



First Revision No. 30-NFPA 30A-2021 [Global Input]

[See attached file for updates to extracts for NFPA 30 in the code and the annex].

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
30A_FR-30_Extract_Updates.docx	For staff use	
30A_FR-30_Extract_Updates_for_ballot.docx	For ballot	

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Thu Nov 11 12:32:14 EST 2021

Committee Statement

Committee Statement: The NFPA Manual of Style requires extracts reflect the language from the latest editions of the codes. See CI-34 indicating that the committee would like to retain Table A.1.7 from NFPA 30, which is removed from NFPA 30A because it is now no longer part of NFPA 30. This will be reviewed at the Second Draft stage for possible inclusion into the code.

Response Message: FR-30-NFPA 30A-2021

GLOBAL FR-30

3.3.3 Closed Container.

A container as herein defined, so sealed by means of a lid or other device that neither liquid nor vapor will escape from it at ordinary temperatures. [30, 2021]

3.3.5* Container.

A vessel of 450 L (119 gal) or less capacity used for transporting or storing liquids, excluding intermediate bulk containers. [30, 2021]

A.3.3.5 Container.

The U.S. DOT defines *non-bulk packaging* as having up to 450 L (119 gal) capacity in 49 CFR 171.8. [30, 2021]

3.3.9* Liquid (Physical State).

Any material that (1) has a fluidity greater than that of 300 penetration asphalt when tested in accordance with ASTM D5/D5M, *Standard Method of Test for Penetration of Bituminous Materials*, or (2) is a viscous substance for which a specific melting point cannot be determined but that is determined to be a liquid in accordance with ASTM D4359, *Standard Test for Determining Whether a Material is a Liquid or a Solid*. [30, 2021]

A.3.3.9 Liquid (Physical State).

For the purposes of this code, liquefied natural gas (LNG) and liquefied petroleum gas (LP-Gas) are not considered liquids.

3.3.9.1* Combustible Liquid.

An ignitable liquid that is classified as a Class II or Class III liquid. (See 3.4.2.2 and 3.4.2.3.) [30, 2021]

3.3.9.2* Flammable Liquid.

An ignitable liquid that is classified as a Class I liquid. (See 3.4.2.1.) [30, 2021]

3.3.15.2 Fire-Resistant Tank.

An atmospheric aboveground storage tank with thermal insulation that has been evaluated for resistance to physical damage and for limiting the heat transferred to the primary tank when exposed to a hydrocarbon fuel fire and is listed in accordance with UL 2080, *Fire Resistant Tanks for Flammable and Combustible Liquids*, or an equivalent test procedure. [30:22.2.1]

3.3.15.3* Protected Aboveground Tank.

An atmospheric aboveground storage tank with integral secondary containment and thermal insulation that has been evaluated for resistance to physical damage and for limiting the heat transferred to the primary tank when exposed to a hydrocarbon pool fire and is listed in accordance with UL 2085, *Protected Aboveground Tanks for Flammable and Combustible Liquids*, or an equivalent test procedure. [30:22.2.3]

3.3.16 Vapor Processing Equipment.

Those components of a vapor processing system designed to process vapors or liquids captured during transfer or filling operations. [30, 2021]

3.3.17* Vapor Processing System.

A system designed to capture and process vapors displaced during transfer or filling operations by use of mechanical or chemical means. [30, 2021]

3.3.18* Vapor Recovery System.

A system designed to capture and retain, without processing, vapors displaced during transfer or filling operations. [30, 2021]

3.4 Definition and Classification of Liquids.

3.4.1 Scope.

This chapter shall establish a uniform system of classifying ignitable (flammable or combustible) liquids for proper application of this code. [30:4.1]

3.4.2.1 Class I Liquids.

3.4.2.1.1

A liquid with a closed-cup flash point below 37.8°C (100°F) shall be designated as a Class I liquid (i.e., flammable liquid), as determined by the test procedures and apparatus set forth in 3.4.3 and a Reid vapor pressure that does not exceed an absolute pressure of 276 kPa (40 psi) at 37.8°C (100°F), as determined by ASTM D323, *Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method)*. [30:4.2.1.1]

3.4.2.1.2

Class I liquids shall be further subclassified in accordance with the following: (1) *Class IA Liquid*. A liquid that has a flash point below 22.8°C (73°F) and a boiling point below 37.8°C (100°F); (2) *Class IB Liquid*. A liquid that has a flash point below 22.8°C (73°F) and a boiling point at or above 37.8°C (100°F); (3) *Class IC Liquid*. A liquid that has a flash point at or above 22.8°C (73°F), but below 37.8°C (100°F). [30:4.2.1.2]

3.4.2.2 Class II Liquids.

A liquid with a closed-cup flash point at or above 37.8°C (100°F) but below 60°C (140°F) shall be designated as a Class II liquid (i.e., combustible liquid), as determined by the test procedures and apparatus set forth in 3.4.3. [30:4.2.2]

3.4.2.3 Class III Liquids.

3.4.2.3.1

A liquid with a closed-cup flash point at or above 60°C (140°F) shall be designated as a Class III liquid (i.e., combustible liquid), as determined by the test procedures and apparatus set forth in 3.4.3. [30:4.2.3.1]

3.4.2.3.2

Class III liquids shall be further subclassified in accordance with the following: (1) *Class IIIA Liquid*. A liquid that has a flash point at or above 60°C (140°F), but below 93°C (200°F); (2) *Class IIIB Liquid*. A liquid that has a flash point at or above 93°C (200°F). [30:4.2.3.2]

3.4.3 Determination of Flash Point (FP).

The flash point of a liquid shall be determined according to the methods specified in 3.4.3.1 through 3.4.3.4. [30:4.4]

3.4.3.1

Except as specified in 3.4.3.1.1, the flash point of a liquid having a viscosity below 5.5 centistoke's at 40°C (104°F) or below 9.5 centiStokes at 25°C (77°F) shall be determined in accordance with ASTM D56, *Standard Test Method for Flash Point by Tag Closed Cup Tester*. [30:4.4.1]

3.4.3.1.1

Cut-back asphalts, liquids that tend to form a surface film, and liquids that contain suspended solids shall not be tested in accordance with ASTM D56, *Standard Test Method for Flash Point by Tag Closed Cup Tester*, even if they otherwise meet the viscosity criteria. [30:4.4.1.1]

3.4.3.1.2

Such liquids as stated in 3.4.3.1.1 shall be tested in accordance with 3.4.3.2. [30:4.4.1.2]

3.4.3.2

The flash point of a liquid having a viscosity of 5.5 centiStokes or more at 40°C (104°F) or 9.5 centiStokes or more at 25°C (77°F) or a flash point of 93.4°C (200°F) or higher shall be determined in accordance with ASTM D93, *Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester*. [30:4.4.2]

3.4.3.3

As an alternative, ASTM D3278, *Standard Test Methods for Flash Point of Liquids by Small Scale Closed-Cup Apparatus*, shall be permitted to be used for paints, enamels, lacquers, varnishes, and related products and their components that have flash points between 0°C (32°F) and 110°C (230°F) and viscosities below 150 Stokes at 25°C (77°F). [30:4.4.3]

3.4.3.4

As an alternative, ASTM D3828, *Standard Test Methods for Flash Point by Small Scale Closed Cup Tester*, shall be permitted to be used for materials other than those for which ASTM D3278 is specifically required. [30:4.4.4]

4.3.3.3* Construction and Installation of Storage Tank Vaults.

