

Houston Fire Department

Life Safety Bureau

Standard 10

LP-Gas and Open Flame Use, Rev 06

Supersedes: Standard 10, Rev 05, 5/12/2011

Note: A vertical bar in the left-hand margin delineates changes to the previous version.

Effective Date: 5/01/2012

This standard also includes:

Art Car Regulations
Mobile Food Units
Festivals and Trade Shows
Tents, Canopies and Air Supported Structures
Theatrical Performers and Artisans
Charcoal/ Wood Use



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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, methods, modifications and the Board of Appeals.

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**LSB STANDARD 10, Rev 06
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, will be required to be on standby duty at such place during the connection and 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 Cambridge Street; thence southerly along Main Street to Holcombe Boulevard; thence easterly along Holcombe Boulevard to Braeswood Boulevard; thence northerly along Braeswood Boulevard to North MacGregor Way; thence westerly along Cambridge Street 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 and the appliances are of the approved, portable type that uses non-refillable canisters. (For food preparation inside a building or structure, see 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 and Permits

Permit applications submitted less than 5 business days prior to the event will incur special handling fees. Attached to the permit application shall be a "Plot View" diagram of the event showing the locations of booths or areas to be used for LP-gas and/or open flame use, the equipment layout, the position of access roads and utility runs and other buildings. This shall include plans and permits for tents, canopies or air supported structures having an area of 1200 square feet or more.

Permit Office contact information for Standby Personnel, LP-gas Permits, Open Flame Permits, Tent Permits and Plan Approvals is as follows:

The Houston Permitting Center
1002 Washington Avenue
Houston, Texas 77007

Hours of operation: 8:00 a.m. to 3:30 p.m. Central Time

Monday through Friday

Office phone (832)394-8811

To Email Customer Service Questions: hfd.permitoffice@houstontx.gov

Link to City Wide Fee Schedule: www.houstoncityfees.org

10.3.4 Licensed contractors required

Only personnel licensed by the *RAILROAD COMMISSION OF TEXAS* shall perform all connections for LP-gas appliances and **in the presence of a Fire Inspector from the Houston Fire Marshal's Office**. Licensed LP-gas 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-lbs water capacity. Two 30-lb containers may be manifolded 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 , non-refillable butane gas containers connected directly to the appliance any time.

2. Containers shall comply with nationally recognized standards, have a maximum water capacity of 1.08 lbs per container and shall not be manifolded.

3. 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.

4. The aggregate amount of LP-gas used or stored shall not exceed 60 lbs LP-gas capacity.

5. In educational occupancies, portable LP-gas containers shall not be used or stored except as permitted by Sections 3803.2.1.4, 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 Standbys, Plans and Permits

Contact information for the Permit Office, for Section 10.5, may be found in Section 10.3.3, of this Standard.

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

Plans and Permits shall be in compliance with Section 10.3.3, of this Standard.

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 a UL listed, metal safety container 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.

APPENDIX – C

CHARCOAL / WOOD USE

SECTION 10.7 --- REQUIREMENTS

10.7.1 Charcoal/Wood starters

Combustible or flammable liquids used as fire starters are strictly prohibited. Charcoal/wood may be started with an electrical starter designed for this purpose; quick starting charcoal is also recommended. Use of LP-gas as a fire starter shall require a permit. (See Section 10.3.2, above)

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

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

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

Contact personnel for APPENDIX-C may be located through the Permit Office. See Section 10.3.3 of this Standard.

APPENDIX –D
TENTS, CANOPIES AND AIR SUPPORTED STRUCTURES

SECTION 10.8 --- REQUIREMENTS

10.8.1 Plans and Permits

Plans and Permits shall be in compliance with Section 10.3.3, of this Standard.

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.

10.8.3 Cooking Tents

Tents used for cooking shall be independent from any other tents on site by a distance of not less than 20 feet.

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 to each individual MFU and permit is not transferable to another MFU or vehicle. 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 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 water capacity or for one or more containers with an aggregate capacity of 2,000 gallons 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 Districts of Limitations (DOL)

Districts of Limitations shall be as noted in Section 10.2.3 of this Standard.

SECTION 10.11 --- GENERAL REQUIREMENTS FOR MOBILE FOOD UNITS

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 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 of Ordinances.

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 and Permits for Special Events

Permit applications submitted less than 5 business days prior to the event will incur special handling fees. Site plans will be required to be submitted in a Plot View format indicating cooking locations, and shall be affixed to the Permit Application. Plot Plan shall indicate:

1. MFU location.
2. Size of DOT listed LP-gas 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.

| See Section 10.3.3, of this Standard for Permit Office contact information.

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 within DOL No. 1 and No. 2 shall be 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 distance of at least three (3) feet of 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 metal, 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 (class 3A-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.

APPENDIX-F

ART CARS

10.12---General

10.12.1 Scope

To provide and insure a minimum level of safety for Art Cars that utilizes LP-Gas for special flame effects.

10.12.2 Purpose

To provide classified LSB personnel with guidelines for the inspection and approval of the use of LP-Gas special flame effects used in Art Cars.

