



HOUSTON FIRE DEPARTMENT LIFE SAFETY BUREAU (LSB)



LSB STANDARD 10, REV 03 LIQUEFIED PETROLEUM GAS (LP-GAS) AND OPEN FLAME USE

Supersedes: LSB Standard 10, Rev 02 (11/01/07)

(Note: A vertical bar in the left margin delineates revisions made.)

Effective Date: January 1, 2009



Approved: _____
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LIFE SAFETY BUREAU (LSB) STANDARDS ARE ESTABLISHED IN ACCORDANCE WITH PROVISIONS OF THE CITY OF HOUSTON FIRE CODE. THEY ARE SUBJECT TO THE ADMINISTRATIVE SECTIONS COVERING ALTERNATIVE MATERIALS AND METHODS, MODIFICATIONS, AND BOARD OF APPEALS.

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LSB STANDARD 10, Rev 03

LP-GAS AND OPEN FLAME USE

SECTION 10.1 --- GENERAL

10.1.1 Scope

The provisions of this standard apply to the regulation of festival events, fairs, carnivals, trade shows and exhibitions, theatrical events, and mobile food units operating within the City of Houston, and where required by the *Fire Code* or Fire Marshal. This standard shall pertain to the regulation of LP-gas use at these events and other hazardous operations involving the use of open flames. The requirements given herein are to be considered as MINIMUM.

10.1.2 Purpose

This standard is prepared by the Life Safety Bureau (LSB) of the Houston Fire Department for the use and guidance of persons charged with selecting, purchasing, installing, approving, operating, maintaining and enforcing the safe usage of LP-gas equipment or open flame use at events and operations covered within the scope of this standard.

SECTION 10.2 --- DEFINITIONS

10.2.1 Approved

This standard is contingent upon approval of the Fire Marshal of the City of Houston. Permit applicants and the applicants agents and employees shall carry out the proposed activity in compliance with the *Fire Code* and other laws or regulations applicable thereto, whether specified or not, and in complete accordance with approved plans and specifications. Permits that purport to sanction a violation of the *Fire Code* or any other applicable law or regulation shall be void and approvals of plans and specifications in the issuance of such permits shall likewise be void.

10.2.2 Standby Personnel

As provided for within the *Fire Code* and when required by the Fire Marshal in the interest of public safety due to the nature of the operation, activity or event which requires the use of LP-gas for the commercial preparation of food, or open flame devices, one or more Fire Inspectors, who are current members of the LSB of the Houston Fire Department, may be required to be on standby duty at such place during the operation or use of the LP-gas fired appliances or open flame devices.

10.2.3 District Of Limitations (DOL)

10.2.3.1 DOL No. 1 (Downtown – Central Business District)

Beginning at the intersection of U.S. Highway 59 with Pierce Street; thence northerly along U.S. Highway 59 to the centerline of Buffalo Bayou; thence, westerly following the meanders of Buffalo Bayou to Franklin Street; thence, westerly along Franklin Street to

Interstate Highway 45; Thence, southerly along Interstate Highway 45 to Pierce Street; thence easterly along Pierce Street to U.S. Highway 59, the place of beginning.

10.2.3.2 DOL No. 2 (The Texas Medical Center)

Beginning at the intersection of Main Street with North MacGregor Way; thence southerly along Main Street to Holcombe Boulevard; thence easterly along Holcombe Boulevard to South Braeswood Boulevard; thence northerly along South Braeswood Boulevard to North MacGregor Way; thence westerly along North MacGregor Way to Main Street, the place of beginning.

SECTION 10.3 --- GENERAL REQUIREMENTS

10.3.1 Standby Personnel permit.

A permit for Standby Personnel shall be required for all events where there is in use 4 or more LP-gas cooking appliances. All events within the boundaries of the DOL No. 1 and DOL No. 2 shall require a standby permit for any number of LP-gas cooking appliances.

