

## 2006 International Fire Code **Fireworks & Explosives**

*Section excerpts as amended by City of Bismarck Ordinances, Chapter 04-07. Copies of the International Fire Code are filed with the City Administrator and the Fire & Inspections Department. Copies may also be purchased from the International Code Council ([www.iccsafe.org](http://www.iccsafe.org)).*

### **SECTION 3301 GENERAL**

#### **3301.1 Scope.**

The provisions of this chapter shall govern the possession, manufacture, storage, handling, sale and use of explosives, explosive materials, fireworks and small arms ammunition.

#### **Exceptions:**

1. The Armed Forces of the United States, Coast Guard or National Guard.
2. Explosives in forms prescribed by the official United States Pharmacopoeia.
3. The possession, storage and use of small arms ammunition when packaged in accordance with DOTn packaging requirements.
4. The possession, storage, and use of not more than 1 pound (0.454 kg) of commercially manufactured sporting black powder, 20 pounds (9 kg) of smokeless powder and 10,000 small arms primers for hand loading of small arms ammunition for personal consumption.
5. The use of explosive materials by federal, state and local regulatory, law enforcement and fire agencies acting in their official capacities.
6. Special industrial explosive devices which in the aggregate contain less than 50 pounds (23 kg) of explosive materials.
7. The possession, storage and use of blank industrial power load cartridges when packaged in accordance with DOTn packaging regulations.
8. Transportation in accordance with DOTn 49 CFR arts 100-178.
9. Items preempted by federal regulations.

#### **3301.1.3 Fireworks.**

**The possession, manufacture, storage, sale, handling and use of fireworks are prohibited.**

#### **Exceptions:**

1. Storage and handling of fireworks as permitted in Section 3304.  
***Storage and handling is highly regulated and restrictive due to the hazards.***
2. ~~Manufacture, assembly and testing of fireworks as permitted in Section 3305.~~
3. The use of fireworks for display as permitted in Section 3308.  
***Section 3308 applies to public/professional displays.***
4. ~~The possession, storage, sale, handling and use of specific types of Division 1.4G fireworks where allowed by applicable local or state laws.~~

~~ordinances and regulations provided such fireworks comply with CPSC 16 CFR, Parts 1500 and 1507, and DOTn 49 CFR, Parts 100-178, for consumer fire works.~~

### **3301.2 Permit required.**

Permits shall be required as set forth in Section 105.6 and regulated in accordance with this section.

*Only Fireworks related items are excerpted here.*

#### ~~**3301.2.2 Sale and retail display.**~~

~~No person shall construct a retail display nor offer for sale explosives, explosive materials, or fireworks upon highways, sidewalks, public property, or in assembly or educational occupancies.~~

***3301.2.2 is deleted because fireworks cannot be displayed or sold within the City of Bismarck.***

#### **3301.2.3 Permit restrictions.**

The fire code official is authorized to limit the quantity of explosives, explosive materials, or fireworks permitted at a given location. No person, possessing a permit for storage of explosives at any place, shall keep or store an amount greater than authorized in such permit. Only the kind of explosive specified in such a permit shall be kept or stored.

#### **3301.2.4 Financial responsibility.**

Before a permit is issued, as required by Section 3301.2, the applicant shall file with the jurisdiction a corporate surety bond in the principal sum of \$100,000 or a public liability insurance policy for the same amount, for the purpose of the payment of all damages to persons or property which arise from, or are caused by, the conduct of any act authorized by the permit upon which any judicial judgment results. The fire code official is authorized to specify a greater or lesser amount when, in his or her opinion, conditions at the location of use indicate a greater or lesser amount is required. Government entities shall be exempt from this bond requirement.

##### **3301.2.4.2 Fireworks display.**

*The permittee shall furnish a bond or insurance in an amount deemed adequate by the board of city commissioners, but not less than \$250,000 per individual or \$500,000 per occurrence, conditioned for the payment of all potential damages which may be caused either to a person or persons or to property by reason of the permitted display, and arising from any act of the permittee, its agents, employees, or subcontractors.*

#### **3301.4 Qualifications.**

Persons in charge of magazines, blasting, **fireworks display**, or **pyrotechnic special effect operations** shall not be under the influence of alcohol or drugs which impair sensory or motor skills, shall be at least 21 years of age, and shall demonstrate knowledge of all safety precautions related to the storage, handling or use of explosives, explosive materials or fireworks.

#### **3301.5 Supervision.**

The fire code official is authorized to require operations permitted under the provisions of Section 3301.2 to be supervised at any time by the fire code official in order to determine

compliance with all safety and fire regulations.

