

SC LP GAS BULK SITE INSTALLATION GUIDELINES NFPA 58 (2017)

This list only provides guidelines for installations. Licensees must be familiar with and comply with all applicable code requirements, as well as state and local laws.

LICENSE/PERMITS/ TRAINING		
		All appropriate permits shall be pulled and inspections complete from the authority having jurisdiction in your area (ie. Electrical) prior to the final site inspection.
Training	NFPA 58 4.4	Prior to the start of operations, all persons working at this site must be adequately trained and capable of providing proof of training to comply with NFPA 58 4.4.
Plans Submittal	NFPA 58 4.3.1	Plans for stationary installations utilizing storage containers with aggregate water capacity exceeding 4000 gal (15.2 m ³) and all rooftop installations of ASME containers shall be submitted to the authority having jurisdiction before the installation is started by the person or company that either installs or contracts to have the containers installed. [See also 6.22.11.1(F).] The Office of State Fire Marshal performs plan review on behalf of the Board in accordance with S.C Code of Laws 40-82-50. More information can be found here .
Fire Safety Analysis	NFPA 58 6.29.3.3	The fire safety analysis shall be submitted by the owner, operator, or their designee to the authority having jurisdiction and local emergency responders.
Written Operating Procedure Manuals	NFPA 58 15.2.1.5	Each facility shall prepare and maintain in a common location or locations written operating procedure manuals that contain the written operating procedures required by 15.2.1.
PIPING - LIQUID/ VAPOR - IN or OUT		
LP Hose Marked LP 350 psi	NFPA 58 5.9.6.4(A)	Hose shall be designed for a working pressure of 350 psig (2.4MPag) with a safety factor of 5 to 1 and shall be continuously marked with "LP GAS, PROPANE, 350 PSI WORKING PRESSURE", and the manufacturer's name or trademark.
Properly Sized Excess Flow Valve Required at container and change of pipe size	NFPA 58 5.9.8.1(H)	The connection or line that leads to or from any individual opening shall have a flow capacity greater than the rated flow of the excess-flow valve protecting the opening.
Label connections	NFPA 58 5.9.8.5	Container inlet and outlet connections on ASME containers of more than 2000 gal (7.6 m ³) water capacity shall be labeled either on the container service valve or on the container to designate whether they communicate with the vapor or liquid space.
Pressure Ratings	NFPA 58 5.11.1.4	Piping that can contain liquid LP-Gas and that can be isolated by valving and that requires hydrostatic relief valves, as specified under Section 6.15, shall have an operating pressure of 350 psig (2.4 MPag) or a pressure that is equivalent to the maximum discharge pressure of any pump or other source feeding the fixed piping system if it is greater than 350 psig (2.4 MPag).
Ratings	NFPA 58 5.11.4.2	Pipe fittings shall have a minimum pressure rating as specified in Table 5.11.4.2 and shall comply with (1-2)
Hose Marking	NFPA 58 5.11.6.4	Hose, hose connections, and flexible connectors used for conveying LP-Gas liquid or vapor at pressures in excess of 5 psig (34 kPag), and as provided in Section 6.22 regardless of the pressure, shall comply with 5.11.6.4(A) through 5.11.6.4(E).
Metallic Piping	NFPA 58 6.11.3.3	Metallic piping shall comply with 6.11.3.3(A) through 6.11.3.3(C). (A) Piping used at pressures higher than container pressure, such as on the discharge side of liquid transfer pumps, shall be designed for a pressure rating of at least 350 psig (2.4 MPag). (B) Vapor LP-Gas piping with operating pressures in excess of 125 psig (0.9 MPag) and liquid piping not covered by 6.11.3.3(A) shall be designed for a working pressure of at least 250 psig (1.7 MPag). (C) Vapor LP-Gas piping subject to pressures of not more than 125 psig (0.9 MPag) shall be designed for a pressure rating of at least 125 psig (0.9 MPag).
