



FIRE PREVENTION GUIDELINE

Title: Flame Effects		
Number: FPG-08	Effective Date: 01/01/2008	Revised Date: 03/01/2009
Code References: California Fire Code (CFC), California Code of Regulations (CCR) Title 19, Merced Municipal Code (MMC)		
Note: <i>This guideline is a summary of Fire Department clarifications and interpretations of City and State Codes and nationally recognized standards in accordance with the currently adopted edition of the Fire Code. Information contained herein applies to typical circumstances and may not address all situations.</i>		

Scope

This Guideline has been developed to assist the public and business community who wish to use flame effects within the City of Merced.

Codes and Guidelines

This guideline shall apply to flame effects for entertainment, exhibition, demonstration, or simulation before an audience, including their design, fabrication, installation, testing, control, operation, and maintenance including, but not limited to the following.

- Use of indoor and outdoor flame effects (including Fire Dance Performances) before an audience.
- Design, fabrication, installation, testing, control, operation, and maintenance of equipment, materials, procedures, and systems used to produce flame effects
- Rehearsal, videotaping, audiotaping, or filming of any television, radio, or movie production if such production is before an audience and includes the use of flame effects

California Fire Code, California Code of Regulations, Title 19 and the Merced Municipal Code.

Definitions

Flame Effect: The combustion of flammable solids, liquids, or gases to produce thermal, physical, visual, or audible phenomena before an audience.

Flame Effect Operator: The single person with overall responsibility for the flame effect operations and safety.

Group I Flame Effects: An attended, manually controlled flame effect. Examples include, hand-held burning torches, flaming batons, flame acts, flaming bowl dances, flaming sword dances and the use of other open flame devices.



FIRE PREVENTION GUIDELINE

Permits Required

An "Open Flame" permit is required for any Fire Performance. An event plan including but not limited to the following requirements along with the permit fee to cover the cost of the inspection shall be submitted and approved prior to an inspection. If all requirements have been met the Fire Department representative will issue a permit after the inspection is completed. Additional permits may be required.

Specific Requirements

1. Demonstration

A walk-through and a representative demonstration of the flame effects may be required before flame effect events are approved.

2. Plan

The plan for the use of flame effects shall be submitted in writing. The plan shall include the following:

- a. The name of the person, group, or organization responsible for the production
- b. The dates and times of the production
- c. The location of the production
- d. The flame effect classification
- e. A current material safety data sheet (MSDS) for the materials (fuels) consumed in the flame effect
- f. Documentation that the combustible materials used for construction of the flame effects have been rendered flame retardant
- g. The name and age of the effect operator. All operators must be at least 21 years of age
- h. A site plan showing the following:
 - i. A narrative description of the flame effect
 - ii. The location of flame effect devices to be fired and their controls and control sequence
 - iii. The area affected by the flame effect device
 - iv. The location of the audience
 - v. The fuels used and their estimated consumption
 - vi. Air for combustion and ventilation for indoor effects
 - vii. Flammable materials piping
 - viii. Storage and holding areas and their capacities
 - ix. Supplemental fire protection features
 - x. Emergency response procedures



FIRE PREVENTION GUIDELINE

xi. Means of egress

3. **Standby**

When required, the fire department shall provide standby personnel for performances. The cost of standby personnel shall be the responsibility of the person/group requesting the permit.

4. **Use of Flame Effect Materials**

- a. Fuels with low flash points such as gasoline shall not be used. White gas, rubber cement or similar fuels shall be used.
- b. Smoking shall be prohibited in areas where fuels are present.
- c. Excess fuel shall be stored and transferred outdoors in a safe area.
- d. Only the performer(s) and approved support personnel experienced with the flame effects being used shall be permitted in the area of the flame effect.
- e. Any twirling or swinging device, fire breathing, or other mobile fire shall be kept at least 15 feet from the audience.

5. **Safety Personnel**

Each event shall require a minimum of two safety personnel. Additional performers may require additional safety designees.

Each safety person shall have a wet towel and a 2A10BC fire extinguisher with a current State Fire Marshal service tag attached. Safeties shall be trained in the proper use of fire extinguishers.

Safety personnel shall be responsible for performer assistance, audience control, and evacuation procedures.

6. **Performer**

The performer(s) shall have the same training as the safety personnel.

If the flame lasts longer than the presentation, a safety should assist with smothering the wicks.

Costumes shall be made of non-flammable or fire resistant materials.

Never perform or practice while under the influence of any drugs or alcohol.

7. **Indoor Performances**



FIRE PREVENTION GUIDELINE

The performance area shall be checked for combustible materials including, curtains, floorings, ceilings, and decorations.

The venue shall be checked for fire suppression and detection systems. These systems shall be inspected and maintained during the event.

8. Outdoor Performances

The area shall be clear of all dry grass, weeds, trees or other combustible materials. Ensure the area overhead is clear of trees or other combustibles.

Barricades or other audience control methods shall be in place.