[30:25.5]

A.4.3.3.3

Some of the specifications for vault design and construction include the following:

- (1) The walls and floor of the vault are to be constructed of reinforced concrete at least 50 mm (6 in.) thick.
- (2) The top and floor of the vault and the tank foundation must be designed to withstand all anticipated loading, including loading from vehicular traffic, where applicable.
- (3) The walls and floor of a belowgrade vault must be designed to withstand anticipated soil and hydrostatic loading.
- (4) The vault must be liquidtight.
- (5) The vault enclosure must have no openings except those necessary for access to, inspection of, and filling, emptying, and venting of the tank.
- (6) The vault must be provided with connections to permit ventilation to dilute, disperse, and remove any vapors prior to personnel entering the vault.

- (7) The vault must be provided with a means for personnel entry.
- (8) The vault must be provided with an approved means to admit a fire suppression agent. [30: A.25.5]

4.3.3.3.1 Construction Requirements.

Vaults shall be designed and constructed in accordance with 4.3.3.3.1.1 through 4.3.3.3.1.4. [30:25.5.1]

4.3.3.3.1.3

Adjacent vaults shall be permitted to share a common wall. [30:25.5.1.3]

4.3.3.3.1.4

Where required, the vault shall be wind and earthquake resistant, in accordance with recognized engineering standards. [30:25.5.1.4]

4.3.3.3.2 Installation Requirements.

Storage tank vaults shall be installed in accordance with the requirements of 4.3.3.3.2.1 and 4.3.3.3.2.2. [30:25.5.2]

4.3.3.3.2.1

Each vault and its tank shall be anchored to resist uplifting by groundwater or flooding, including when the tank is empty. [30:25.5.2.1]

4.3.3.3.2.2

Vaults that are not resistant to damage from the impact of a motor vehicle shall be protected by collision barriers. [30:25.5.2.2]

4.3.3.4 Tank Selection and Arrangement.

4.3.3.4.1

Tanks shall be listed for aboveground use.

4.3.3.4.2

Each tank shall be in its own vault and shall be completely enclosed by the vault. [30:25.3.1.5]

4.3.3.4.3

Sufficient clearance between the tank and the vault shall be provided to allow for visual inspection and maintenance of the tank and its appurtenances. [30:25.3.1.6]

4.3.3.4.4

Backfill shall not be permitted around the tank. [30:25.3.1.7]

4.3.3.6 Ventilation Systems for Storage Tank Vaults.

[30:25.10]

4.3.3.6.1

Vaults that contain tanks storing Class I liquids [FP < 37.8°C (100°F)] shall be ventilated at a rate of not less than 0.3 m³/min/m² of floor area (1 cfm/ft²), but not less than 4 m³/min (150 cfm). [30:25.10.1]

4.3.3.6.2

Such ventilation shall operate continuously or shall be designed to operate upon activation of a vapor and liquid detection system. [30:25.10.2]

4.3.3.6.3

Failure of the exhaust airflow shall automatically shut down the dispensing system. [30:25.10.3]

4.3.3.6.4

The exhaust system shall be designed to provide air movement across all parts of the vault floor. [30:25.10.4]

4.3.3.6.5

Supply and exhaust ducts shall extend to within 75 mm (3 in.), but not more than 300 mm (12 in.) of the floor. [30:25.10.5]

4.3.3.6.6

The exhaust system shall be installed in accordance with the provisions of NFPA 91. [30:25.10.6]

4.3.3.7 Vapor and Liquid Detection Systems.

4.3.3.7.1

Each vault shall be provided with an approved vapor and liquid detection system that is equipped with on-site audible and visual warning devices with battery backup. [30:25.15.1]

4.3.3.7.2

The vapor detection system shall sound an alarm when the system detects vapors that reach or exceed 25 percent of the lower flammable limit of the liquid stored. [30:25.15.2]

4.3.3.7.3

Vapor detectors shall be located no higher than 300 mm (12 in.) above the lowest point in the vault. [30:25.15.3]

4.3.3.7.4

The liquid detection system shall sound an alarm upon detection of any liquid, including water. [30:25.15.4]

4.3.3.7.5

Liquid detectors shall be located in accordance with the manufacturer's instructions. [30:25.15.5]

4.3.3.7.6

Activation of either the vapor detection system or the liquid detection system shall cause a signal to be sounded at an approved, constantly attended location within the facility serving the tanks or at an approved location. [30:25.15.6]

4.3.3.8

In lieu of the separation distance requirements given in Section 22.4 of NFPA 30, separation distances between the vault and any of the following shall be permitted to be reduced to 0 m (0 ft), as measured from the outer perimeter of the vault wall:

- (1) Any property line that is or can be built upon
- (2) The near and far sides of a public way
- (3) The nearest important building on the same property

[30:25.4]

4.3.3.9

Vaults and their required equipment shall be maintained in accordance with the requirements of 4.3.3. [30:25.16]

4.3.5 Protected Tanks.

Protected aboveground tanks shall be tested and listed in accordance with UL 2085, *Protected Aboveground Tanks for Flammable and Combustible Liquids*. [30:22.10.1]

4.3.5.1

Protected aboveground tanks shall also meet both of the following requirements:

- (1) The construction that provides the required fire-resistive protection shall reduce the heat transferred to the primary tank in order to limit the temperature of the primary tank to an average maximum rise of 144°C (260°F) and a single point maximum rise of 204°C (400°F) and to prevent release of ignitable (flammable or combustible) liquid, failure of the primary tank, failure of the supporting structure, and impairment of venting for a period of not less than 2 hours when tested using the fire exposure specified in UL 2085.
- (2) Reduction in sizing of the emergency vents in accordance with 22.7.3.5 of NFPA 30 shall not be permitted.

[30:22.10.2]



First Revision No. 31-NFPA 30A-2021 [Global Input]

[See attached file for updates to existing sections and a new Chapter 15].

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
30A_FR-31_new_Ch_15.docx	For staff use	
30A_Global_FR-31_new_Chapter_15_for_ballot.pdf	For ballot	

Submitter Information Verification

Committee: AUV-AAA

Submission Date: Thu Nov 11 12:44:49 EST 2021

Committee Statement

Committee Statement: A task group was established at the end of the last revision cycle to draft requirements for Electric Vehicle charging stations located at fuel dispensing facilities, as there currently are no requirements in this area. Chapter 15 - Electric Vehicle Charging Stations is proposed requirements for charging stations located at refueling facilities where flammable and combustible liquids.

Response Message: FR-31-NFPA 30A-2021

[Public Input No. 25-NFPA 30A-2021 \[New Section after 8.3.9\]](#)

[Public Input No. 24-NFPA 30A-2021 \[New Section after 8.3.9\]](#)

[Public Input No. 26-NFPA 30A-2021 \[New Section after 9.2.5.5\]](#)

GLOBAL FR-31

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 a motor fuel dispensing facility.