Metallic Piping Joints	NFPA 58 6.11.3.5(A)(E)(F)	Metallic pipe joints shall be permitted to be threaded, flanged, welded, press-connected, or brazed using pipe and fittings that comply with 5.11.3, 5.11.4, and 6.11.3.5(A) through 6.11.3.5(H). (A) Metallic threaded, welded, press-connected, and brazed pipe joints shall be in accordance with Table 6.11.3.5(A). (E) Gaskets used to retain LP-Gas in flanged connections in piping shall be resistant to the action of LP-Gas. (F) Gaskets shall be made of metal or material confined in metal having a melting point over 1500°F (816°C) or shall be protected against fire exposure.
Aboveground Piping	NFPA 58 6.11.3.10	Aboveground piping shall be supported and protected against physical damage by vehicles.
Piping painted to protect from corrosion	NFPA 58 6.11.3.11	LP Gas Piping shall be protected against corrosion (rust). Paint or coat piping.
Buried Metallic Pipe and Tubing	NFPA 58 6.11.3.12	Buried metallic pipe and tubing shall be installed underground with a minimum 12 in. (300 mm) of cover. (A) The minimum cover shall be increased to 18 in. (460 mm) if external damage to the pipe or tubing from external forces is likely to result. (B) If a minimum 12 in. (300 mm) of cover cannot be maintained, the piping shall be installed in conduit or shall be bridged (shielded).
Metallic Piping Protection	NFPA 58 6.11.3.14	Metallic piping shall be protected against corrosion in accordance with 6.11.3.14(A) through 6.11.3.14(C).
Dielectric Isolation of under ground piping	NFPA 58 6.11.3.16	Underground metallic piping, tubing, or both that convey LP-Gas from a gas storage container shall be provided with dielectric fittings installed above ground and outdoors at the building to rectrically isolate it from the aboveground portion of the fixed piping system that enters a building.
Hydrostatic Relief Valve Installation	NFPA 58 6.15	A hydrostatic relief valve or a device providing pressure-relieving protection shall be installed in each section of piping and hose in which liquid LP-Gas can be isolated between shutoff valves, so as to relieve the pressure that could develop from the trapped liquid to a safe atmosphere or product-retaining section.
Shut off valves	NFPA 58 6.15.1	Shutoff valves that could isolate the hydrostatic relief valves or devices from the piping or hose shall not be installed.
System and Piping free of leaks	NFPA 58 6.16.1.1	After installation or modification, piping systems (including hose) shall be proven free of leaks at not less than the normal operating pressure.
Pump Installation per Manufacturer	NFPA 58 6.20.2.1	Pumps shall be installed in accordance with the pump manufacturers' installation instructions.
Pump Stress Relief	NFPA 58 6.20.2.2	Installation shall be made so that the pump casing is not subjected to excessive strains transmitted to it by the suction and discharge piping, which shall be accomplished as follows: (1) By piping design (2) By the use of flexible metallic connectors that do not exceed 36 in. (1 m) in overall length (3) By other means

	Pump Bypass	NFPA 58 6.20.2.3	Positive displacement pumps shall incorporate a bypass valve or recirculating device to limit the normal operating discharge pressure. (A) The bypass valve or recirculating device to limit the normal operating discharge pressure shall discharge either into a storage container or into the pump inlet. (B) If the bypass valve or recirculating device is equipped with a shutoff valve, a secondary device shall be required and designed to do one of the following (1) Operate at not more than 400 psig (2.8 MPag) (2) Operate at a pressure of 50 psig (345 kPag) above the operating pressure where the design pressure exceeds 350 psig (2.4 MPag) (C) Engines used to drive portable pumps shall be equipped with exhaust system spark arresters and shielded ignition systems. (D) The secondary device shall be incorporated, if not integral with the pump, in the pump piping and shall be designed or installed so that it cannot be rendered inoperative and shall discharge either into a storage container or into the pump inlet. (E) A pump operating control or disconnect switch shall be located near the pump, and remote control points shall be provided for other plant operations such as container filling, loading or unloading of cargo tank vehicles and railroad tank cars, or operation of the dispenser
	Acme Screen	NFPA 58 6.21.2.5	Bulk plant and industrial plant liquid inlet piping shall be designed to prevent debris from impeding the action of valves and other components of the piping system. This requirement shall be effective for existing installations on July 1, 2011.
	Damaged or leaking hose to be replaced	NFPA 58 7.2.4.5	Leaking or damaged hose shall be immediately repaired or removed from service.