### **3301.7 Seizure.**

The fire code official is authorized to remove or cause to be removed or disposed of in an approved manner, at the expense of the owner, explosives, explosive materials or **fireworks** offered or exposed for sale, stored, possessed or used in violation of this chapter.

### **3302.1 Definitions.**

*The following excerpts are definitions that are related to Fireworks.*

The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

**DISCHARGE SITE.** The immediate area surrounding the fireworks mortars used for an outdoor fireworks display.

**DISPLAY SITE.** The immediate area where a fireworks display is conducted. The display area includes the discharge site, the fallout area, and the required separation distance from the mortars to spectator viewing areas. The display area does not include spectator viewing areas or vehicle parking areas.

**EXPLOSIVE.** A chemical compound, mixture or device, the primary or common purpose of which is to function by explosion. The term includes, but is not limited to, dynamite, black powder, pellet powder, initiating explosives, detonators, safety fuses, squibs, detonating cord, igniter cord, igniters and **display fireworks, 1.3G (Class B, Special)**.

The term "explosive" includes any material determined to be within the scope of USC Title 18: Chapter 40 and also includes any material classified as an explosive other than consumer fireworks, 1.4G (Class C, Common) by the hazardous materials regulations of DOTn 49 CFR.

High explosive. Explosive material, such as dynamite, which can be caused to detonate by means of a No. 8 test blasting cap when unconfined.

**Low explosive.** Explosive material that will burn or deflagrate when ignited. It is characterized by a rate of reaction that is less than the speed of sound. Examples of low explosives include, but are not limited to, black powder, safety fuse, igniters, igniter cord, fuse lighters, **fireworks, 1.3G (Class B special)** and propellants, 1.3C.

**Mass-detonating explosives.** Division 1.1, 1.2 and 1.5 explosives alone or in combination, or loaded into various types of ammunition or containers, most of which can be expected to explode virtually instantaneously when a small portion is subjected to fire, severe concussion, impact, the impulse of an initiating agent, or the effect of a considerable discharge of energy from without. Materials that react in this manner represent a mass explosion hazard. Such an explosive will normally cause severe structural damage to adjacent objects. Explosive propagation could occur immediately to other items of ammunition and explosives stored sufficiently close to and not adequately protected from the initially exploding pile with a time interval short enough so that two or more quantities must be considered as one for quantity-distance purposes.

**UN/DOTn Class 1 explosives.** The former classification system used by DOTn included the terms "high" and "low" explosives as defined herein. The following terms further define explosives under the current system applied by DOTn for all explosive materials defined as hazard Class 1 materials. Compatibility group letters are used in

concert with the Division to specify further limitations on each division noted, (i.e., the letter G identifies the material as a pyrotechnic substance or article containing a pyrotechnic substance and similar materials).

**Division 1.1.** Explosives that have a mass explosion hazard. A mass explosion is one which affects almost the entire load instantaneously.

**Division 1.2.** Explosives that have a projection hazard but not a mass explosion hazard.

**Division 1.3.** Explosives that have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard.

**Division 1.4.** Explosives that pose a minor explosion hazard. The explosive effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package.

**Division 1.5.** Very insensitive explosives. This division is comprised of substances that have a mass explosion hazard but which are so insensitive that there is very little probability of initiation or of transition from burning to detonation under normal conditions of transport.

**Division 1.6.** Extremely insensitive articles which do not have a mass explosion hazard. This division is comprised of articles that contain only extremely insensitive detonating substances and which demonstrate a negligible probability of accidental initiation or propagation.

**FALLOUT AREA.** The area over which aerial shells are fired. The shells burst over the area, and unsafe debris and malfunctioning aerial shells fall into this area. The fallout area is the location where a typical aerial shell dud falls to the ground depending on the wind and the angle or mortar placement.

**FIREWORKS.** Any composition or device for the purpose of producing a visible or an audible effect for entertainment purposes by combustion, deflagration or detonation that meets the definition of 1.4G fireworks or 1.3G fireworks as set forth herein.