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 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, 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, 2020]

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, 2020]

3.3.8 Electric Vehicle Charging Station (EVCS).

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.

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. [70:625.2]

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.

3.3.11 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, 2020]

3.3.17 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, 2020]

3.3.21 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 (EVCS) are installed at a motor fuel dispensing facility.

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, 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. (See 3.3.7.) [70:100]

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. (See A.3.3.7.) [70:100]

15.2.2 Electric Vehicle Charging Station (EVCS).

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. (See 3.3.8.)

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. (See 3.3.9.) [70:625.2]

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.)

15.2.5 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. (See 3.3.11.) [855, 2020]

15.2.6 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). (See 3.3.17.) [70:100]

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

15.3.1.1

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

15.3.3 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 Requirements.

15.4.1

EVCS shall be designed and constructed in accordance with state and local building codes, ordinances, 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.

15.5.1

ESS or EVSE shall be protected against collision damage by guard posts or other approved means.

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.

15.6 Maneuvering on Site.

15.6.1

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

15.6.2

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

15.7 Signage.

Emergency instructions shall be conspicuously posted in the area of the EVCS equipment and incorporate the following or equivalent wording:

In case of fire:

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

15.8* Operation.

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

A.15.8

See Chapter 34 of NFPA 70B for additional guidance.

15.8.1

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

15.8.2

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

15.9 Emergency Electrical Disconnects.

15.9.1

EVSE 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.

15.9.2

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 EVCS.

15.9.3

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

15.9.4

Emergency shutoff devices or electrical disconnects for the EVCS 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.

15.9.5

Resetting from an emergency shutoff condition shall require manual intervention.

15.9.6

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

15.10 Lighting.

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

15.11 Fire Extinguishers.

15.11.1

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

15.11.2

Portable fire extinguishers shall be selected, installed, inspected, and maintained in accordance with 9.2.5.2 and NFPA 10.

15.12 Inspection and Maintenance.

15.12.1

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.

15.12.2

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.



First Revision No. 10-NFPA 30A-2021 [Detail]

9.2.5.1 Sources of Ignition.

Smoking ~~Lit~~ Smoking materials or igniters, including ~~matches and lighters~~ electronic cigarettes, shall not be used within 6 m (20 ft) of areas used for fueling, servicing fuel systems of internal combustion engines, or receiving or dispensing of Class I and Class II liquids.

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Thu Oct 14 16:18:49 EDT 2021

Committee Statement

Committee Statement: This revision encompasses vaping devices to make clear that these may be an ignition source.

FR-10 is a separate ballot item from FR-7 and is to be balloted separately.

Response Message: FR-10-NFPA 30A-2021



First Revision No. 9-NFPA 30A-2021 [New Section after 1.1.4]

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 .

Submitter Information Verification

Committee: AUV-AAA

Submission Date: Thu Oct 14 15:36:23 EDT 2021

Committee Statement

Committee Statement: There is a concern that NFPA 30A could be applied to a bobtail making a delivery to a vehicle (like a forklift or car) and invoke a requirement from Chapter 14. This requirement directs users to NFPA 58 in these cases.

Response Message: FR-9-NFPA 30A-2021



First Revision No. 13-NFPA 30A-2021 [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*, 2020 2023 edition.

NFPA 10, *Standard for Portable Fire Extinguishers*, 2018 2022 edition.

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2019 2022 edition.

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

NFPA 30, *Flammable and Combustible Liquids Code*, 2021 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*, 2018 2023 edition.

NFPA 51B, *Standard for Fire Prevention During Welding, Cutting, and Other Hot Work*, 2019 2024 edition.

NFPA 52, *Vehicular Natural Gas Fuel Systems Code*, 2019 2023 edition.

NFPA 54, *National Fuel Gas Code*, 2021 2024 edition.

NFPA 55, *Compressed Gases and Cryogenic Fluids Code*, 2020 2023 edition.

NFPA 58, *Liquefied Petroleum Gas Code*, 2020 2023 edition.

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

NFPA 72[®], *National Fire Alarm and Signaling Code*[®], 2019 2022 edition.

NFPA 80, *Standard for Fire Doors and Other Opening Protectives*, 2019 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*, 2019 2023 edition.

NFPA 86, *Standard for Ovens and Furnaces*, 2019 2023 edition.

NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*, 2021 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*[®], 2021 2024 edition.

NFPA 211, *Standard for Chimneys, Fireplaces, Vents, and Solid Fuel–Burning Appliances*, 2019 2024 edition.

NFPA 220, *Standard on Types of Building Construction*, 2021 2024 edition.

NFPA 253, *Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source*, 2019 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*, 2017 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 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*, 2019 2020 .

ASTM D56, *Standard Test Method for Flash Point by Tag Closed Cup Tester*, 2016a 2021 .

ASTM D93, *Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester*, 2018 2020 .

ASTM D323, *Standard Method of Test for Vapor Pressure of Petroleum Products (Reid Method)*, 2015a 2020a .

ASTM D3278, *Standard Test Methods for Flash Point of Liquids by Small Scale Closed-Cup Apparatus*, 1996 ~~(2011)~~ 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*, 1990 ~~(2019)~~ 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.

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 (2016 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)*, 2018 2019 (2020).

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

CAN/ UL/ULC 842, *Valves for Flammable Fluids and Combustible Liquids*, 2015 (2017) 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*, 1st edition, 2011 (2018) 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 US Government Publications.

US 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.

~~ASME, *Boiler and Pressure Vessel Code*, 2019.~~

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

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

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

~~CSA B401, *Vehicle Maintenance Facilities Code*, Table 4, 2018.~~

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

2.4 References for Extracts in Mandatory Sections.

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

NFPA 70®, *National Electrical Code®*, 2020 edition.

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

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
30A-FR-13_Chapter_2.docx	Staff use only	

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Mon Oct 18 17:41:43 EDT 2021

Committee Statement

Committee Statement: The NFPA Manual of Style requires the most recent reference editions.

Public Input No. 42-NFPA 30A-2021 [Section No. 2.3.3]



First Revision No. 35-NFPA 30A-2021 [Section No. 3.3.13]

3.3.19 Safety Can.

A listed container of not more than 20 L (5.3 gal) (~~20 L~~) capacity having a spring-closing lid and spout cover, and so designed that it will safely relieve internal pressure when subjected to fire exposure.

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Fri Dec 10 12:19:52 EST 2021

Committee Statement

Committee Statement: Units are switched to match code format to list SI units first.

Response Message: FR-35-NFPA 30A-2021



First Revision No. 22-NFPA 30A-2021 [Section No. 4.3.7.1.1]

4.3.7.1.1

Tanks that are not enclosed in vaults shall be enclosed by a perimeter property security fence or a separate chain link fence, at least 1.8 m (6 ft) high, or provided with equivalent security provisions approved by the authority having jurisdiction .