10.13---Definitions

10.13.1 Art Car

For the purpose of these guidelines, an Art Car, is a form of art and is usually, but not always, a motorized vehicle that has its appearance modified as an act of personal artistic expression and uses LP-Gas for special effects.

10.13.2 Standby Personnel

Standby personnel shall be provided according to applicable sections of the Houston Fire Code and LSB Standard 10, "LP-Gas and Open Flame Use". See Section 10.3.3 of this Standard for Permit Office contact information concerning Standby Personnel.

10.13.3 Permits

Permit applications submitted less than 5 business days prior to the event will incur special handling fees. A permit shall be required according to applicable sections of the Houston Fire Code and LSB Standard 10, "LP-Gas and Open Flame Use". See Section 10.3.3 of this Standard for Permit Office contact information concerning permits.

10.13.4 Flame Effect Operator

An individual currently licensed by the State of Texas, that holds a "Flame Effects Operator's License", and approved by the Fire Marshal.

10.14---Guidelines

10.14.1 LP-gas Cylinders

LP-Gas cylinders shall be limited to one 30 pound cylinder unless otherwise preapproved by the Fire Marshal. Cylinders shall be in good condition and comply with the Texas Administrative Code and Railroad Commission of Texas Rules. They shall be securely mounted in an area protected from collisions and shielded from contact with the road surface. The minimum tank size for liquefied petroleum gas flame effects shall be determined by the surface area required to prevent reduced fuel delivery to the burner during the effect.

10.14.2 LP-Gas Storage of Containers

LP-Gas shall not be used or stored in a confined area, such as the trunk of a car, unless properly ventilated and in compliance with the National Fire Protection Association Standard 58 requirements. Those spaces shall be provided with explosion proof mechanical ventilation capable of providing six air changes per hour and explosion proof electrical wiring.

10.14.3 LP-Gas Controls and Components

All tubing, airlock valves, control valves, burners, piping, sensors, and other components used with LP-Gas shall be designed and pressure tested for such use according to NFPA 160 Standard for the Use of Flame Effects before and Audience, 2001 Edition.

10.14.4 Compliance with NFPA 160

Art Cars shall be created in compliance with NFPA 160 and inspected by a licensed State of Texas Flame Effects Operator.

10.14.5 Fire Extinguishers

A minimum of two 2A-10BC multipurpose fire extinguisher shall be provided for each vehicle and shall have a current State of Texas inspection tag. The fire extinguisher shall be securely mounted in a visible location or in a compartment provided with a sign stating, "Fire Extinguisher Inside".

10.14.6 Emergency Shut-Off

The emergency shut-off for the LP-Gas shall be one operation and clearly labeled with a white sign and red letters stating "Emergency LP-Gas Shut-off" in compliance with NFPA 160. Flame effects shall not be used prior to approval of a plan to extinguish the flame effect or approval of a supervisory control system for the emergency stop. The emergency stop shall initiate a complete shutdown of the flame effect and any interrelated safety – critical system.

10.14.7 Flame Effects Operator

The "Flame Effects Operator" shall be in attendance anytime special flame effects are used and will be held responsible for the safety, operation of all special flame effects, all associated equipment, flame appliances, and flame effects area.

10.14.8 No Smoking

There shall be no smoking or open flames within 15 feet of an Art Car containing LP-Gas.

10.14.9 No-Smoking Signs

Art Cars containing LP-Gas shall be appropriately labeled with "No Smoking- LP-Gas In Use" signs, as approved by the Fire Marshal.

10.14.10 Plan Approval

A plan for the use of flame effects shall be submitted to the authority having jurisdiction for approval. Any additions or modifications of flame effects described in the approved plan shall be approved by the authority having jurisdiction prior to use of the modified flame effects. The plan shall include the parade route, staging area, site plan, and other pertinent information. The plans shall also be stamped approved and inspected by the pyrotechnic Operator along with the Texas Pyrotechnic Special Effects Operators License number.

10.14.11 Operating Instructions

All flame effects shall have written operating instructions including start up, show operations, normal shutdown procedures, and emergency shutdown procedures. All flame effect devices and materials shall have drawings, manuals, or written descriptions to describe the type of item and performance specifications of the flame effect created.

10.14.12 Pre-Performance Evaluation

Flame effects shall be evaluated to verify that operators, performers, and the audience will not be exposed to a hazardous situation when flame effects are activated as designed or anticipated.

10.14.13 Fuel Supply

The fuel supply for the operation of the flame effect shall be only available during operation.

10.14.14 Arming of Flame Effect Devices

Flame effects shall only be fired after they have been confirmed as armed following the completion of the enabling and arming process and confirmation that the hazard area is clear. The accessible hazard area shall be under the direct observation of the operator or assistant firing the flame effect for the entire time that the effect is enabled and fired. The Operator or Assistant shall be within 15 feet of the flame effect during enabling and firing of the effect to insure safety.

10.14.15 Compliance with LSB Standard 25

Art Cars on display inside a building shall also comply with LSB Standard 25, "Safety Inspection for Vehicles on Display Indoors".

REFERENCES

1. City of Houston *Fire Code*, International Fire Code, 2006 edition, as amended.
2. Houston Fire Department, LSB Standard 01, "Installation and Maintenance of Portable Fire Extinguishers".