *Recommended Practice for Corrosion Protection of Underground Piping Networks Associated with Liquid Storage and Dispensing Systems*, 2006.

D.1.2.6 SwRI Publications.

Southwest Research Institute, 6220 Culebra Road, San Antonio, TX 78238-5166.

SwRI 93, *Testing Requirements for Protected Aboveground Flammable Liquid Fuel Storage Tanks*, 2001 edition.

D.1.2.7 UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

~~UL 1973, *Standard for Batteries for Use in Stationary, Vehicle Auxiliary Power and Light Electric Rail (LER) Applications*, 2018.~~

UL 2085, *Protected Aboveground Tanks for Flammable and Combustible Liquids*, 1997, revised (2010).

~~UL 2202, *Standard for Electric Vehicle Charging System Equipment*, 2009 (2018).~~

~~UL 2594, *Standard for Electric Vehicle Supply Equipment*, 2016.~~

~~UL 2750, *Outline of Investigation for Wireless Power Transfer Equipment for Electric Vehicles*, 2020.~~

~~UL 9540, *Energy Storage Systems and Equipment*, 2020.~~

D.1.2.8 US Government Publications.

US Government Publishing Office, 732 North Capitol Street, NW, Washington, DC 20401-0001.

Title 40, Code of Federal Regulations, Part 112, *Oil Pollution Prevention*.

Title 49, Code of Federal Regulations, Part 171, *General Information, Regulations, and Definitions*.

Title 49, Code of Federal Regulations, Part 173, *Shippers — General Requirements for Shipments and Packagings*.

D.2 Informational References. (Reserved)

D.3 References for Extracts in Informational Sections.

NFPA 30, *Flammable and Combustible Liquids Code*, 2021 edition.

NFPA 70®, *National Electrical Code*®, 2023 edition.

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
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Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Fri Nov 11 13:57:11 EST 2022

Committee Statement

Committee Statement: This revision was developed by NFPA staff for editorial purposes, in accordance with 4.4.9.6.2 and 4.4.9.6.3 of the Regulations for Governing the Development of NFPA Standards (www.nfpa.org/regs). These revisions pertain to SR-1 and SR-8.

Response Message: SR-9-NFPA 30A-2022