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Tue Oct 19 14:05:49 EDT 2021

Committee Statement

Committee Statement: This makes NFPA 30A consistent with 40 CFR 112 which now provides some flexibility to provide other measures in lieu of a fence.

Response Message: FR-22-NFPA 30A-2021

[Public Input No. 28-NFPA 30A-2021 \[Section No. 4.3.7.1.1\]](#)



First Revision No. 23-NFPA 30A-2021 [Section No. 6.7.2]

6.7.2

~~Emergency shutoff devices~~ At least one emergency shutoff device or electrical disconnects shall be installed in approved locations, ~~but~~ not less than 6 m (20 ft) or more than 30 m (100 ft) from the fuel dispensing devices that they serve.

6.7.3

Additional shutoff devices or electrical disconnects shall be permitted to be located less than 6 m (20 ft) or greater than 30 m (100 ft) from an individual dispenser.

Submitter Information Verification

Committee: AUV-AAA

Submission Date: Tue Oct 19 14:36:15 EDT 2021

Committee Statement

Committee Statement: There are situations, for example fleet UST dispensing facilities located in parking lots more than 100' from a building where the canopy column is the only practical location to locate an e-stop device. In this case, the approach is to add one device at every column, so that there is at least one device that meets the 20-100' requirement from every dispenser. Some AHJs have interpreted the current language to mean that there can be no disconnect within 20' of any dispenser, regardless if there additional devices, which was not the intent of the language.

Response Message: FR-23-NFPA 30A-2021

Public Input No. 3-NFPA 30A-2021 [Section No. 6.7.2]



First Revision No. 24-NFPA 30A-2021 [Section No. 6.7.3]

6.7.4

Emergency shutoff devices or electrical disconnects shall disconnect power to all dispensing devices not supplied by circuits that are identified to be intrinsically safe; to all remote pumps serving the dispensing devices; to all associated power, control, and signal circuits; ~~and~~ to all other electrical equipment in the hazardous (classified) locations ~~surrounding the fuel dispensing devices~~ ; and to electrical receptacles over or adjacent to the hazardous (classified) locations .

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Tue Oct 19 14:49:47 EDT 2021

Committee Statement

Committee Statement: Often there are situations with receptacles that can serve corded portable tools, chargers, or vacuums that may be outside the hazard location proper, but can serve tools or devices that can be used in the hazard location. Such receptacles, such as those on overhead hose reels, should be disconnected.

Response Message: FR-24-NFPA 30A-2021

[Public Input No. 2-NFPA 30A-2021 \[Section No. 6.7.3\]](#)



First Revision No. 15-NFPA 30A-2021 [Section No. 7.4.3.1]

7.4.3.1

Slip-resistant, nonabsorbent, interior floor finishes having a critical radiant flux not less than 0.45 W/cm^2 ($9.87 \text{ Btu/in.}^2\text{-hr}$), as determined by NFPA 253, shall be ~~required~~ permitted .

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Tue Oct 19 08:33:46 EDT 2021

Committee Statement

Committee Statement: The change allows the use of concrete floors and does not require installing a flooring with the heat flux rating.

Response Message: FR-15-NFPA 30A-2021

[Public Input No. 46-NFPA 30A-2021 \[Global Input\]](#)



First Revision No. 3-NFPA 30A-2021 [Section No. 7.8.9.1]

7.8.9.1

Pits, belowgrade work areas, and subfloor work areas in ~~CNG and~~ LNG vehicle repair areas shall meet the requirements of 7.4.4.

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Thu Oct 14 11:39:47 EDT 2021

Committee Statement

Committee Statement: Eliminate application of requirement to CNG because CNG is lighter than air

Response Message: FR-3-NFPA 30A-2021

[Public Input No. 36-NFPA 30A-2021 \[Section No. 7.8.9.1\]](#)



First Revision No. 4-NFPA 30A-2021 [Section No. 7.8.9.2]

7.8.9.2

Pits used in major repair garages for ~~CNG and~~ LNG vehicles shall have a continuous ventilation system as per Table 8.3.3 or a ventilation system that is initiated automatically upon the detection of a gas concentration of 25 percent of the lower flammable limit (LFL).

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Thu Oct 14 11:41:34 EDT 2021

Committee Statement

Committee Statement: The requirement eliminates CNG because CNG is lighter than air

Response Message: FR-4-NFPA 30A-2021

[Public Input No. 37-NFPA 30A-2021 \[Section No. 7.8.9.2\]](#)



First Revision No. 6-NFPA 30A-2021 [Section No. 8.3.3]



8.3.3*

Table 8.3.3, Figure 8.3.3(a), and Figure 8.3.3(b) shall be used to delineate and classify areas for the purposes of installing electrical wiring and electrical utilization equipment where Class I liquids are stored, handled, or dispensed.

Figure 8.3.3(a) Classified Areas Adjacent to Dispensers.

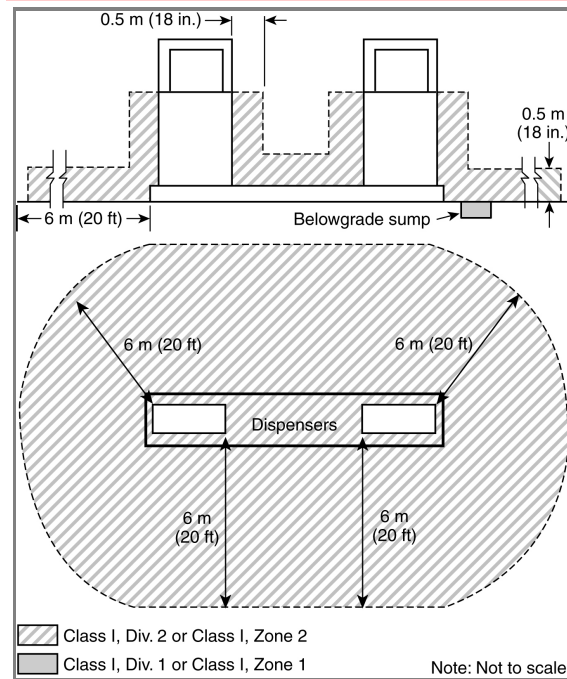
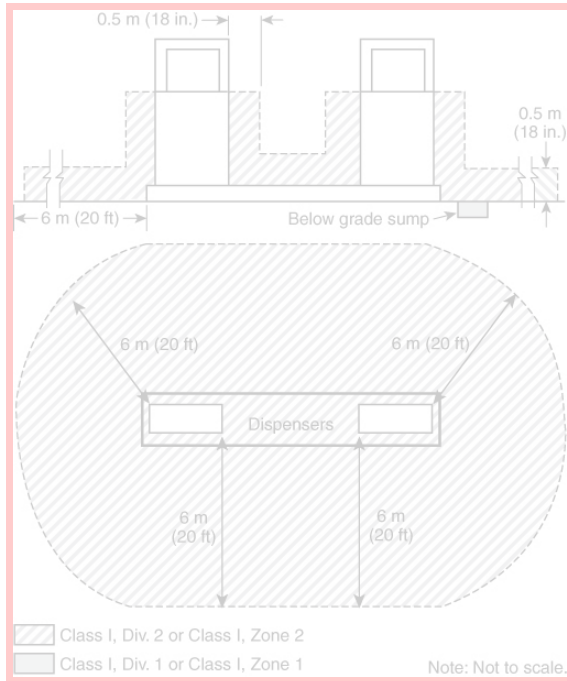


Figure 8.3.3(b) Classified Areas Adjacent to Dispenser Mounted on Aboveground Storage Tank.