Exception: The standby requirement may be waived at the discretion of the Fire Marshal, under the following conditions:

1. There are no more than 4 appliances in use at the event.
2. The appliances are of the approved, portable type that uses non-refillable canisters as per Section 3803.2.1.7, of the Houston Fire Code.

10.3.2 Permit for commercial cooking

An LP-gas permit is required when LP-gas appliances are used for commercial cooking, including temporary commercial cooking.

10.3.3 Plans

All permits for standby personnel and/or LP-gas or open flame use shall be applied for at least two weeks prior to the event. Plans shall be submitted in a Plan View format showing cooking booth locations, and shall be affixed to the Permit Application. Permits shall be obtained at the City of Houston Permit Office, 3300 Main Street; telephone: 713-535-7897.

10.3.4 Licensed contractors required

Only personnel licensed by the *RAILROAD COMMISSION OF TEXAS* shall perform all connections for LP-gas appliances. Licensed personnel shall perform all connections of LP-gas at all events where 4 or more appliances are to be connected, and at all events held in DOL No. 1 and No. 2, regardless of the number of appliances.

Exceptions: 1. If an LP-gas contractor is not available due to conditions out of the control of the event coordinator, (example; unable to find an LP-gas company to handle the event, LP-gas company fails to show up for event), connections to LP-gas appliances may only be made in the presence of the Standby Inspector, who will insure that the excess gas is burned off before the connection is broken (example; the valve on the LP-gas container is closed and the excess is burned

off at the burner prior to breaking the connection at the LP-gas). At least one additional standby inspector will be required for the event to accomplish this.

2. When approved in advance, the licensed LP-gas personnel on site to make and break connections may not be required to be in attendance for the entire event. This will be contingent upon the LP-gas needs of the event such as, when the appliances can operate all day on one container with no change out required.

3. Spare LP-gas containers shall be stored in an approved location.

4. This contingency is not intended for use as a substitute for providing an approved LP-gas company.

10.3.5 Container size - DOL No. 1 and No. 2

The maximum single LP-gas container size allowed within DOL No. 1 and No. 2 will be limited to 60-lb gas capacity. Two 30-lb containers may be manifold when equipment is approved in advance and in compliance with section 10.3.4 above. When the project need is such that a greater amount of LP-gas is required for a specific appliance, 100-lb containers may be used when approved in advance.

Exception: 1. When approved, listed LP-gas commercial food service appliances are allowed to be used for food preparation within restaurants and in attended commercial food catering operations provided that an individual appliance shall not have more than two 10-oz (0.3 L), non-refillable butane gas containers connected directly to the appliance any time. Containers shall comply with nationally recognized standards, have a maximum water capacity of 1.08 lbs (0.5 kg) per container and shall not be manifolded. The appliance's fuel containers shall be an integral part of the listed commercial food service device and shall be connected without the use of a rubber hose. The aggregate amount of LP-gas used or stored shall not exceed 60 lbs (27 kg) LP-gas capacity. In educational occupancies, portable LP-gas containers shall not be used or stored except as permitted by Sections 3803.2.1.5 and 3803.2.1.6 of the Fire Code.

10.3.6 Container size outside DOL No. 1

The maximum single LP-gas container size allowed outside the DOL may be 100-lb gas capacity when approved in advance. The approval will be conditional, based on the projected need of gas for specific appliances and/or the presence of Standby Personnel.

10.3.7 Storage of LP-gas containers in DOL No. 1 and 2

The aggregate capacity of any one installation shall not exceed a water capacity of 2,000 gallons. Storage of spare LP-gas containers shall be in approved locations.

Exception: In particular installations, this capacity limit shall be determined by the fire code official, after consideration of special features such as topographical conditions, nature of occupancy, and proximity to buildings, capacity of proposed containers, degree of fire protection to be provided.

10.3.8 Inspection sticker

An inspection sticker must be displayed on equipment indicating the equipment has been inspected within the past 12-month period by licensed personnel (see 10.3.4 above).

10.3.9 Protective barriers

Protective physical barriers such as chain, ropes, or similar obstacles must be installed to prevent public access to LP-gas containers and cooking areas.