SEPERATION DISTANCES			
	Point of Transfer	NFPA 58-T.6.7.2.1	See table
	Distance for container relief to Building openings	NFPA 58-T.6.4.4.3	See table
	Distance between containers and Important Buildings	NFPA 58-T.6.4.1.1	See table
	Separation from Flammable Liquids minimum 20 ft.	NFPA 58 6.5.3.6	The minimum horizontal separation between aboveground LP gas containers and aboveground tanks containing liquids having flash points below 200 degrees F shall be 20 ft.
FIRE PROTECTION			
	Minimum 18 Lb. Fire Extinguisher Required	NFPA 58 6.29.4.2 and 4.7	Each industrial plant, bulk plant, and distributing point shall be provided with at least one portable fire extinguisher in accordance with Section 4.7 having a minimum capacity of 18 lb (8.2 kg) of dry chemical.
	Fire extinguisher routine inspections	NFPA 10 Section 7.2.4.1.4	Records for manual inspection shall be kept to demonstrate that at least the last 12 monthly inspections have been performed.
	Fire extinguisher protected from elements	NFPA 10 Section 6.1.3.7	Fire extinguishers installed under conditions or in locations where they are subject to physical damage (e.g., from impact, vibration, the environment) shall be protected against such damage.
IGNITION SOURCE CONTROL			
	Combustible materials, weed and grass not to closer than 10ft of container	NFPA 58 6.5.3.3 and 6.5.3.3 (A)	Combustible materials shall not accumulate or be stored within 10 ft. (3 m) of a container.
	Container not under power lines >600 volts	NFPA 58 6.5.3.13	LP Gas tanks and any associated appurtenances shall not be located within 6 ft. (1.8 m) of a vertical plane beneath overhead power lines that are over 600 volts nominal.
	No Smoking Posted from all directions of approach	SCFC 310.3	AHJ may order No Smoking signs be posted in a conspicuous location in each structure or location in which smoking is prohibited.
	Electrical equipment per Code	NFPA 58 6.25.2.1	Electrical equipment and wiring installed in unclassified areas shall be in accordance with NFPA 70.
	Electrical Classification	NFPA 58 6.25.2.2	The extent of electrically classified areas shall be in accordance with Table 6.25.2.2.
CONTAINER AND CONTAINER APPURTENANCES			
	Repairs	NFPA 58 5.2.1.6	Repairs or alteration of a container shall comply with the regulations, rules, or code under which the container was fabricated. Repairs or alteration to ASME containers shall be in accordance with the NB23, National Board Inspection Code.
	Saddle Welds	NFPA 58 5.2.1.7	Field welding shall be permitted only on saddle plates, lugs, pads, or brackets that are attached to the container by the container manufacturer.
	Pressure Gauge	NFPA 58 5.2.5.5	ASME containers of more than 4000 gal (15.2 m3) water capacity shall have an opening for a pressure gauge.
	Pressure Relief	NFPA 58 5.2.5.6	ASME containers in storage or use shall have pressure relief valve connections that have direct communication with the vapor space of the container.
	Liquid Level Gauge	NFPA 58 5.2.5.7	ASME containers to be filled on a volumetric basis shall be fabricated so that they can be equipped with a fixed maximum liquid level gauge(s) that is capable of indicating the maximum permitted filling level(s) in accordance with 7.4.2.3.
	Data plate required for tanks	NFPA 58 5.2.8.3	The markings specified for ASME containers shall be on a stainless steel metal nameplate attached to the container, located to remain visible after the container is installed.
	Proper Material Used	NFPA 58 5.9.1.2	Pressure-containing metal parts of appurtenances shall have a minimum melting point of 1500°F (816°C), except for the following: (1) Fusible elements (2) Approved or listed variable liquid level gauges used in containers of 3500 gal (13.2 m3) water capacity or less
	Minimum Pressure	NFPA 58 5.9.1.3	Container appurtenances shall have a service pressure of at least 250 psig (1.7 MPag).
	Gasket	NFPA 58 5.9.1.4	Gaskets used to retain LP-Gas in containers shall be resistant to the action of LP-Gas. (A) Gaskets shall be made of metal or other material confined in metal having a melting point over 1500°F (816°C) or shall be protected against fire exposure. (B) When a flange is opened, the gasket shall be replaced. (C) Aluminum O-rings and spiral-wound metal gaskets shall be permitted. (D) Gaskets for use with approved or listed liquid level gauges for installation on a container of 3500 gal (13.2 m3) water capacity or less shall be exempt from the minimum melting point requirement.