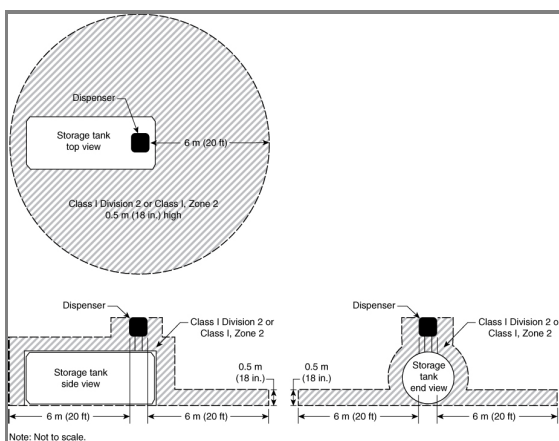


Table 8.3.3 Class I Locations — Motor Fuel Dispensing Facilities

Class I			
<u>Location</u>	<u>Division (Group D)</u>	<u>Zone (Group IIA)</u>	<u>Extent of Classified Location^a</u>
<i>Dispensing device</i>			
<i>(except overhead type)^{b,c}</i>			
Under dispenser containment	1	1	Entire space within and under dispenser pit or containment
Dispenser	2	2	Within 450 mm (18 in.) of dispenser enclosure or that portion of a dispenser enclosure containing liquid handling components, extending horizontally in all directions and down to grade level
Outdoor	2	2	Up to 450 mm (18 in.) above grade level, extending 6 m (20 ft) horizontally in all directions from the dispenser enclosure
Indoor			
With mechanical ventilation	2	2	Up to 450 mm (18 in.) above floor level, extending 6 m (20 ft) horizontally in all directions from dispenser enclosure
With gravity ventilation	2	2	Up to 450 mm (18 in.) above floor level, extending 7.5 m (25 ft) horizontally in all directions from the dispenser enclosure
<i>Dispensing device</i>			
<i>(overhead type)^d</i>			
	1	1	Space within dispenser enclosure and all electrical equipment integral to dispensing hose or nozzle
	2	2	Within 450 mm (18 in.) of dispenser enclosure, extending horizontally in all directions and down to grade level
	2	2	Up to 450 mm (18 in.) above grade level, extending 6 m (20 ft) horizontally in all directions from a point vertically below the edge of the dispenser enclosure
<i>Repair garage, major^e</i> <i>(where Class I liquids or</i>	1	1	Entire space within any pit, belowgrade work area, or subfloor work area that is not ventilated

<u>Location</u>	<u>Class I</u>		<u>Extent of Classified Location^a</u>
	<u>Division (Group D)</u>	<u>Zone (Group IIA)</u>	
gaseous fuels are transferred or dispensed ^f) (see <u>3.3.12.1</u> <u>3.3.18.1</u> and 8.3.1)	2	2	Entire space within any pit, belowgrade work area, or subfloor work area that is provided with ventilation of at least 0.3 m ³ /min/m ² (1 ft ³ /min/ft ²) of floor area, with suction taken from a point within 300 mm (12 in.) of floor level (see 7.4.4.4)
	2	2	Up to 450 mm (18 in.) above floor level of the room, except as noted below, for entire floor area
	Unclassified	Unclassified	Up to 450 mm (18 in.) above floor level of the room where the room is provided with ventilation of at least 0.3 m ³ /min/m ² (1 ft ³ /min/ft ²) of floor area, with suction taken from a point within 300 mm (12 in.) of floor level
	2	2	Within 0.9 m (3 ft) of any fill or dispensing point, extending in all directions
Specific areas adjacent to classified locations	Unclassified	Unclassified	Areas adjacent to classified locations where flammable vapors are not likely to be released, such as stock rooms, switchboard rooms, and other similar locations that are mechanically ventilated at a rate of four or more air changes per hour or designed with positive air pressure or where effectively cut off by walls or partitions
<i>Repair garage, minor^e</i> (where Class I liquids or gaseous fuels are not transferred or dispensed ^f) (see <u>3.3.12.2</u> <u>3.3.18.2</u> and 8.3.1)	2	2	Entire space within any pit, belowgrade work area, or subfloor work area that is not ventilated
	2	2	Up to 450 mm (18 in.) above floor level, extending 0.9 m (3 ft) horizontally in all directions from the opening to any pit, belowgrade work area, or subfloor work area that is not ventilated
	Unclassified	Unclassified	Entire space within any pit, belowgrade work area, or subfloor work area that is provided with ventilation of at least 0.3 m ³ /min/m ² (1 ft ³ /min/ft ²) of floor area, with suction taken from a point within 300 mm (12 in.) of floor level (see 7.4.4.4)
	Unclassified	Unclassified	Entire space within any pit, belowgrade work area, or subfloor work area that is provided with ventilation of at least 0.3 m ³ /min/m ² (1 ft ³ /min/ft ²) of floor area, with suction taken from a point within 300 mm (12 in.) of floor level (see 7.4.4.4)
Specific areas adjacent to classified locations	Unclassified	Unclassified	Areas adjacent to classified locations where flammable vapors are not likely to be released, such as stock rooms, switchboard rooms, and other similar locations that are mechanically ventilated at a rate of four or more air changes per hour or designed with positive air pressure or where effectively cut off by walls or partitions

<u>Location</u>	<u>Class I</u>		<u>Extent of Classified Location^a</u>
	<u>Division (Group D)</u>	<u>Zone (Group IIA)</u>	
<i>Repair garage or repair area, major^e</i> (where lighter-than-air gaseous fueled ^g vehicles are repaired or stored) (see 3.3.12.1 3.3.18.1)	2	2	Within 450 mm (18 in.) of the ceiling, except as noted below
Specific areas adjacent to classified locations	Unclassified	Unclassified	Within 450 mm (18 in.) of the ceiling where ventilation of at least 0.3 m ³ /min/m ² (1 ft ³ /min/ft ²) of floor area, with suction taken from a point within 450 mm (18 in.) of the highest point in the ceiling
<i>Repair garage or repair area, major (where LNG vehicles are repaired or stored)</i> (see 3.3.12.1 3.3.18.1)	2	2	Within 450 mm (18 in.) of the ceiling, except as noted below
	<u>2</u>	<u>2</u>	<u>Within 450 mm (18 in.) above floor level</u>
	1	1	Entire space within any pit, belowgrade work area, or subfloor work area that is not provided with ventilation of at least 0.3 m ³ /min/m ² (1 ft ³ /min/ft ²) of floor area, with suction taken from a point within 300 mm (12 in.) of floor level (see 7.4.4.4)
	2	2	Entire space within any pit, belowgrade work area, or subfloor work area that is provided with ventilation of at least 0.3 m ³ /min/m ² (1 ft ³ /min/ft ²) of floor area, with suction taken from a point within 300 mm (12 in.) of floor level (see 7.4.4.4)
	Unclassified	Unclassified	Within 450 mm (18 in.) of the ceiling with ventilation of at least 0.3 m ³ /min/m ² (1 ft ³ /min/ft ²) of floor area, with suction taken from a point within 450 mm (18 in.) of the highest point in the ceiling
Defueling and captive vent outlet	1	1	1.5 m (5 ft) in all directions from vent outlet
	2	2	Beyond 1.5 m (5 ft) in all directions up to 4.5 m (15 ft) from vent outlet
Specific areas adjacent to classified locations	Unclassified	Unclassified	Areas adjacent to classified locations where flammable vapors are not likely to be released, such as stock rooms, switchboard rooms, and other similar locations that are mechanically ventilated at a rate of four or more air changes per hour or designed with positive air pressure or where effectively cut off by walls or partitions