10.3.10 Securing LP- gas containers

All LP-gas containers (*empty or full*) shall be secured in an upright position in such a manner as not to fall over.

APPENDIX-A

FESTIVAL AND TRADE SHOW BOOTHS

SECTION 10.4 --- REQUIREMENTS

10.4.1 Fire extinguishers - Cooking booths

All cooking booths at festivals, fairs, carnivals and trade shows or exhibition events will require at least one listed 2-A, 10-B:C portable fire extinguisher with current inspection date tag. All cooking booths where deep fry cooking is performed using vegetable or animal oils or fats, at least one listed **Type 'K'** fire extinguisher with current inspection date tag, will be required. All cooking booths exceeding 20 feet in any dimension will require a minimum of two 2-A, 10-B: C fire extinguishers with current date tags attached, mounted in a location that is fully visible and readily accessible. (**Type 'K'** fire extinguishers are for use only for cooking grease or oil fires (class "B" fires) and are not to be used, or substituted for the required 2A, 10B:C fire extinguishers, for use on other classes of fires.)

10.4.2 Egress

All booths must have an unobstructed path of egress to the exit.

10.4.3 Flame retardant materials

All booths and table coverings and other combustible materials composed of cloth, paper, and similar materials must be flame retardant treated. Any material added to a booth structure must be flame retardant. This shall include signage and awnings over cooking areas or attached to the booth in any manner.

10.4.4 Protective barriers

All booths using portable cooking equipment shall provide protective barriers to prevent public access or exposure to these areas. A minimum of 3 feet of clearance distance is required at all times.

10.4.5 Combustible materials

Highly combustible materials such as bales of hay or similar materials are prohibited. Trash, rubbish and debris shall not be allowed to accumulate in booth areas.

SECTION 10.5 --- PERMIT REQUIREMENTS

10.5.1 Commercial cooking

A permit for commercial cooking using LP-gas is required for a festival, and will cover all cooking booths within the boundaries of the area set aside for the event.

10.5.2 Standby personnel

A permit for Standby Personnel will be required by the Fire Marshal when the event uses 4 or more LP-gas appliances outside of the DOL No. 1 or No. 2, any number of LP-gas appliances inside of the DOL No. 1 or No. 2, or indoor use of deep fryers that are not protected by an approved vent hood and fire suppression system.

10.5.2.1 Application for standby

When Standby Personnel are required for the event, application for standby must be made when applying for the permit for the LP-gas use. The permit for LP-gas will not be approved until the requirement for Standby Personnel is satisfied.

10.5.3 Tent permit

A Tent Permit is required for a tent, canopy or air supported structure of 1200 square feet or more.

10.5.4 Places used for assembly

A Public Assembly Permit is required for all buildings or structures used for public assembly having an occupant load of 50 or more persons. A permit is required if a tent is used as an assembly area.

10.5.5 Plans

Permits must be applied for at least 2 weeks prior to the event. Attached to the permit application will be a Plan View format of the event showing the locations of booths to be used for cooking operations. Permits shall be obtained at the City of Houston Permit Office, 3300 Main Street; telephone: 713-535-7897.

APPENDIX- B

THEATRICAL PERFORMERS AND ARTISANS

SECTION 10.6--- REQUIREMENTS

10.6.1 Performers

Performers or artisans who, in their performance, ignite or burn any material or device will be regulated by this standard.

10.6.2 Permit required

A permit for open flame use will be required from the Fire Marshal for this type of event.

10.6.3 Performance notification

The Fire Marshal's office shall be furnished with a list of the times and locations of all performances.

10.6.4 Standby Personnel

Standby Personnel shall be provided during all performances. Application for standby personnel shall be submitted unless a standby is already in place for the festival event.

10.6.5 Performance area

The area of the performance will have a clearance distance of at least 10 feet in all directions between the performer and the public. Clearance shall be maintained by providing a distinct boundary, clearly marked and visible to the public. The marking of the boundary shall provide a *physical barrier* between the public and the performer, such as traffic cones with safety tape between them around the perimeter, or any other method approved by the Fire Marshal.