	Tank Requirements	NFPA 58 5.9.4.3	ASME containers over 4000 gal (15.2 m3) water capacity shall also be equipped with the following appurtenances and shall comply with Table 5.9.4.2: (1) A fixed maximum liquid level gauge (2) A float gauge, rotary gauge, slip tube gauge, or a combination of these gauges (3) A pressure gauge (4) A temperature gauge for aboveground containers only
	Pressure Gauge	NFPA 58 5.9.6.1	Pressure gauges shall be attached directly to the container opening or to a valve or fitting that is directly attached to the container opening.
	Unused Connections	NFPA 58 5.9.7.1	Other container openings shall be equipped with any of the following: (1) Positive shutoff valve in combination with either an excess-flow check valve or a backflow check valve (2) Internal valve (3) Backflow check valve (4) Actuated liquid withdrawal excess-flow valve, normally closed and plugged, with provision to allow for external actuation (5) Plug, blind flange, or plugged companion flange

	Valves Other than Container Valves - Materials	NFPA 58 5.14.1	Pressure-containing metal parts of valves shall be of steel, ductile (nodular) iron, malleable iron, or brass. 5.14.1.2 Ductile iron shall meet the requirements of ASTM A395, Standard Specification for Ferritic Ductile Iron Pressure- Retaining Castings for Use at Elevated Temperatures, or equivalent. Malleable iron shall meet the requirements of ASTM A47, Standard Specification for Ferritic Malleable Iron Castings, or equivalent. All materials used, including valve seat discs, packing, seals, and diaphragms, shall be resistant to the action of LP-Gas under service conditions.
	Valves Service Pressure Rating	NFPA 58 5.14.2.1	Valves shall have a service pressure rating as specified in Table 5.11.4.2.
	Emergency Shutoff valves	NFPA 58 5.14.2.3	Emergency shutoff valves shall be approved and shall incorporate all of the following means of closing: (1) Automatic shutoff through thermal (fire) actuation (2) Manual shutoff from a remote location (3) Manual shutoff at the installed location
	Fusible Elements	NFPA 58 5.14.2.4	Where fusible elements are used, they shall have a melting point not exceeding 250°F (121°C).
	Valves Recommended by Manufacturer	NFPA 58 5.14.2.8	Valves shall be recommended for LP-Gas service by the manufacturer.
	Pressure- Containing Metal Parts	NFPA 58 5.20.1	This section shall apply to pressure-containing metal parts of LP-Gas equipment. The service pressure rating of equipment shall be in accordance with Table 5.20.1.2. Equipment shall be fabricated of materials that are compatible with LP-Gas under service conditions and shall be in accordance with Table 5.20.1.3. (A) Pressure-containing metal parts shall be made from the following materials: (1) Steel (2) Ductile (nodular) iron (ASTM A395, Standard Specification for Ferritic Ductile Iron Pressure-Retaining Castings for Use at Elevated Temperatures, or ASTM A536, Standard Specification for Ductile Iron Castings, Grade 60-40-18 or 65-45-12) (3) Malleable iron (ASTM A47, Standard Specification for Ferritic Malleable Iron Castings) (4) Higher strength gray iron (ASTM A48, Standard Specification for Gray Iron Castings, Class 40B) (5) Brass (6) Materials equivalent to 5.20.1.3(A)(1) through 5.20.1.3(A)(5) in melting point, corrosion resistance, toughness, and strength N (B) Cast iron shall not be used as a material of construction for strainers or flow indicators. (C) Aluminum shall be used only for cylinders, gaskets, regulators, meters, and indirect electric vaporizers. (D) Zinc shall be used for approved regulators only, complying with ASTM B86, Standard Specification for Zinc and Zinc- Aluminum (ZA) Alloy Foundry and Die Castings. (E) Nonmetallic materials shall not be used for upper or lower casings of regulators.
	Container properly painted	NFPA 58 6.8.1.4	Aboveground containers shall be painted.