<u>Location</u>	<u>Class I</u>		<u>Extent of Classified Location^a</u>
	<u>Division (Group D)</u>	<u>Zone (Group IIA)</u>	
<i>Remote pump</i>			
Outdoor	1	1	Entire space within any pit or box below grade level, any part of which is within 3 m (10 ft) horizontally from any edge of the pump
	2	2	Within 900 mm (3 ft) of any edge of the pump, extending horizontally in all directions
	2	2	Up to 450 m (18 in.) above grade level, extending 3 m (10 ft) horizontally in all directions from any edge of the pump
Indoor	1	1	Entire space within any pit
	2	2	Within 1.5 m (5 ft) of any edge of the pump, extending in all directions
	2	2	Up to 900 mm (3 ft) above floor level, extending 7.5 m (25 ft) horizontally in all directions from any edge of the pump
<i>Sales, storage, rest rooms</i> (including structures, such as the attendant's kiosk, on or adjacent to dispensers)	Unclassified	Unclassified	Except as noted below
	1	1	Entire volume, if there is any opening to the room within the extent of a Division 1 or Zone 1 location
	2	2	Entire volume, if there is any opening to the room within the extent of a Division 2 or Zone 2 location
<i>Tank, aboveground</i>			
Inside tank	1	0	Entire inside volume
Shell, ends, roof, dike area	1	1	Entire space within the dike, where the dike height exceeds the distance from the tank shell to inside of the dike wall for more than 50 percent of the tank circumference
	2	2	Entire space within the dike, where the dike height does not exceed the distance from the tank shell to the inside of the dike wall for more than 50 percent of the tank circumference
	2	2	Within 3 m (10 ft) of shell, ends, or roof of tank
Vent	1	1	Within 1.5 m (5 ft) of open end of vent, extending in all directions
	2	2	Between 1.5 m and 3 m (5 ft and 10 ft) from open end of vent, extending in all directions
<i>Tank, aboveground, shop-fabricated, secondary containment tank used for</i>			

<u>Location</u>	<u>Class I</u>		<u>Extent of Classified Location^a</u>
	<u>Division (Group D)</u>	<u>Zone (Group IIA)</u>	
<i>the storage of Class I motor fuels</i>			
Inside tank	1	0	Entire inside volume
Shell, ends, roof	2	2	Within 450 mm (18 in.) of shell, ends, or roof of tank
Vent	1	1	Within 1.5 m (5 ft) of open end of the vent, extending in all directions
	2	2	Between 1.5 m and 3 m (5 ft and 10 ft) from open end of the vent, extending in all directions
<i>Tank, underground</i>			
Inside tank	1	0	Entire inside volume
Fill opening	1	1	Entire space within any pit or box below grade level, any part of which is within a Division 1 or Division 2 classified location or within a Zone 1 or Zone 2 classified location
	2	2	Up to 450 mm (18 in.) above grade level, extending 1.5 m (5 ft) horizontally in all directions from any tight-fill connection and extending 3 m (10 ft) horizontally in all directions from any loose-fill connection
Vent	1	1	Within 1.5 m (5 ft) of open end of vent, extending in all directions
	2	2	Between 1.5 m and 3 m (5 ft and 10 ft) from open end of vent, extending in all directions
<i>Vapor processing system</i>			
Pits	1	1	Entire space within any pit or box below grade level, any part of which: (1) is within a Division 1 or Division 2 classified location; (2) is within a Zone 1 or Zone 2 classified location; and (3) houses any equipment used to transfer or process vapors
Equipment in protective enclosures	2	2	Entire space within enclosure
Equipment <i>not</i> within protective enclosure	2	2	Within 450 mm (18 in.) of equipment containing flammable vapors or liquid, extending horizontally in all directions and down to grade level
	2	2	Up to 450 mm (18 in.) above grade level within 3 m (10 ft) horizontally of the vapor processing equipment

<u>Location</u>	<u>Class I</u>		<u>Extent of Classified Location^a</u>
	<u>Division (Group D)</u>	<u>Zone (Group IIA)</u>	
Equipment enclosure	1	1	Entire space within enclosure, if flammable vapor or liquid is present under normal operating conditions
	2	2	Entire space within enclosure, if flammable vapor or liquid is <i>not</i> present under normal operating conditions
Vacuum-assist blower	2	2	Within 450 mm (18 in.) of blower, extending horizontally in all directions and down to grade level
	2	2	Up to 450 mm (18 in.) above grade level, extending 3 m (10 ft) horizontally in all directions
<i>Vault</i>	1	1	Entire interior space, if Class I liquids are stored within

^aFor marine application, *grade level* means the surface of a pier, extending down to water level.

^bRefer to Figures 8.3.3(a) and 8.3.3(b) for illustrations of classified locations around dispensing devices.

^cArea classification inside the dispenser enclosure is covered in UL 87, *Power-Operated Dispensing Devices for Petroleum Products*.

^dCeiling-mounted hose reel.

^eThe terms *repair garage, major* and *repair garage, minor* are intended to correlate with Article 511.3 of *NFPA 70*. For the purposes of the application of this table, these terms do not include associated floor space used for offices, parking, or showrooms.

^fIncludes draining of Class I liquids from vehicles.

^gIncludes fuels such as hydrogen and natural gas, but not LP-Gas.

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
30A_FR-6_8.3.3.docx	This file shows the addition to Table 8.3.3 instead of Terra. Staff use only.	

Submitter Information Verification

Committee: AUV-AAA

Submission Date: Thu Oct 14 12:38:28 EDT 2021

Committee Statement

Committee Statement: Add new row as proposed to align with NEC and be consistent with other fuels such as gasoline that would collect on the floor.

Response Message: FR-6-NFPA 30A-2021

[Public Input No. 41-NFPA 30A-2021 \[Section No. 8.3.3\]](#)



First Revision No. 7-NFPA 30A-2021 [Section No. 9.2.5.1]

[Detail FR-10](#)

9.2.5.1 Sources of Ignition.

~~Smoking~~ Lit smoking materials or igniters, including matches and lighters, electronic cigarettes, shall not be used within 6 m (20 ft) of areas used for fueling, servicing fuel systems of internal combustion engines, or receiving or dispensing of Class I and Class II liquids. ~~The motors of all equipment being fueled shall be shut off during the fueling operation except for emergency generators, pumps, and so forth, where continuing operation is essential.~~

9.2.5.2* Continuing Operation.