10.6.6 Use of Flammable or Combustible Liquids

Class I flammable liquids shall not be used. (Such as alcohol, or cigarette lighter fluid). Class II combustible liquids may be used provided the storage is in an listed metal Safety Can equipped with a spring-loaded lid and flame-arrester.

10.6.7 Fire extinguishers

A portable fire extinguisher with a minimum rating of 2-A, 10-B:C shall be provided and readily accessible during the performance. The extinguisher shall have a full charge and have a current inspection date tag indicating an inspection within the past 12 months.

10.6.8 Prohibited activity

The igniting of aerosol container propellants, spray paints or lacquers by performers or artisans is prohibited. UL listed handheld heating or drying devices may be use to '*quick dry*' paintings, art work or similar objects, and only when approved in advance by the Fire Marshal.

10.6.9 Permits

Permits shall be obtained at the City of Houston Permit Office, 3300 Main Street; telephone: 713-535-7897.

APPENDIX – C
CHARCOAL / WOOD USE

SECTION 10.7 --- REQUIREMENTS

10.7.1 Liquid starters

Liquid charcoal starters or other flammable liquids are strictly prohibited. Charcoal may be started with an electrical starter designed for this purpose or quick starting charcoal is also recommended.

10.7.2 Clearance

All cooking equipment shall be situated away from the crowds, buildings or flammable or combustible materials. A minimum clearance distance of 3 feet is required.

10.7.3 Firebox protection

A metal pan constructed of a minimum of No.18 U.S. gage sheet metal shall be provided and placed under the fire box of bar-b-que pits or fireboxes to catch live coals which may fall onto the ground. The dimensions of the pan shall be such that it will provide complete coverage beneath any openings under the pit or firebox.

10.7.4 Barricade for cooking devices

The area around portable cooking devices shall be provided with protective barriers such as wooden barricades, roped areas, streamers or other physical barrier acceptable to the Fire Marshal to prevent public access or exposure to cooking or heat producing devices. A minimum of 3 feet clearance distance is required and shall be maintained at all times during use.

10.7.5 Fire extinguishers

Portable fire extinguishers shall be provided in accordance with the *Fire Code* and LSB Standard 01, "Inspection and Maintenance of Portable Fire Extinguishers".

10.7.6 Hot ashes and spontaneous ignition sources

Hot ashes, cinders, smoldering coals or other hot materials subject to spontaneous ignition shall not be deposited in a combustible receptacle within 10 feet of other combustible materials including combustible walls, awnings and partitions or within 10 feet of openings to buildings such as windows, fresh air vents or intakes, doors or other wall penetrations.

10.7.7 Contact personnel

All questions or correspondence concerning festival type events shall be directed to the Fire Marshal's Office; Telephone: 713-865-7100 or Fax: 713-865-7136.

APPENDIX –D
TENTS, CANOPIES AND AIR SUPPORTED STRUCTURES

SECTION 10.8 --- REQUIREMENTS

10.8.1 Permits

A permit will be required for the use of a tent, canopy or air supported structure having an area in excess of 1200 square feet. Permits shall be obtained at the City of Houston Permit Office, 3300 Main Street; telephone: 713-535-7897.

10.8.2 Fire Code requirements

Tents, canopies and air supported structures shall comply with requirements of the *Fire Code*, Chapter 24, including certification of tent fabric as being flame-retardant, exit requirements (*signs and illumination*), and heating and cooking equipment.

APPENDIX-E

MOBILE FOOD UNIT

SECTION 10.9 --- GENERAL

10.9.1 Scope

The provisions of this standard apply to the regulation of mobile food units (MFU) within the City of Houston, and where required by the *Fire Code* or Fire Marshal. The requirements given herein are to be considered as a MINIMUM.

