

# WS Directive

2.625 01/06/06

---

PYROTECHNICS, ROCKET NET CHARGES, AND INCIDENTAL EXPLOSIVE MATERIALS

1. PURPOSE

To establish procedures and accountability for the safe, secure handling and use of explosive pest control devices (pyrotechnics), rocket net charges, and other incidental explosive materials for WS employees, and to ensure that applicable laws, regulations, and policies are observed. This directive is not intended to provide procedures and accountability for explosives used for removing beaver dams.

2. REPLACEMENT HIGHLIGHTS

This is a new directive.

3. BACKGROUND

Pest control pyrotechnics are an effective, non-lethal wildlife damage management tool for dispersing wild animals when they damage agriculture, property, or threaten public safety or health. Rocket nets provide a means for the live capture of birds and other wildlife for both management and research purposes. Pyrotechnics and rocket net charges contain regulated explosive materials requiring specific safety, security, storage, transportation, and records maintenance procedures. Incidental components of wildlife damage management tools which are classified as explosive materials include electric matches used to initiate cannon net charges and gas cartridge fuses.

Procedures and accountability for explosives used for removing beaver dams and associated training/certification requirements are detailed in WS Directive 2.435.

4. POLICY

WS personnel are authorized to use commercially available explosives covered by this directive that are approved for distribution and use by the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) on official WS projects as directed by their State Director or NWRC Field Station Leader. These explosive materials will be stored and transported in accordance with the procedures provided in the Standard for Storage and Transportation of Pyrotechnics, Rocket Net Charges, and Incidental Explosive Materials (Attachment 1).

All WS use, storage, and transportation of explosives will be in compliance with applicable Federal, State, and local laws and regulations.

Employees assigned to use pyrotechnic pistols or other launching devices will receive safety training in their use as required by WS Directive 2.615, WS Firearms Use and Safety.

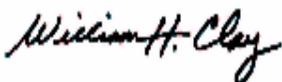
Pyrotechnics will only be used by employees wearing appropriate personal protective equipment, i.e., hearing and eye protection as identified in the State/NWRC Field Station or District program's job hazard assessment for pyrotechnic use (See APHIS Safety and Health Manual (6/30/04), Chapter 11, Section 1, Personal Protective Equipment).

WS offices and personnel will provide information on the safe use of pyrotechnics and their launching devices to private individuals, outside organizations and agencies, and business to whom WS distributes or recommends pyrotechnics for wildlife conflict resolution, e.g., OSHA/WS "Quick Card" information card. Rocket net charges will not be loaned or otherwise distributed outside of WS with the exception of State and other Federal wildlife management agencies.

Accountability for hazardous materials subject to this directive will be in accordance with the Standard for Storage and Transportation of Pyrotechnics, Rocket Net Charges, and Incidental Explosive Materials (Attachment 1).

#### 5. REFERENCES

Title 27, Code of Federal Regulations, Part 555, Commerce in Explosives.  
Federal Explosives Law and Regulations, ATF P 5400.7.  
Title 29, Code of Federal Regulations, Part 1910.109, Explosives and Blasting Agents.  
Title 29, Code of Federal Regulations, Part 1910, Subpart I, Personal Protective Equipment.  
Title 49, Code of Federal Regulations, Part 173, Shippers-General Requirements for Shipments and Packaging.  
Title 49, Code of Federal Regulations, Part 177, Carriage by Public Highway.  
APHIS Safety and Health Manual (Revised 6/30/04).  
WS Directive 2.615, Firearms Use and Safety (01/06/06).  
WS Directive 2.435, Explosives Use and Safety (01/06/06).  
WS Standard Operating Procedures for Rocket and Cannon Net Use.  
WS Explosives Safety Manual.  
Institute of Makers of Explosives Safety Library Publication No. 22.



Deputy Administrator

**STANDARD FOR STORAGE AND TRANSPORTATION OF PYROTECHNICS,  
ROCKET NET CHARGES AND INCIDENTAL EXPLOSIVE MATERIALS**

**WILDLIFE SERVICES**

This standard applies to the storage, transportation, and use by Wildlife Services (WS) personnel of pyrotechnics, rocket net charges, electric matches used to initiate cannon net charges, and gas cartridge fuses. The standard is based on Federal laws and regulations pertaining to explosive materials, Federal and industry standards for explosives safety and security, and applicable Agency directives. The requirements and rules that follow will help WS ensure safe, secure, and legally compliant storage and transportation for the explosive materials covered by these procedures. A variance request can be made through OSS for special or unusual circumstances.