~~The engines of all equipment or vehicles being fueled shall be shut off except where continuing operation is essential for protecting life, property, or the environment.~~

A.9.2.5.2

~~Examples include, but are not limited to, emergency generators, pumps, emergency vehicles, and refrigeration equipment.~~

Submitter Information Verification

Committee: AUV-AAA

Submission Date: Thu Oct 14 14:13:40 EDT 2021

Committee Statement

Committee Statement: The phrase 'and so forth' is outdated non-descript code language. It leaves an opening for interpretation as wide as the code user wants it to be... or not. The original intent of this section was likely to reduce ignition hazards are the point of dispensing. Based on historical data and fire loss analysis it is still the best practice to shut off the motor of all vehicles being fueled, except when continued operation of the motor is essential and necessary to the vehicle's purpose. Examples of this could be hazardous material transports which must continue temperature regulation by heating, cooling, or circulation of the commodity to prevent a much bigger problem. Critical transport of items such as medicine, organs, tissue, and animals require an environment in the storage area be maintained and depending on the vehicle this may only be possible with the motor running (versus an auxiliary chiller).

FR-7 is on the same section as FR-10 and is to be balloted separately.

Response Message: FR-7-NFPA 30A-2021

[Public Input No. 10-NFPA 30A-2021 \[Section No. 9.2.5.1\]](#)



First Revision No. 16-NFPA 30A-2021 [Section No. 9.2.5.2.4]

9.2.5.3.4 New Fire Extinguishers.

Newly installed Installed fire extinguishers, including replacements or exchanges, shall meet the requirements of 9.2.5.3.

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Tue Oct 19 11:55:56 EDT 2021

Committee Statement

Committee Statement: Adding an effective date creates a difficult retroactivity situation where the code is adopted by an AHJ after the effective date.

Response Message: FR-16-NFPA 30A-2021

[Public Input No. 11-NFPA 30A-2021 \[Section No. 9.2.5.2.4\]](#)



First Revision No. 32-NFPA 30A-2021 [Section No. 9.2.5.5]

9.2.5.6* Display of Materials.

The storage or placement for display or sale of products shall be prohibited within 6 m (20 ft) of any fuel dispenser.

9.2.5.6.1 Display of Merchandise.

The display for retail sale of uncartoned Class III combustible liquids not exceeding 94.6 L (25 gal) in total shall be permitted not less than 1.5 m (5 ft) from any fuel dispenser and not be more than 1.5 m (5 ft) in height.

9.2.5.6.1.1

Where multiple displays are present no single display shall exceed 94.6 L (25 gal) in total volume.

9.2.5.6.1.2

Multiple displays shall be at least 6 m (20 ft) from any adjacent displays.

9.2.5.6.1.3

Merchandise other than uncartoned Class III combustible liquids shall not be displayed, stored, or placed within 6 m (20 ft) of any fuel dispenser.

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Mon Nov 15 11:32:25 EST 2021

Committee Statement

Committee Statement: As currently written Section 9.2.5.5 means you can't merchandise motor oil, lubricant, or washer fluid within 20-feet of a fuel dispenser. That 'requirement' is generally and widely ignored by fuel dispensing operators who often go far beyond merchandising with oil, lube, and washer fluid to include firewood, beverage cases, toys, and even pyrotechnics (yes it happened). By regulating it within reason to address the commodity, quantity, and height there can be some sense of order which meets the needs of operators and code officials. Similar language in the 'other' global fire code was recently modified to remove a prior 10-foot minimum. By limiting this to only Class III liquids which are uncartoned (out of the box) there is a low risk of being readily ignited and becoming an exposure fire which imperils the dispenser. By adding a quantity and height limit visibility is addressed and distance limits would correlate with the other prevailing fire code.

Response Message: FR-32-NFPA 30A-2021

[Public Input No. 12-NFPA 30A-2021 \[New Section after 9.2.5.5\]](#)



First Revision No. 18-NFPA 30A-2021 [Section No. 9.7.2.4]

9.7.2.4

Compressed gases shall be stored in accordance with Chapter 4 of NFPA 51 and Chapters 4 and 7 of NFPA 55.

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Tue Oct 19 12:56:47 EDT 2021

Committee Statement

Committee Statement: The reference to NFPA 51 Chapter 4 is correct but incomplete. There are compressed gas cylinder rules which are not found in NFPA 51 but are found in NFPA 55 particularly for cylinder storage upright, protection of valves, marking or labeling of cylinders and storage areas. These basic safety rules for any compressed gas cylinder were referenced into 30-A via a new cross reference to NFPA 55 Chapters 4 & 7.

Response Message: FR-18-NFPA 30A-2021

[Public Input No. 13-NFPA 30A-2021 \[Section No. 9.7.2.4\]](#)



First Revision No. 19-NFPA 30A-2021 [Section No. 9.7.2.6]

9.7.2.6

~~Cylinders stored outside in the open shall have valves and safety devices protected against the accumulation of ice and snow~~ Exterior storage of cylinders shall comply with NFPA 51 and Chapters 4 and 7 of NFPA 55 .

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Tue Oct 19 12:58:50 EDT 2021

Committee Statement

Committee Statement: This follows with PI #13 and applies to exterior cylinder storage. The reference to NFPA 51 Chapter 4 is correct but incomplete. There are compressed gas cylinder rules which are not found in NFPA 51 but are found in NFPA 55 particularly for cylinder storage upright, protection of valves, marking or labeling of cylinders and storage areas. These basic safety rules for any compressed gas cylinder were referenced into 30-A via a new cross reference to NFPA 55 Chapters 4 & 7.

Response Message: FR-19-NFPA 30A-2021

[Public Input No. 14-NFPA 30A-2021 \[Section No. 9.7.2.6\]](#)



First Revision No. 26-NFPA 30A-2021 [Section No. 11.5.6]

11.5.6* Continuing Operation.

The motors engines of all equipment and vessels being fueled shall be shut off during the fueling operation , except for emergency generators, pumps, and so forth, where continuing operation is essential for protecting life, property, or the environment .

A.11.5.6

Examples include, but are not limited to, emergency generators, pumps, emergency vessels, and refrigeration equipment.

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
30A_FR-26_11.5.6.docx	staff use only	

Submitter Information Verification

Committee: AUV-AAA

Submission Date: Tue Oct 19 15:11:29 EDT 2021

Committee Statement

Committee Statement: This follows the same issue as PI # 10 (FR-7) with regard to the choice of 'and so forth' as code language. The vessel's motor is to be shut off during fueling except where essential and necessary to the vessel's purpose.