**Fireworks, 1.4G.** (Formerly known as Class C, Common Fireworks.) Small fireworks devices containing restricted amounts of pyrotechnic composition designed primarily to produce visible or audible effects by combustion. Such 1.4G fireworks which comply with the construction, chemical composition and labeling regulations of the DOTn for Fire-works, UN 0336, and the U.S. Consumer Product Safety Commission as set forth in CPSC 16 CFR: Parts 1500 and 1507, are not explosive materials for the purpose of this code. *This definition includes those items defined or otherwise listed in NDCC 23-15-01, as that section may be amended from time to time.*

**Fireworks, 1.3G.** (Formerly Class B, Special Fireworks.) Large fireworks devices, which are explosive materials, intended for use in fireworks displays and designed to produce audible or visible effects by combustion, deflagration or detonation. Such 1.3G fireworks include, but are not limited to, firecrackers containing more than 130 milligrams (2 grains) of explosive composition, aerial shells containing more than 40 grams of pyrotechnic composition, and other display pieces which exceed the limits for classification as 1.4G fireworks. Such 1.3G fireworks, are also described as Fireworks, UN0335 by the DOTn.

**FIREWORKS DISPLAY.** A presentation of fireworks for a public or private gathering.

**MORTAR.** A tube from which fireworks shells are fired into the air.

**PROXIMATE AUDIENCE.** An audience closer to pyrotechnic devices than permitted by NFPA 1123.

**PYROTECHNIC COMPOSITION.** A chemical mixture that produces visible light displays or sounds through a self-propagating, heat-releasing chemical reaction which is initiated by ignition.

**PYROTECHNIC SPECIAL EFFECT.** A visible or audible effect for entertainment created through the use of pyrotechnic materials and devices.

**PYROTECHNIC SPECIAL-EFFECT MATERIAL.** A chemical mixture used in the entertainment industry, to produce visible or audible effects by combustion, deflagration or detonation. Such a chemical mixture predominantly consists of solids capable of producing a controlled, self-sustaining and self-contained exothermic chemical reaction that results in heat, gas sound, light or a combination of these effects. The chemical reaction functions without external oxygen.

**READY BOX.** A weather-resistant container with a self-closing or automatic-closing cover that protects fireworks shells from burning debris. Tarpaulins shall not be considered as ready boxes.

## **SECTION 3304 EXPLOSIVE MATERIALS STORAGE AND HANDLING**

### **3304.1 General.**

Storage of explosives and explosive materials, small arms ammunition, small arms primers, propellant-actuated cartridges and smokeless propellants in magazines, shall conform to the provisions of this section.

*For brevity, the remainder of Section 3304 is not included here.*

## **SECTION 3308 FIREWORKS DISPLAY**

### **3308.1 General.**

The display of fireworks, including proximate audience displays and pyrotechnic special effects in motion picture, television, theatrical, and group entertainment productions, shall comply with this chapter and NFPA 1123 or NFPA 1126.

### **3308.2 Permit application.**

Prior to issuing permits for fire-works display, plans for the display, inspections of the display site, and demonstrations of the display operations shall be approved.

#### **3308.2.1 Outdoor displays.**

In addition to the requirements of Section 403, permit applications for outdoor fireworks displays using Division 1.3G fireworks shall include a diagram of the location at which the display will be conducted, including the site from which fireworks will be discharged; the location of buildings, highways, overhead obstructions and utilities; and the lines behind which the audience will be restrained.

#### **3308.2.2 Proximate audience displays.**

Where the separation distances required by Section 3308.4 and NFPA 1123 are

unavailable or cannot be secured, only proximate audience displays conducted in accordance with NFPA 1126 shall be allowed. Applications for proximate audience displays shall include plans indicating the required clearances for spectators and combustibles, crowd control measures, smoke control measures, and requirements for standby personnel and equipment when provision of such personnel or equipment is required by the fire code official.

### **3308.3 Approved displays.**

Approved displays shall include only the approved Division 1.3G, Division 1.4G, and Division 1.4S fireworks, shall be handled by an approved competent operator, and the fireworks shall be arranged, located, discharged and fired in a manner that will not pose a hazard to property or endanger any person.

### **3308.4 Clearance.**

Spectators, spectator parking areas, and dwellings, buildings or structures shall not be located within the display site.

#### **Exceptions:**

1. This provision shall not apply to pyrotechnic special effects and displays using Division 1.4G materials before a proximate audience in accordance with NFPA 1126.
2. This provision shall not apply to unoccupied dwellings, buildings and structures with the approval of the building owner and the fire code official.

### **3308.5 Storage of fireworks at display site.**

The storage of fireworks at the display site shall comply with the requirements of this section and NFPA 1123 or NFPA 1126.

#### **3308.5.1 Supervision and weather protection.**

Beginning as soon as fireworks have been delivered to the display site, they shall not be left unattended.

#### **3308.5.2 Weather protection.**

Fireworks shall be kept dry after delivery to the display site.