**I. PYROTECHNICS**

Pyrotechnics authorized for storage, transportation, and use by WS personnel are restricted to commercially available "explosive pest control devices" classified by the U.S. Department of Transportation (DOT) as Division 1.4 explosives and approved as legal explosive devices by the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF). Division 1.4 explosives are those packaged and shipped to prevent mass detonation of container contents. Approved pyrotechnics packaged as Division 1.4 include the 15mm bird banger and screamer siren cartridges, 12 gauge shell crackers, 18.2mm CAPA long-range cartridges, and rope firecrackers commonly used by WS.

**A. Overnight Storage**

**Rule 1:** Never store pyrotechnics or any other explosive material in a residence.

**Rule 2:** All pyrotechnics will be stored in accordance with Rule 3 to comply with ATF regulations (Federal Explosives Law and Regulations, ATF P 5400.7) and OSHA regulations (29 CFR 1910.109) or in accordance with the temporary overnight vehicle storage variance cited below.

**Rule 3:** Magazines approved for overnight storage of pyrotechnics will meet one of the following descriptions:

**a.** An outdoor magazine meeting ATF Type 1 magazine standards (Federal Explosives Law and Regulations, ATF 5400.7, Subpart K, 55.207) or ATF Type 2 outdoor magazine standards (ATF 5400.7, Subpart K, 55.208(a) ([http://www.atf.gov/pub/fire-explo\\_pub/explo\\_law\\_reg.htm](http://www.atf.gov/pub/fire-explo_pub/explo_law_reg.htm))). Type 2 outdoor magazines will be of substantial size and construction to discourage theft, have

metal floors, and be securely anchored to a concrete slab or to substantial ground anchors.

**b.** An indoor magazine that meets ATF Type 2 or ATF Type 4 indoor magazine standards. See ATF 5400.7, Subpart K, 55.208(b) and 55.210 for construction and lock requirements ([http://www.atf.gov/pub/fire-explo\\_pub/explo\\_law\\_reg.htm](http://www.atf.gov/pub/fire-explo_pub/explo_law_reg.htm)). The IME-22 container (IME Safety Library Publication No. 22, Part 2, paragraph B and Appendix C; <http://www.ime.org/imestore/default.asp>) exceeds these standards and can be used as an indoor storage magazine for Division 1.4 pyrotechnics. Indoor magazines must be locked and kept in a locked building in accordance with ATF 5400.7, Subpart K ([http://www.atf.gov/pub/fire-explo\\_pub/explo\\_law\\_reg.htm](http://www.atf.gov/pub/fire-explo_pub/explo_law_reg.htm)). Indoor magazines must be painted red and have in 3" high white lettering "EXPLOSIVES - KEEP FIRE AWAY" on the front, top, and all sides. Each indoor magazine must be provided with substantial wheels or casters (unattached, flat 4-wheel furniture-type dollies are recommended).

**Rule 4:** Pyrotechnics will be stored in a magazine containing no other commodities or materials except for gas cartridge fuses and/or boxed small arms ammunition. Pyrotechnics will not be stored in the same magazine with rocket net charges or explosives used for removing beaver dams (detonators, binary explosives, detonating cord, safety fuse, and pull wire igniters). Pyrotechnics will be maintained in the manufacturer's small cardboard boxes when not in use rather than stored loose or in plastic bags.

**Rule 5:** The quantity of any explosive materials stored in an indoor magazine must not exceed 50 lbs. per magazine or 50 lbs. per building when explosive materials are stored in more than one indoor magazine in the same building.

For example, the average weight of the total pyrotechnic composition in 15mm bird banger and screamer siren cartridges is 4 grams per cartridge. Therefore, the maximum number of 15 mm bird banger and/or screamer siren cartridges that can be stored in a single indoor magazine or building is 5,600 cartridges as long as no other explosive materials are present. The average explosives weight for cracker shells is 2 grams per cartridge; therefore, 11,000 cracker shells equal 50 pounds of explosive material. Since CAPA long-range cartridges (18.2mm) contain an average total explosives weight of 5.73 grams, a total of 3,900 CAPA cartridges contain 50 pounds of explosive material. Any combination of pyrotechnic devices containing a total of not more than 50 pounds of explosive material can be stored together in a single magazine, or when multiple magazines are used, in a single building.

The storage of up to 300,000 pounds of explosive material is permitted in ATF Type 1 or Type 2 outdoor magazines. The American Table of Distances for Storage of Explosives (ATF 5400.7, Subpart K, 55.218) applies to explosive materials stored

in outdoor magazines. This table provides mandatory separation distances between explosives magazines and inhabited buildings, public highways, and railways.