The phrase 'and so forth' is outdated non-descript code language. It leaves an opening for interpretation as wide as the code user wants it to be... or not. The original intent of this section was likely to reduce ignition hazards are the point of dispensing. Based on historical data and fire loss analysis it is still the best practice to shut off the motor of all vehicles being fueled, except when continued operation of the motor is essential and necessary to the vehicle's purpose. Examples of this could be hazardous material transports which must continue temperature regulation by heating, cooling, or circulation of the commodity to prevent a much bigger problem. Critical transport of items such as medicine, organs, tissue, and animals require an environment in the storage area be maintained and depending on the vehicle this may only be possible with the motor running (versus an auxiliary chiller).

Response Message: FR-26-NFPA 30A-2021

Public Input No. 15-NFPA 30A-2021 [Section No. 11.5.6]



First Revision No. 17-NFPA 30A-2021 [Section No. 11.7]

11.7 Portable Fire Control Extinguishers .

11.7.1

Each marine motor fuel dispensing facility shall be provided with fire extinguishers installed, inspected, and maintained as required by NFPA 10 . Extinguishers for marine motor fuel dispensing areas shall be provided according to the extra (high) hazard requirements for Class B hazards, except that the maximum travel distance to an 80 B:C extinguisher shall be permitted to be 31 m (100 ft) Portable fire extinguishers shall be selected, installed, inspected, and maintained in accordance with NFPA 10 and 11.7.1.1 through 11.7.1.3 .

11.7.1.1

All portable fire extinguishers installed to achieve compliance with this code shall be a minimum 9.1 kg (20 lb) ABC dry chemical type having an agent discharge rate of 0.45 kg/sec (1 lb/sec) or greater.

11.7.1.2

The maximum travel distance to any single fire extinguisher shall not exceed 30 m (100 ft) as measured along the designated walkways and aisles of the dock, pier, wharf, or bulkhead.

11.7.1.3

The maximum travel distance measurement shall not include traversing stairs, steps, ladders, or a gantry but can include walking ramps.

11.7.1.4

Fire extinguishers shall be required to comply with 11.7.1.1 through 11.7.1.3 when installed, replaced, or exchanged.

11.7.2

Piers that extend more than 152 m (500 ft) in travel distance from shore shall be provided with a Class III standpipe that is installed in accordance with NFPA 14.

11.7.3

Materials shall not be placed on a pier in such a manner that they obstruct access to firefighting equipment or important piping system control valves. Where the pier is accessible to vehicular traffic, an unobstructed roadway to the shore end of the wharf shall be maintained for access by fire-fighting apparatus.

11.7.3.1

Where the pier is accessible to vehicular traffic, an unobstructed roadway to the shore end of the wharf shall be maintained for access by firefighting apparatus.

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Tue Oct 19 12:19:07 EDT 2021

Committee Statement

Committee Statement: This will bring the marine fire extinguisher rules in line with the hi-flow requirements instituted for fixed and on-demand fueling. The 20# sizing recognizes that open air discharge of dry chemical agents can result in open air dispersal prior to reaching the burning material and having a larger sized extinguisher will provide some accommodation for that fact. This dispersal is likely more pronounced over water or in marine environments than at ground based fixed locations. Note that the proposed date in 11.7.1.1.4 was not included as applying retroactivity for states that adopt at different times can be problematic.

Response Message: FR-17-NFPA 30A-2021

[Public Input No. 16-NFPA 30A-2021 \[Section No. 11.7\]](#)



First Revision No. 1-NFPA 30A-2021 [Section No. 14.2.7]

14.2.7 Buildings and Parking Structures.

14.2.7.1

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

14.2.7.2

Mobile fueling operations shall be prohibited on or in parking structures unless approved.

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Wed Oct 13 15:03:20 EDT 2021

Committee Statement

Committee Statement: There are significant limitations to the current Section 14.2.6 of NFPA 30A Chapter 14. Unlike other sections of Chapter 14, 14.2.6 does not provide guidance where this operation could be done safely under the management of the “authority having jurisdiction” (AHJ). Specifically, Chapter 14.2.6 does not allow exceptions for approval by AHJ.’ This is a departure from the rest of the code in this chapter, which does otherwise accommodate such language. Many AHJs adhere to and enforce the most recent version of NFPA’s codes, not the latest code implemented by the AHJ’s state, which is often out of date. An AHJ should have the authority to certify a location safe to conduct mobile fueling operations, provided guidance by the NFPA. AHJs are the local authorities that know their local community best and should have the authority to oversee and manage all mobile fueling operations.

Response Message: FR-1-NFPA 30A-2021

Public Input No. 31-NFPA 30A-2021 [Section No. 14.2.7]



First Revision No. 36-NFPA 30A-2021 [Section No. 14.3.8.1]

14.3.8.1

The extinguisher shall be a minimum 4.5 kg (10 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.

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Fri Dec 10 12:27:37 EST 2021

Committee Statement

Committee Statement: SI equivalents added to requirement and SI units are placed first to match code format.

Response Message: FR-36-NFPA 30A-2021



First Revision No. 14-NFPA 30A-2021 [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*, 2021 2024 edition.

NFPA 2, *Hydrogen Technologies Code*, 2020 2023 edition.

NFPA 30, *Flammable and Combustible Liquids Code*, 2021 2024 edition.

NFPA 52, *Vehicular Natural Gas Fuel Systems Code*, 2019 2023 edition.

NFPA 58, *Liquefied Petroleum Gas Code*, 2020 2023 edition.

NFPA 70[®], National Electrical Code[®], 2020 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*, 2019 2024 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*, 2021 2024 edition.

Flammable and Combustible Liquids Code Handbook, 2018 edition.

D.1.2 Other Publications.

D.1.2.1 ANSI Publications.

~~American National Standards Institute, Inc., 25 West 43rd Street, 4th Floor, New York, NY 10036.~~

~~ANSI Z400.1/Z129.1, *Hazardous Workplace Chemicals — Hazard Evaluation Safety Data Sheet and Precautionary Labeling Preparation*, 2010.~~

D.1.2.1 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 2012 2020.

API RP 1626, *Storage and Handling of Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and Filling Stations*, 2nd edition, 2010, Errata, 2011, Addendum 1, 2012 reaffirmed 2020.

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

D.1.2.2 ICC Publications.

International Code Council, 500 New Jersey Avenue, NW, 6th Floor, Washington, DC 20001.

International Mechanical Code (IMC), 2021.

D.1.2.3 NACE Publications.

NACE International, 15835 Park Ten Place, Houston, TX 77084-5145.

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

D.1.2.4 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, P.O. ~~Drawer 28540~~, San Antonio, TX 78228-0540 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 U.S. US Government Publications.

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

~~DOT HM-181, *Basis Hazmat Employee Training Program* :~~

~~Title 29, Code of Federal Regulations, Part 1910.106, *Flammable Liquids* :~~

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.

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
30A-FR-14_Annex_D.docx	Staff use only	

Submitter Information Verification

Committee: AUV-AAA

Submittal Date: Mon Oct 18 18:11:46 EDT 2021

Committee Statement

Committee Statement: Per the NFPA Manual of Style the most recent editions of the references are required.

Response Message: FR-14-NFPA 30A-2021