#### **3308.5.3 Inspection.**

Shells shall be inspected by the operator or assistants after delivery to the display site. Shells having tears, leaks, broken fuses or signs of having been wet shall be set aside and shall not be fired. Aerial shells shall be checked for proper fit in mortars prior to discharge. Aerial shells that do not fit properly shall not be fired. After the display, damaged, deteriorated or dud shells shall either be returned to the supplier or destroyed in accordance with the supplier's instructions and Section 3304.10.

**Exception:** Minor repairs to fuses shall be allowed. For electrically ignited displays, attachment of electric matches and similar tasks shall be allowed.

#### **3308.5.4 Sorting and separation.**

After delivery to the display site and prior to the display, all shells shall be separated according to size and their designation as salutes.

**Exception:** For electrically fired displays, or displays where all shells are loaded into mortars prior to the show, there is no requirement for separation of shells according to size or their designation as salutes.

### **3308.5.5 Ready boxes.**

Display fireworks (Division 1.3G) that will be temporarily stored at the site during the fire-works display shall be stored in ready boxes located upwind and at least 25 feet (7620 mm) from the mortar placement and separated according to size and their designation as salutes.

**Exception:** For electrically fired displays, or displays where all shells are loaded into mortars prior to the show, there is no requirement for separation of shells according to size, their designation as salutes, or for the use of ready boxes.

### **3308.6 Installation of mortars.**

Mortars for firing fireworks shells shall be installed in accordance with NFPA 1123 and shall be positioned so that shells are propelled away from spectators and over the fallout area. Under no circumstances shall mortars be angled toward the spectator viewing area. Prior to placement, mortars shall be inspected for defects, such as dents, bent ends, damaged interiors and damaged plugs. Defective mortars shall not be used.

### **3308.7 Handling.**

Aerial shells shall be carried to mortars by the shell body. For the purpose of loading mortars, aerial shells shall be held by the thick portion of the fuse and carefully loaded into mortars.

### **3308.8 Display supervision.**

Whenever in the opinion of the fire code official or the operator a hazardous condition exists, the fireworks display shall be discontinued immediately until such time as the dangerous situation is corrected.

### **3308.9 Post-display inspection.**

After the display, the firing crew shall conduct an inspection of the fallout area for the purpose of locating unexploded aerial shells or live components. This inspection shall be conducted before public access to the site shall be allowed. Where fireworks are displayed at night and it is not possible to inspect the site thoroughly, the operator or designated assistant shall inspect the entire site at first light.

### **3308.10 Disposal.**

Any shells found during the inspection required in Section 3308.9 shall not be handled until at least 15 minutes have elapsed from the time the shells were fired. The fireworks shall then be doused with water and allowed to remain for at least 5 additional minutes before being placed in a plastic bucket or fiberboard box. The disposal instructions of the manufacturer as provided by the fireworks supplier shall then be followed in disposing of the fireworks in accordance with Section 3304.10.

### **~~3308.11 Retail display and sale.~~**

~~Fireworks displayed for retail sale shall not be made readily accessible to the public. A minimum of one pressurized-water portable fire extinguisher complying with Section 906 shall be located not more than 15 feet (4572 mm) and not less than 10 feet (3048 mm) from the hazard. "No Smoking" signs complying with Section 310 shall be conspicuously posted in areas where fireworks are stored or displayed for retail sale.~~

***3308.11 has been deleted, as Retail display and sale of fireworks is not permitted within the City of Bismarck.***

**Amendment to the International Fire Code as adopted per City Ordinance Number 5654 on February 26, 2008.**

***The adoptions have been added to the Fire Code listed above.***

4-07-06. Amendments. The International Fire Code adopted by the provisions of this article is hereby amended as follows:

4. Chapter 33. Explosives and Fireworks.

Section 3301.1.3, Fireworks. The possession, manufacture, storage, sale, handling, and use of fireworks are prohibited. Amended as follows:

Delete Exceptions 2 and 4.

Section 3301.2.2, Sale and retail display. Deleted.

Section 3301.2.4.2, Bond for fireworks display required, is hereby amended by substituting the following paragraph:

The permittee shall furnish a bond or insurance in an amount deemed adequate by the board of city commissioners, but not less than two hundred and fifty thousand dollars (\$250,000.00) per individual or five hundred thousand dollars (\$500,000.00) per occurrence, conditioned for the payment of all potential damages which may be caused either to a person or persons or to property by reason of the permitted display, and arising from any act of the permittee, its agents, employees or subcontractors.

Section 3302.1, Definitions. Amend Fireworks, 1.4G to add the following:

This definition includes those items defined or otherwise listed in NDCC 23-15-01, as that section may be amended from time to time.

Section 3308.11, Retail display and sale. Deleted.