10.9.2 Purpose

This standard is prepared by the Life Safety Bureau (LSB) of the Houston Fire Department for the use and guidance of persons charged with selecting, purchasing, installing, approving, maintaining and enforcing the safe usage of LP-gas equipment or open flame use within mobile food units covered within the scope of this standard.

SECTION 10.10 --- DEFINITIONS

10.10.1 Approved

This standard is contingent upon approval of the Fire Marshal of the City of Houston. Permit applicants and the applicants agents and employees shall carry out the proposed activity in compliance with the *Fire Code* and other laws or regulations applicable thereto, whether specified or not, and in complete accordance with approved plans and specifications. Permits that purport to sanction a violation of the *Fire Code* or any other applicable law or regulation shall be void and approvals of plans and specifications in the issuance of such permits shall likewise be void.

10.10.2 Permits

A permit for LP-gas usage will be charged by legal address. Other applicable permits are defined within this standard.

10.10.3 LP-gas

An operational permit is required to install or maintain any LP-gas container of 125 gallons (423L) aggregate water capacity or more or operate any tank vehicle that is used for the transportation of LP gas.

An operational permit is required for the storage, handling or use of any amount of LP-gas in, on, or in connection with demonstrations, public exhibitions, temporary commercial cooking or on mobile food units.

For a single container with a capacity of 500-gallon (1893L) water capacity or for one or more containers with an aggregate capacity of 2,000 gallons (7572L) water capacity or more, the installer shall submit plans for the permit. For operational permit requirements for LP-gas storage, handling, or use see Chapter 38 of the *Fire Code*.

10.10.4 Maintenance Log

A document recording dates, name of company, license number and name of personnel connecting LPG or exchanging containers.

10.10.5 District Of Limitations (DOL)

10.10.5.1 DOL No.1 (Downtown – Central Business District)

Beginning at the intersection of U.S. Highway 59 with Pierce Street; thence northerly along U.S. Highway 59 to the centerline of Buffalo Bayou; thence, westerly following the meanders of Buffalo Bayou to Franklin Street; thence, westerly along Franklin Street to Interstate Highway 45; Thence, southerly along Interstate Highway 45 to Pierce Street; thence easterly along Pierce Street to U.S. Highway 59, the place of beginning.

10.10.5.2 DOL No. 2 (The Texas Medical Center)

Beginning at the intersection of Main Street with North MacGregor Way; thence southerly along Main Street to Holcombe Boulevard; thence easterly along Holcombe Boulevard to South Braeswood Boulevard; thence northerly along South Braeswood Boulevard to North MacGregor Way; thence westerly along North MacGregor Way to Main Street, the place of beginning.

SECTION 10.11 --- GENERAL REQUIREMENTS

10.11.1 Permit for commercial cooking

When LP-gas appliances are used for commercial cooking, a permit to use LP-gas for temporary commercial cooking shall be required. One LP-gas Permit will apply to all appliances used in each mobile food unit.

Permits shall be required to store, use, handle or dispense LP-gas or to install or maintain LP-gas container (s) in excess of 125 gallons (473L) aggregate water capacity. A permit is required to use any amount of LP-gas for demonstrations, public exhibitions, temporary commercial cooking or in mobile food units. As used in Chapter 38 of the Fire Code, the term mobile food unit shall have the meaning set forth in Chapter 20 of the City Code.

10.11.2 Mobile Food Unit (MFU)

No permit for the use of LP-gas in connection with a MFU shall be issued unless the operator provides a detailed description of the means and methods by which the operator will secure the LP-gas container against shifting (bracing) and will protect the LP-gas container against damage (blocking) by third parties, which means and methods are approved by the fire department.

10.11.3 Filling of LP-gas containers

Distributors shall not fill an LP-gas container for which a permit is required unless a permit for installation has been issued for that location by the code official.

10.11.4 Plans

All permits for standby personnel and/or LP-gas or open flame use shall be applied for at least two weeks prior to setup. Site Plans shall be submitted in a Plan View format showing cooking locations, and shall be affixed to the Permit Application. Permits shall be obtained at the City of Houston Permit Office, 3300 Main Street; telephone: 713-535-7897.