	Foundation	NFPA 58 6.8.3.1	Horizontal ASME containers designed for permanent installation in stationary aboveground service shall be placed on masonry or other noncombustible structural supports located on concrete or masonry foundations with the container supports. (A) Where saddles are used to support the container, they shall allow for expansion and contraction and prevent an excessive concentration of stresses. (B) Where structural steel supports are used, they shall comply with 6.8.3.3. (C) Containers of more than 4000 gal (15.2 m3) water capacity shall be provided with concrete or masonry foundations formed to fit the container contour or, if furnished with saddles in compliance with Table 6.8.3.3(A), shall be placed on flattopped foundations.
	Tank Level	NFPA 58 6.8.3.2	ASME containers that have liquid interconnections shall be installed so that the maximum permitted filling level of each container is at the same elevation.
	Corrosion Protection	NFPA 58 6.8.3.5	The part of an ASME container in contact with saddles, foundations, or masonry shall be coated or protected to minimize corrosion.
	Tank Internal Valves	NFPA 58 6.13.1	The requirements of 6.13.2 through 6.13.5 shall be required for internal valves in liquid service that are installed in containers of over 4000 gal (15.2 m3) water capacity by July 1, 2003.
	Auto Shutdown of Internal Valves	NFPA 58 6.13.3.1	Automatic shutdown of internal valves in liquid service shall be provided using thermal (fire) actuation.
	Thermo Element	NFPA 58 6.13.3.2	The thermal sensing element of the internal valve shall be within 5 ft (1.5 m) of the internal valve.
RELIEF VALVES			
	Number of Pressure Relief Devices	NFPA 58 5.9.2.1	ASME containers shall be equipped with one or more pressure relief valves that are designed to relieve vapor.
	Type of Relief	NFPA 58 5.9.2.5	ASME containers for LP-Gas shall be equipped with direct spring-loaded pressure relief valves conforming with the applicable requirements of UL 132, Standard for Safety Relief Valves for Anhydrous Ammonia and LP-Gas, or other equivalent pressure relief valve standards. (A) The start-to-leak setting of the pressure relief valves specified in 5.9.2.5, in relation to the pressure rating of the container, shall be in accordance with Table 5.9.2.5(A). (B) Containers of 40,000 gal (151 m3) or more water capacity shall be equipped with either a spring-loaded pressure relief valve or a pilot-operated pressure relief valve, as follows: (1) Pilot-operated relief valves shall be combined with, and controlled by, self-actuated, direct, spring-loaded pilot valves that comply with Table 5.9.2.5(A). (2) Pilot-operated pressure relief valves shall be inspected and maintained by persons with training and experience. (3) Pilot-operated pressure relief valves shall be inspected and maintained by persons with training and experience and shall be tested for operation at intervals not
	Tank Relief	NFPA 58 5.9.2.6	The minimum rate of discharge of pressure relief valves installed in ASME containers shall be in accordance with Table 5.9.2.6 or shall be calculated using the following formula: $F = 53\ 632 \times A\ 0\ 82$
	Relief Valves not Allowed	NFPA 58 5.9.2.10	Shutoff valves shall not be installed between pressure relief devices and the container unless a listed pressure relief valve manifold meeting the requirements of 6.9.2.9 is used.
	Relief Valves in vapor space of container	NFPA 58 6.8.1.1	Containers shall be positioned so that the pressure relief valve is in direct communication with the vapor space of the container.
	Installation of Pressure Relief Devices	NFPA 58 6.9.2.1	Pressure relief devices shall be installed so that the relief device is in direct communication with the vapor space of the container.
	Installation of Pressure Relief Devices	NFPA 58 6.9.2.3	Pressure relief devices on the following ASME containers shall be so installed that any gas released is vented away from the container upward and unobstructed to the open air: (1) Containers of 125 gal (0.5 m3) or more water capacity installed in stationary service (2) Portable storage containers (3) Portable tanks (4) Cargo tanks
	Rain Caps On Pressure Relief Valves	NFPA 58 6.9.2.4 & 6.9.2.5	Pressure relief valves shall be protected from the elements with the proper fitting cover.