**Rule 6:** Smoking, matches, open flame, or spark producing devices are not permitted within 50 feet of explosives magazines. Persons approaching magazines must be warned verbally or by warning signs posted at appropriate locations. Combustible materials and flammable liquids will not be stored within 50 feet of magazines. The land surrounding a magazine will be kept clear of all combustible materials for a distance of at least 25 feet.

**Rule 7:** The appropriate Material Safety Data Sheet(s) (MSDS) will be kept with the magazine.

**Rule 8:** Each magazine, their contents, and required inventory records will be in the charge of a designated employee who is in charge of enforcing safety precautions, security, inspections, and inventory records and reporting requirements.

**Rule 9:** Access to explosive materials by unauthorized persons will be restricted by keeping magazines locked when not adding or withdrawing explosive materials from them and by providing proper security to magazine keys.

## **B. Temporary Overnight Vehicle Storage**

When necessary, pyrotechnics and their launch components may be stored overnight in a locked vehicle under the following conditions:

**Rule 1:** Overnight storage of pyrotechnics in a vehicle is authorized only when they are "in use" on an assigned project, and it is not practical to return them to magazine storage as described above in section A. Overnight Storage. "In use" on an assigned project is defined as the period of time between the date a field project is initiated until its completion date not to exceed 14 consecutive days and nights. State Directors and NWR Field Station Leaders are authorized to extend overnight vehicle storage beyond 14 days on a case-by-case basis when necessary to meet program objectives. Permanent overnight storage of pyrotechnics in a vehicle is prohibited.

**Rule 2:** No more pyrotechnic cartridges than necessary to complete an assigned project may be stored overnight per vehicle, and in no case will more than 2,000 cartridges per vehicle be stored in the manner prescribed in this section.

**Rule 3:** Pyrotechnics temporarily stored in this manner will be locked inside an unmarked (for security reasons) IME-22 or other secure container containing no metal objects, explosive detonators, pesticides, I&E drugs or other chemicals. At a minimum, this container will consist of a metal exterior and an interior surface of non-sparking material. No screw heads or other metal surfaces will be exposed in the interior. The

container lid must overlap the sides by at least 1 inch. For overnight vehicle storage, pyrotechnics must be: 1) stored in a locked container as described above under this rule which is placed out of sight inside a locked vehicle, affixed camper shell, or truck box, or 2) in a locked, unmarked IME 22 container securely affixed to the bed of a truck.

### **C. Transportation**

**Rule 1:** During transportation over public roadways, pyrotechnics will be locked in a secure container as described above under B. Temporary Overnight Vehicle Storage, Rule 3. Transportation of bulk quantities of pyrotechnics in IME-22 containers (e.g., from a central magazine to smaller outlying magazines) is permitted. IME-22 containers will be permanently or temporarily secured to the vehicle during transit to prevent theft or a safety hazard in the event of an accident and be covered by a tarpaulin or other waterproof covering during inclement weather.

**Rule 2:** Metal objects, explosive detonators, pesticides, I&E drugs, and other chemicals will not be carried in the same container with pyrotechnics.

**Rule 3:** Each vehicle used to transport pyrotechnics or rocket net charges will be equipped with a fire extinguisher having a rating of at least 3-A:40-B:C. Vehicles transporting bulk shipments (5,000 or more cartridges) of pyrotechnics will carry two such fire extinguishers.

## **II. ROCKET NET CHARGES AND ELECTRIC MATCHES**

Rocket net charges present a greater hazard than Division 1.4 explosives and are classified as high explosives by ATF and Division 1.3 explosives by DOT. They will be stored in a locked ATF Type 1 or ATF Type 2 magazine (Federal Explosives Law and Regulations, ATF 5400.7, Subpart K, 55.207 and 55.208) that contains no other explosive material or other commodities except that shunted electric matches (used to initiate cannon net charges) may be stored in the same magazine with rocket net charges. Rocket net charges will be stored with their leg wires shunted (exposed wire ends twisted together or held together with manufacturers shunt device). Indoor Type 2 magazines will be secured in a locked building other than a residence. The IME-22 container (IME Safety Library Publication No. 22, Part 2, paragraph B and Appendix C; <http://www.ime.org/imestore/default.asp>) meets ATF Type 2 indoor magazine standard. All overnight storage rules for pyrotechnics cited above under I. PYROTECHNICS, A. Overnight Storage apply to the storage of rocket net charges.

