



STANDARD 14.9.3

FIREWORKS REQUIREMENTS

OVERVIEW

A review of existing requirements for the public display of fireworks was conducted with the primary objective of increasing safety for the public, pyrotechnic crew, and Ventura County Fire Protection District (Fire District) personnel. Additional requirements have been implemented based on a review of past experience, industry input, destructive and non-destructive testing, NFPA 1123, Office of State Fire Marshal (OSFM) Title 19, and nationally recognized good practices. An increase in safety will be provided by taking a systematic and comprehensive approach towards revising and implementing several key areas of public-display fireworks operations.

SIGNIFICANT CHANGES

Application

A complete application will be required to be submitted to the Fire District no less than ten (10) business days prior to the day of the proposed display. Application submittal requirements to process a Fireworks Public Display permit shall include all previously required documents, approval from the local planning department, and a site security plan developed by the site representative.

Fallout Zone

The Fire District has increased the minimum distance required for fallout zones. For shells greater than 2 inches, the minimum fallout area of 70 feet per inch of shell has been increased to 100 feet per inch of shell. However, if mortars are placed in approved sand-filled troughs or other approved configuration, a 70-foot-per-inch shell distance will be allowed. The fallout zone perimeter shall be in place and enforced prior to loading mortars.

Fallout Zone Requirements for Vertical Mortars

Up to a 2-inch shell	70 feet per inch of shell
Greater than a 2-inch shell	100 feet per inch of shell*

* When using sand-filled troughs for mortars or other approved configurations, the required fallout zone may be reduced to 70 feet per inch of shell.

Display Site Set-Up

Mortar tube and rack construction will continue to comply with OSFM Title 19 and additional Fire District requirements. The pyrotechnic crew and Fire District personnel shall limit their exposure within the established fallout zone during set-up and loading of mortars. Multi-gang rack clusters and single-row rack clusters will be required to be set up in accordance with OSFM Title 19 and additional Fire District requirements as follows:

Multi-gang rack clusters (*Racks arranged in a side-by-side configuration*):

- A minimum 10-foot separation shall be required between other racks, cakes, and devices.
- A minimum 3-inch separation shall be provided between all mortars in adjacent racks within the cluster. This is to provide for the same effect as spacer blocks within each single-rack and reduce the increased exposure of adjacent mortars.
- A minimum nominal 1-inch x 6-inch single board shall be placed at the top and bottom of multi-gang rack clusters for side bracing when attaching multiple individual pre-built racks.
- All loaded mortars shall be covered with foil.
- The maximum number of mortars per multi-gang clusters is specified in the following table:

Maximum Number of Mortars per Multi-gang Rack Clusters

Up to 3-inch mortars	100 mortars per cluster
Greater than 3-inch and up to 5-inch mortars	30 mortars per cluster
Greater than 5-inch mortars	Not allowed

Single-row rack clusters (*Racks arranged in an end-to-end configuration*):

- A minimum 5-foot separation shall be required between other racks, cakes, or devices.
- Intermediate perpendicular bottom bracing shall be provided every 10 mortars.
- A maximum of 50 mortars shall be allowed per single-row rack.

Devices:

- Multi-break aerial shell devices (double bubbles/peanuts) shall only be fired from mortars buried in sand-filled troughs or other approved configuration. Multi-break shells shall not be chain-fused.
- Cakes shall have a minimum 5-foot separation between other cakes and be staked and/or braced.
- Shells up to 6 inches in diameter may be chain-fused, not to exceed a maximum of 10 shells.
- Shells larger than 6 inches shall not be chain-fused together.

Firing

The Fire District will no longer allow hand-fired aerial shows. Only electronically fired shows will be allowed. Pyrotechnic crew and Fire District personnel not essential to the firing operation shall remain outside the fallout zone during the firing operation.

Weather Conditions

Wind speed and rain may have an impact on the public display site and fallout zone. The pyrotechnic crew and Fire District personnel should monitor weather conditions that may affect the safe firing of the display.

The following are suggested wind thresholds and actions to be considered:

- 6-10 mph and gusts not to exceed 15 mph – Monitor wind patterns, speed, direction, exposures, and impact to the viewing audience.
- 10-to-15 mph and gusts not to exceed 20 mph – Adjustments to the distances to exposures and viewing audience should be made.
- Over 15 mph or gusts exceeding 25 mph – A revised site survey shall be conducted to determine if adequate fallout distances can still be maintained. Identify if there are any mitigating measures that may be implemented. If the fallout distances are not acceptable and/or mitigating measures cannot be implemented, the public display shall be cancelled.

If significant rainfall is expected, provisions shall be made to ensure pyrotechnic equipment and devices are kept dry. The pyrotechnic crew, Fire District personnel, and site representative shall closely monitor the amount of rainfall. If there is excessive rainfall and mitigating measures cannot be implemented, the public display shall be cancelled.