

However, the cases show that there have been at least two deaths with these devices and the potential for tipover is high under certain conditions of foreseeable use. It is foreseeable that the tipover hazard may result in serious injury or death.

e. *Whether device associated with a fatality was illegal.* Some commenters said that one of the devices that was associated with a fatality was illegal.

Only one of the large multiple tube mine and shell devices involved in the two deaths was definitely identified by brand name. Tests of additional units of that device indicated it complied with the fireworks regulations of the FHSA, which are enforced by CPSC. Some devices, although legal under the FHSA fireworks regulations, may be illegal under state, local or other federal laws. Available information indicates that in the states where the deaths occurred, the purchase, possession and/or use of large multiple tube mine and shell devices are restricted or prohibited. However, the devices involved in both deaths are legal under the FHSA fireworks regulations as long as they conform to the applicable labeling and performance requirements. Regardless of whether a particular device violated the law of a state or locality, it may still be appropriate to provide federal regulation.

f. *Lack of perception of danger.* One commenter stated that consumers and spectators do not perceive the danger of fireworks.

The Commission agrees that victims of fireworks injuries may not perceive the potential danger of watching a private fireworks exhibition featuring multiple tube fireworks devices. Two people have died after being hit by a mine from a multiple tube device that tipped over during use. It is possible that neither victim perceived that they were in danger for the following reasons:

- The fireworks device was not pointing towards them when ignited.
- Each victim was approximately 40 feet from the device.

## 5. Technical Issues

a. *Proposed precautions.* Several commenters proposed various precautions to prevent tipover, such as using bricks to hold the device down. Some suggested safety equipment such as goggles and a minimum distance for spectators.

Staff believes that there are several valid safety precautions for small multiple tube devices. These include the use of bricks to hold a functioning device down, the use of bricks or cinder blocks as a hard flat firing surface (if of

sufficient size to prevent the device from bouncing off during its functioning), the use of goggles for eye protection, and a minimum distance of 70-to-100 feet for spectators.

However, using bricks or cinder blocks as a hard flat firing surface could create an extremely dangerous situation if the firing area is too small to prevent the devices from falling or bouncing off and tipping over. With large devices, normal safety goggles would be unlikely to prevent impact injuries to the eye.

Requiring a minimum distance of 70-to-100 feet would not be effective with the majority of the large multiple tube devices, since these devices shoot their shells 200-to-600 feet into the air. For other than professional fireworks displays, it is impractical to suggest that spectators stand this distance from fireworks while they are being fired.

### b. *Proposed technical fixes.*

Commenters proposed various technical fixes to reduce tipover such as:

- Increasing the base-to-height ratio by increasing the base size;
- Lowering the center of gravity by increasing the base weight;
- Reducing the lift force;
- Requiring hold down spikes driven into the ground;
- Attaching support wires to the device which can then be staked into the ground.

All of these ideas are valid methods to reduce tipover. The last two, however, require the consumer to take steps to render the device safe that may not be feasible in certain circumstances. For instance, spikes cannot easily be driven into concrete or asphalt surfaces, nor can support wires. Moreover, consumers firing a variety of fireworks devices at night may not remember or be able to read specific instructions accompanying the different devices.

c. *Relative safety of multiple tube fireworks.* Two commenters stated that multiple tube devices are safer than other fireworks devices because they have a larger base.

Not all multiple tube mine and shell devices have a large base. In fact, some have no base. Others have bases that vary in size from a few inches in diameter to sizes greater than a foot in diameter. The safety of a device is not dependent only on the size of the base. Other factors, such as the firing sequence, internal fuse burn times, projectile launching force, shell weight, device shape, center of gravity, quality of materials and construction, and how the consumer uses the device, all enter into the safety of a device. However, several of these factors are addressed by the tip angle. As explained above, devices with bases were not as likely to

tip in the staff's testing as those without bases.

## 6. General Issues

a. *Uses and benefits of fireworks.* The Commission received many comments concerning the general use and benefits of fireworks. Many commenters noted the importance of fireworks to their celebration of the nation's birthday, stressing the beauty and patriotism of these occasions. Some commenters noted the use of fireworks for various purposes, including agriculture, religious celebrations, and fostering an interest in science.

The Commission understands the important role that fireworks can play and the enjoyment that people receive from watching these displays. Narrowly tailored action to improve the safety of the devices will not prevent consumers from continuing to enjoy fireworks, and will increase safety.

b. *Over-regulation.* One commenter stated that the Commission's proceeding conflicts with efforts to reduce the size and cost of the federal government and that the agency is over-regulating. Another commenter stated that the Commission was over-regulating because this type of regulation is really a "states' rights" issue.

The Commission is a major participant in efforts to "re-invent" government by making it more efficient and less costly. This means that the Commission must find efficient ways to achieve its mission of protecting consumers from unreasonable risks of injury associated with consumer products. Consistent with the detailed statutory findings the Commission must make to issue a rule, the Commission uses its regulatory authority sparingly. However, it does not mean that the Commission should abandon its mission. The Commission believes that a performance standard will reduce the risk of injury and death associated with multiple tube fireworks devices with the least burden possible.

With regard to states' rights, the FHSA specifically recognizes fireworks as products that the Commission may regulate. 15 U.S.C. 1261(q)(1)(B). Of course, states can issue some regulations that the Commission cannot: The Commission does not have the authority to regulate the use of a product. For example, states or local governments may pass legislation requiring that bicycle riders wear helmets. The Commission cannot issue such requirements. Many states do in fact have requirements for fireworks that are more stringent than CPSC's. The Commission's fireworks regulations do not preempt more restrictive state or