	Installation of Pressure Relief Devices - Shutoff	NFPA 58 6.9.2.8	Shutoff valves shall not be installed between pressure relief devices and the container unless a listed pressure relief valve manifold meeting the requirements of 6.9.2.9 is used.
	Installation of Pressure Relief Devices - Shutoff	NFPA 58 6.9.2.10	Shutoff valves shall not be installed at the outlet of a pressure relief device or at the outlet of the discharge piping where discharge piping is installed.
EMERGENCY SHUTOFF VALVES			
	Service Connections	NFPA 58 5.9.4.2	ASME containers greater than 4000 gal (15.2 m3) water capacity shall be fitted with valves and other appurtenances in accordance with 5.9.4.2(A) through 5.9.4.2(I) and Table 5.9.4.2.
	Shutoff	NFPA 58 5.9.8.1 (F), (G)	(F) Shutoff valves shall be readily accessible for operation and maintenance under normal and emergency conditions. (G) Shutoff valves either shall be located in a readily accessible position less than 6 ft (1.8 m) above ground level; shall have extension handles, stairs, ladders, or platforms for access; or shall be equipped for remote operation.
	LP Vapor for Pneumotis E-Stop	NFPA 58 6.12.1	Where LP-Gas vapor is used as a pressure source for activating the remote shutoff mechanisms of internal valves and emergency shutoff valves, the following shall apply: (1) Actuators and pressure supply line components shall be compatible with LP-Gas vapor. (2) Supply line piping materials shall be limited to a maximum of 3/8 in. (9.0 mm) outside diameter.(3)* Supply pressure shall be controlled to prevent condensation of the LP-Gas vapor. (4) The LP-Gas supply maximum flow rate to the system shall not exceed that from a No. 54 drill orifice.
	Compressed Air for E-Stop	NFPA 58 6.12.2	Where compressed air is used as a pressure source for activating internal valves and emergency shutoff valves, the air shall be clean and kept at a moisture level that will not prevent the system from operating.

	Remote Shutdown	NFPA 58 6.13.4.1	At least one remote shutdown station for internal valves in liquid service shall be installed in accordance with the following: (1) Not less than 25 ft (7.6 m) or more than 100 ft (30 m) from the liquid transfer point (2) Not less than 25 ft (7.6 m) from the internal valves that are being controlled (3) Along a path of egress from the liquid transfer point
	E-Stop Signage	NFPA 58 6.13.5	Emergency remote shutdown stations shall be identified by a sign, visible from the point of transfer, incorporating the words "Propane — Container Liquid Valve Emergency Shutoff" in block letters of not less than 2 in. (51 mm) in height on a background of contrasting color to the letters
	Emergency Valve Location	NFPA 58 6.14.2	An emergency shutoff valve shall be installed in the transfer lines of the fixed piping transfer system within 20 ft (6 m) of lineal pipe from the nearest end of the hose or swivel-type piping connections.
	LP Unload Check Valve	NFPA 58 6.14.3	When the flow is only into the container, a backflow check valve shall be permitted to be used in lieu of an emergency shutoff valve if installed in the piping transfer system downstream of the hose or swivel-type piping connections.
	Type of Check Valve	NFPA 58 6.14.4	The backflow check valve shall have a metal-to-metal seat or a primary resilient seat with metal backup, not hinged with combustible material, and shall be designed for this specific application.
	E-Stop Valves	NFPA 58 6.14.5	Where there are two or more liquid or vapor lines with hoses or swivel-type piping connected of the sizes designated, an emergency shutoff valve or a backflow check valve, where allowed, shall be installed in each leg of the piping.
	Fuse Link Location	NFPA 58 6.14.6	Emergency shutoff valves shall be installed so that the temperature-sensitive element in the valve, or a supplemental temperature-sensitive element that operates at a maximum temperature of 250°F (121°C) that is connected to actuate the valve, is not more than 5 ft (1.5 m) from the nearest end of the hose or swivel-type piping connected to the line in which the valve is installed.
	Fuse Link and Painting	NFPA 58 6.14.7	Temperature-sensitive elements of emergency shutoff valves shall not be painted, nor shall they have any ornamental finishes applied after manufacture.
	Location of E-Stop Valves and Checks	NFPA 58 6.14.8	The emergency shutoff valves or backflow check valves shall be installed in the fixed piping so that any break resulting from a pull will occur on the hose or swivel-type piping side of the connection while retaining intact the valves and piping on the plant side of the connection.