Temporary overnight vehicle storage of "in use" rocket net charges is authorized in accordance with the same provisions outlined above under I. PYROTECHNICS, B. Temporary Overnight Vehicle Storage, except rocket net charges temporarily stored overnight in a vehicle must be kept in an unmarked IME-22 container temporarily or permanently secured to the vehicle. Only the number of rocket net charges needed for the immediate project(s) will be temporarily stored in a vehicle.

Transportation of rocket net charges will be in an IME-22 container containing no metal objects, explosive detonators, pesticides, I&E drugs or other chemicals. IME-22 containers must be permanently or temporarily secured to the vehicle during transit and covered by a tarpaulin or other waterproof covering during inclement weather.

Electric matches used to initiate cannon net charges are classified as Division 1.4 explosives and will be stored and transported either: 1) in the magazine and IME-22 container described above for rocket net charges (separately or together), or 2) stored in a Type 2 or Type 4 magazine and transported in a metal container as described above under B. Temporary Overnight Vehicle Storage, Rule 3.

Two-way radios and cellular telephones can be a safety hazard around explosive materials sensitive to electrical initiation. Cell phones should be turned off when present around rocket net charges and/or electric matches. While setting up rocket and cannon nets, cell phones and radios will be turned off and left in the equipment transport vehicle.

Smokeless powder designed for small arms ammunition and used to propel cannon nets is exempt from regulation (27 CFR 555). WS personnel will store and transport smokeless powder in a separate, locked container.

### **III. GAS CARTRIDGE FUSES**

Gas cartridge fuses can be stored and transported with gas cartridges in containers approved for hazardous chemicals as described in WS Directive 2.401, Pesticide Use. When stored separate from the gas cartridges, fuses will be kept in a locked metal container with a non-sparking lining (e.g., wood, foam rubber, latex paint). Fuses will remain sealed in a plastic bag during storage and transportation. Gas cartridges will not be stored in an explosives magazine.

### **IV. RECORD KEEPING AND REPORTING**

Inventory and purchase records for pyrotechnics, rocket net charges, electric matches, and gas cartridges (track gas cartridge numbers rather than fuse under the premise that each cartridge has one fuse) will be maintained at the State Office/NWRC Field Station level for a minimum of 5 years unless State or local authorities require a longer retention period. These records are subject to examination by ATF and periodic internal review to ensure accountability, completeness, and accuracy.

A running inventory of pyrotechnics, rocket net charges, and electric matches for all locations where these explosive materials are stored will be maintained by the designated employee at each magazine location. A quarterly physical inventory will be conducted and recorded in the Control Materials Inventory Tracking System (CMITS) in accordance with WS Directive 2.465. Inventory information will include the number of pyrotechnics, rocket net charges, and/or electric matches received from the distributor, date of manufacture (date code information on package if provided), the number removed,

used, destroyed, and returned to the magazine or transferred to another WS location.

Gas cartridge fuses will be tracked on CMITS through their association with the cartridges themselves and need not be a separate reporting category.

#### **V. MAGAZINE INSPECTIONS**

Each magazine site where explosive materials are stored will be inspected at least every 7 days. This weekly inspection need not be an inventory, but must be sufficient to determine whether unauthorized entry or theft of explosive materials has occurred. Safety inspections of explosives magazine sites will be conducted and documented a minimum of twice annually on APHIS Form 256-5, APHIS Safety Inspection Checklist (<http://www.aphis.usda.gov/mrpbs/forms/aphis/aphis256-5.pdf>) for explosive materials stored in magazines located at government owned and leased facilities and on WS Form 39, WS Self-Inspection Checklist - Residential Storage Sites for Pesticides, Pyrotechnics, Rocket Net Charges, and/or Incidental Explosive Materials, for magazines stored at an employee's place of residence. Upon completion, inspection forms will be forwarded to the State program or NWRC Field Station designated official.

#### **VI. THEFT OR LOSS**

Any WS employee with knowledge of the theft or loss of explosive material will immediately notify their supervisor. As soon as possible, and within 24 hours of discovery, the theft or loss must be reported to ATF by telephoning 1-888-283-2662 (nationwide toll free number). ATF Form 5400.5 will be immediately completed and mailed or faxed to the nearest ATF office along with any invoices and additional information (ATF: Explosives Law and Regulations, ATF P 5400.7, Subpart C, 55.30).

Additionally, any suspicious or unusual activity, theft or attempted theft of explosive materials as well as break-ins or attempted break-ins to buildings where explosive materials are stored will be reported in a timely manner to State and local law enforcement authorities, the State Director, and the WS Explosives Safety Committee through the Committee Chair (301-734-7921).