

## Fireworks Displays

*Fireworks displays are a beautiful way to highlight a holiday weekend. Many Emergency Service Organizations (ESO) hold these events, and are the organization that sponsors them.*

*Unfortunately, fireworks can also be the cause of serious injuries and property damage. The National Fire Protection Association (NFPA) reports that an estimated 9,600 people suffered fireworks-related injuries severe enough to require emergency room treatment. While children were the largest group affected, at least a third of those injured were adults aged 25-44. Property damage each year runs into the millions. In 2003 an estimated 2,300 fires involving fireworks caused \$58 million in direct damage.*

*Public fireworks displays account for a very small share of the problem. But when things go wrong, they go very wrong. Imagine having an aerial shell fall and explode into a crowd of people – not only would there be many injuries, but the potential for liability suits is extremely high.*

*So, what should you do? Consider some of the following procedures to prevent accidents and limit your liability.*

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**First and foremost, contract with a professional fireworks company** to fire the shells. Ask for a certificate of insurance and that your ESO be named as an additional insured on their policy. The limits of their liability policy should be at least \$1 million for bodily injury and property damage.

**If you use employees/members of your ESO to handle the display instead, make sure they have been trained and certified to shoot fireworks.** A number of states require licensing or certification in this regard. A Pyrotechnics Display Operator Training Program can also be obtained from Pyrotechnics Guild International, Inc. ([www.pgi.org](http://www.pgi.org))

**Work with the fireworks company to determine adequate distances from which spectators are separated from the display, discharge and fall-out areas.**

The NFPA Standard 1123 gives specific requirements for the display area: Allow at least 70 foot radius for every inch of internal mortar diameter of the largest aerial shell fired. There should be no spectators, dwellings or parking areas in this radius.

The shell trajectory in the discharge area should have a 25 foot clearance to any overhead objects. Ground display pieces should be at least 75 feet from any spectator viewing or parking areas.

The fall-out area, where debris from spent shells and any malfunctioning aerial shells fall, should be free of all spectators, vehicles or combustible materials.

**Provide adequate fire protection, fire apparatus and emergency medical service during the display.** Monitors should be assigned to control spectators and prevent them from accessing the discharge site. They should also be alert for any changes in the fall-out area due to a wind shift and be prepared to alert the fire apparatus operators, or, if need be, stop the display.

**Clean-up is critical.** Many injuries, especially to children, are caused by handling unexploded fireworks. Find out who is responsible for clean-up – the operator or promoter – and don't give the public access to the display area until after a daylight clean-up takes place. You should also have procedures in place to deal with unexploded shells found at this time.

## Fireworks Displays

### **Fireworks Displays Checklist**

Name of ESO: \_\_\_\_\_ Responsible Person: \_\_\_\_\_

Name of Contact On-Site: \_\_\_\_\_ Contractor Phone #: \_\_\_\_\_

***If your ESO is sponsoring a Fireworks Display, use this checklist to help your ESO address the hazards and exposures associated with the display.***

- Professional fireworks company contracted to fire the shells.
- Responsibility for clean-up clearly defined in contract with professional fireworks company and is the responsibility of professional fireworks company.
- Certificate of Insurance obtained from fireworks company with minimum limits of \$1,000,000 for bodily injury and property damage.
- ESO named as additional insured on contractor's Certificate of Insurance.

#### ***Display Area (Also see NFPA #1123)***

- Display area adequate for size of aerial shell.
- 70 foot radius for every inch of internal mortar diameter.
- No spectators, dwellings, or parking areas within that display area.

#### ***Discharge Area (Also see NFPA #1123)***

- Distance from discharge area to spectators is adequate.
- Security to discharge area is adequate.
- At least 25 foot clearance to any overhead objects for shell trajectory.
- At least 75 foot clearance between spectator viewing areas or parking areas and ground display pieces.
- Storage of shells at discharge site is adequate.

#### ***Fall-Out Area (Also see NFPA #1123)***

- No spectators, vehicles, or combustible materials located within fall-out areas.

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### **Emergency Service Organization**

- Adequate fire protection, fire apparatus, and emergency medical service provided during display.
- Adequate monitors provided to enforce crowd control and observe falling of live debris.
- Adequate communication capabilities between monitors and fire apparatus.

### **Clean-Up**

- Display area not open to public until daylight clean-up completed.
- Daylight clean-up completed.
- Procedures in place for handling unexploded shells.

National Fire Protection Association (NFPA) #1123 provides more information on how to properly conduct a fireworks display. Please review those requirements before holding your event.

NFPA  
1 Batterymarch Park  
Quincy, MA 02269-9101  
617-770-3000  
<http://www.nfpa.org>

Pyrotechnics Guild International, Inc. ([www.pgi.org](http://www.pgi.org)) is another source for information about fireworks displays. For more information on their training, email [training@pgi.org](mailto:training@pgi.org).