	Pull Away Action of E-Stop Valves	NFPA 58 6.14.9	Where emergency shutoff valves are required to be installed in accordance with 6.14.2, a means shall be incorporated to actuate the emergency shutoff valves in the event of a break of the fixed piping resulting from a pull on the hose.
	E-Stop Valve Annual Testing	NFPA 58 6.14.10	Emergency shutoff valves required by the code shall be tested annually for the functions required by 5.14.2.3(2) and 5.14.2.3(3), and the results of the test shall be documented.
	Backflow Check Annual Testing	NFPA 58 6.14.11	Backflow check valves installed in lieu of emergency shutoff valves shall be checked annually for proper operation, and the results of the test shall be documented.
	E-Stop Valve Remote Shutoff	NFPA 58 6.14.12.1	Each emergency shutoff valve shall have at least one clearly identified and easily accessible manually operated remote emergency shutoff device.
	Location of Remote Shutdown	NFPA 58 6.14.12.2	The shutoff device shall be located not less than 25ft (7.6 m) or more than 100 ft (30 m) in the path of egress from the emergency shutoff valve.
MISCELLANEOUS ITEMS			
	Transfer of Liquids	NFPA 58 6.7.1.1	Liquid shall be transferred into containers, including containers mounted on vehicles, only outdoors or in structures specially designed for such purpose.
	Pointer of Transfer of Containers Located Outdoors	NFPA 58 6.7.2.1	If the point of transfer of containers located outdoors in stationary installations is not located at the container, it shall be located in accordance with Table 6.7.2.1.
	Traffic protection provided where needed	NFPA 58 6.8.1.2 and 2018 SCFC 312.2	LP-Gas containers or systems that are installed within 10 ft (3 m) of public vehicular thoroughfares shall be provided with a means of vehicular barrier protection. Vehicle impact protection required by this code shall be provided by posts that comply with Section 312.2 or by other approved physical barriers that comply with Section 312.3 (SCFC).
	Protection against tampering	NFPA 58 6.21.4.2	Areas that include features required in 6.21.4.1(2) shall be enclosed with a minimum 6ft (1.8 m) high industrial type fence, chain-link fence or equivalent protection. (A) The enclosure shall have at least two means of emergency egress, unless all the following conditions are met: (1) The fenced or otherwise enclosed area is not over 100 ft2 (9 m2). (2) The point of transfer is within 3 ft (1 m) of the gate. (3) Containers are not filled within the enclosure. (B) The two means of emergency egress, where required, shall be at least 25 ft (7.6 m) apart or as remotely located as is practical. (C) Clearance of at least 3 ft (1 m) shall be provided to allow emergency access to the required means of egress. (D) Fencing shall not be required where devices are provided that can be locked in place and prevent unauthorized operation of valves, equipment, and
	Required Signage from IFC and NFPA 58	SCFC 310.3, NFPA 58 5.2.8.1(A)	"No Smoking" sign to be placed in a conspicuous location and subject to approval by the fire code official. Where LP-Gas or other compressed gases are to be stored or used in the same area, the cylinders must be properly marked.
	Hazardous Material Management Plan	SCFC 5001.5.1	5001.5.1 Hazardous Materials Management Plan. Where required by the fire code official, an application for a permit shall include a Hazardous Materials Management Plan (HMMP). The HMMP shall include a facility site plan designating the following: 1. Access to each storage and use area. 2. Location of emergency equipment. 3. Location where liaison will meet emergency responders. 4. Facility evacuation meeting point locations. 5. The general purpose of other areas within the building. 6. Location of all above-ground and underground tanks and their appurtenances including, but not limited to, sumps, vaults, below-grade treatment systems and piping. 7. The hazard classes in each area.
	SDS requirements from the IFC	SCFC 5001.2.1, and 5003.5; SCFC 407.2	Where required by the fire code official, an application for permit shall include a Hazardous Materials Management Plan (HMMP) and Hazardous Materials Inventory Statement (HMIS). Unless otherwise exempted by the fire code official, hazard identification signs in accordance with NFPA 704 shall be required. Safety Data Sheets should be available.