Site Plan shall show:

1. MFU location.
2. LPG location and size of container.
3. Electrical hookup.
4. Structures on property.
5. Method LPG containers are secured in upright position.
6. Locations of other MFU's on same property.

10.11.5 Maintain logs of LP-gas connections on MFU

Only personnel licensed by the *RAILROAD COMMISSION OF TEXAS* will perform connections for LP-gas appliances. A log shall be maintained on the MFU for all connections performed on all LP-gas appliances. All logs shall be maintained by the MFU operator/owner and made available to the Fire Marshal for review.

10.11.6 Container size - DOL No. 1 and No. 2

The maximum single LP-gas container size allowed within DOL No. 1 and No. 2 will be limited to 60-lb gas capacity. Two 30-lb containers may be manifold when equipment is approved in advance and in compliance with section 10.3.6 above. When a greater amount of LP-gas is required, a 100-lb container may be used when approved in advance.

10.11.7 Container size outside DOL No. 1

The maximum single LP-gas container size allowed outside the DOL may be 100 lb gas capacity when approved in advance. The approval will be conditional, based on the projected need of gas for specific appliances.

10.11.8 Storage of LP-gas containers

Storage of spare LP-gas containers shall be in approved locations not accessible to the public. Storage of LP-gas will not be permitted within DOL No. 1 and No. 2 unless approved in writing.

10.11.9 Inspection sticker

An approved inspection sticker indicating the month and the year of inspection must be displayed on all LP gas appliances signifying licensed personnel have inspected the equipment within the past 12-month period. In addition, a receipt must be provided with the VIN or the license plate number displayed on it for the vehicle, on which it is attached.

10.11.10 Protective barriers

The operator of a MFU that uses any amount of LP-gas to prepare food must block or otherwise prevent public access to all LP-gas containers by erecting a suitable

enclosure, physical barrier, or obstacle pursuant to the plan detailing the location and method of restricting public access to LP-gas containers submitted to and approved by the fire department prior to permit issuance.

10.11.11 Securing LP-gas containers.

All LP-gas containers (*empty or full*) shall be secured in an upright position in such a manner as not to fall over.

1. Vehicle impact protection, such as car stops or other barriers approved by the Fire Marshal will be required. When possible, positioning of the MFU in such a manner to utilize existing barriers on the property such as substantial sign posts, fences, or other approved structures may be used as vehicle impact protection.
2. **“Danger - No Smoking”** signs approved by the Fire Marshal shall be visible near LP-gas containers. Signs shall be in English and Spanish.
3. A barrier, such as a fence, shall be provided to maintain a three feet minimum separation between the public and the propane containers.

10.11.12 Spacing of MFU

The operator of a MFU that uses any amount of LP-gas to prepare food shall not operate such unit within 60 feet of another MFU, except, at festivals and events approved by the Fire Marshal.

10.11.13 Generators

Refueling of generators shall be performed in an approved location not less than 20 feet from the MFU. Fuel shall be stored in a UL or FM approved flammable liquid safety container in an approved location. Generators shall be grounded in an approved method.

10.11.14 Portable Fire Extinguishers

A portable fire extinguisher (4A-40BC minimum) shall be provided. In addition, a “Type K” portable extinguisher shall also protect cooking equipment involving vegetable or animal oils and fats. Both fire extinguishers shall be inspected and tagged annually.

10.11.15 Ventilation System

The Ventilation system in connection with hoods shall be operated at the required rate of air movement, and classified grease filters shall be in place when equipment under a kitchen grease hood is used.

10.11.16 Temporary Wiring

Temporary wiring methods shall meet the applicable provisions of the Fire Code, the Building Code, and the Electrical Code.

REFERENCES

1. City of Houston *Fire Code*, International Fire Code, 2000 edition, as amended.
2. Houston Fire Department, LSB Standard 01, "Installation and Maintenance of Portable fire extinguishers".

Conversion factors: 1 inch = 25mm; 1 foot = 305 mm