

# Living History Exhibits, Demonstrations and Reenactments – Safety Manual



## Table of Contents

Living History Exhibits, Demonstrations, and Reenactments – Safety Manual.....	1
1. Introduction .....	2
2. Definitions.....	4
3. Black Powder, Small Arms, Rifles, Muskets, and Pistols .....	6
Level I Misfires for Musket and Rifle .....	7
Level II Misfires for Musket and Rifle .....	7
Special Requirements for Battle Reenactments .....	8
Table of Maximum Loads .....	9
4. Cartridge Blank Ammunition .....	10
Special Requirements for Battle Reenactments .....	11
Table of Maximum Loads (Blanks) .....	11
5. Displays .....	12
6. Horses, Mules, and Equipment .....	14
7. Encampments .....	16
8. Cavalry .....	17
9. Pyrotechnics .....	19
Purpose.....	19
Scope.....	19
Responsibilities.....	19
Practice .....	20
10. Artillery.....	26
11. Weapons Inspection - Cartridge and Cartridge Gun Checklist .....	29
Revolver and Pistol: .....	29
Rifle and Carbine: .....	29
Shotgun: .....	29
Blank Ammunition: .....	30
Holsters: .....	30
Ammunition and Web Belts: .....	30
Edged Weapons: .....	30
General assessment: .....	30
12. Release of Liability - Texas Parks and Wildlife .....	31

## 1. Introduction

Interpretive demonstrations featuring the firing of reproduction historic black powder, modern war, and the use of ancient weapons have proliferated in recent years in response to the increased interest of reenactors and the visiting public. It is the safety of these people that present the greatest concern for the Department. This manual is designed to present for the living history volunteers and the staff of Texas Parks and Wildlife procedures that will reduce the potential for accidents during these interpretive demonstrations. It is also recognized that the majority of reenactors are volunteers and their cooperation is essential for the demonstrations to take place for the enjoyment of the public.

Many of the interpretive demonstrations involve the re-enactment of a lifestyle that is depicted by overnight stays with the placement of temporary quarters and the establishment of an encampment. Considerations must be provided for the safety of the public and the reenactors at these sites as well as the image that is desired to be projected to the public.

These interpretive demonstrations present the potential for accidents resulting in employee, reenactor, or visitor injuries and the resulting possibilities for tort claims and legal actions. To minimize the potential risk; a program of standards, training, certification and inspection has been developed and implemented. This program is to ensure that all personnel and reenactors are properly trained in the correct safety procedures for the handling, storage of the black powder, the safe demonstration of weapons and that the equipment utilized is in a safe condition. The restriction placed upon the public for viewing these demonstrations will be outlined, and the safe flow of the public through the encampments will be addressed.

Participants under the age of 18 years must have parental or guardian written consent on the release of liability before taking part in any living history exhibit, reenactment, or other organized program covered by this manual. At no time will an underage participant be allowed to handle, use, or demonstrate a weapon (handgun, edged weapon, rifle or carbine, cannon, or pyrotechnic device) on site property unless under the direct supervision and control of an adult.

It is also recognized that a single set of rules does not cover all site/parks and sites. The site manager can impose site specific rules in order to tailor safety rules to the individual site. The site manager can at any time add to these rules as needed. The

site manager reserves the right to remove any individual or group from state property if unsafe acts are observed, or if these rules are violated.

These rules cover all military and non-military living history exhibits and events on Texas Parks and Wildlife Department property and deal with safety and risk management issues only.

## 2. Definitions

**Airburst** - Pyrotechnic device that is propelled or suspended in the air to simulate the detonation of aerial artillery bursts.

**Assistant** - Person who works under the supervision and direction of the pyrotechnic operator.

**Audience** - Spectators whose primary purpose is to view the historical demonstration, display, or reenactment.

**Authority Having Jurisdiction** - The individual, organization or office having the responsibility for approval of equipment, installation, or procedures for pyrotechnic operations.

**Black Powder** - A low explosive consisting of an intimate mixture of potassium or sodium nitrate, charcoal, and sulfur.

**Electric Match** - A device containing a small amount of pyrotechnic material that ignites when a specified electric current flows through the leads. An electric match is used to initiate pyrotechnics.

**Fire** (*verb*) - To ignite pyrotechnics by using an electric match, electric current, or some other means.

**Firing Systems** - The source of ignition of pyrotechnics. For an electrical system, it is the source of electric current used to initiate electric matches or other devices. Generally, it consists of components, such as primary key switch, test circuits, warning indicators, cables, and switches to control the routing of current to various pyrotechnics.

**Public** - See Audience

**Igniter** - An electrical, chemical, or mechanical device normally used to fire a pyrotechnic device.

**Magazine** - Any building, structure, or container used exclusively for the storage of explosives as defined by NFPA 795, Explosive Materials Code.

**Pyrotechnic Operator** - An individual who has responsibility for pyrotechnic safety and who controls, initiates, or otherwise creates special effects. The operator is also responsible for storing, setting up, and removing pyrotechnic materials and devices after the completion of the historical event, demonstration or reenactment.

**Pyrotechnic Special Effect** - A special effect created by the use of pyrotechnic materials and devices. (also see Special Effect)

**Pyrotechnics** - Controlled exothermic chemical reactions that are timed to create the effect of heat, gas, sound, emission of visible electromagnetic radiation, or a combination of these effects to provide the maximum effect from the least volume.

**Shooter** - An individual who actually initiates the firing of pyrotechnic devices who may be the pyrotechnic operator, or an individual acting under the operator's direct supervision.

**Special Effect** - A visible or audible effect used for entertainment purposes, often produced to create an illusion. For reenacting, an example would be a puff of smoke, a flash of light and a loud sound might be produced to simulate an artillery round explosion or solid shot impacting the ground.

**Support Personnel** - For the purposes of this standard, a support person may be anyone who is not a reenactor, or historical participant, nor member of the audience. Among others, support personnel include safety officers, emergency medical personnel, coordinators, security personnel, fire watch officers, janitors, or any other person not directly participating in the historical demonstration or reenactment.

### **3. Black Powder, Small Arms, Rifles, Muskets, and Pistols**

- a. Each camp will have a designated safety officer approved by the TPWD site manager.
- b. No smoking will be allowed when wearing or using any container that contains gunpowder. Smoking will not be allowed in the vicinity of other people wearing or using gunpowder. Smoking includes any form of lit tobacco, be it cigarette, pipe or cigar.
- c. Each participant will be responsible for the safe operating condition of his/her individual arm. If an arm is not the personal property of the individual, the individual must still insure that the arm is safe and shall bring unsafe concerns to the owner or the safety officer immediately.
- d. All flintlocks will be required to be equipped with a flashguard and hammer stalls. No exceptions.
- e. Prior to a reenactment or demonstration, the camp safety officer, along with the designated TPWD safety officer, will personally inspect each arm to be used. As a minimum, the safety officers will ensure that the safety (half cock) position is functional, that arms are unloaded prior to the reenactment, and that all flintlocks are equipped with flashguards.
- f. All demonstration firing will be done with the muzzle pointed well into the air, at least 45 degrees from the horizontal. Visitors will be located behind the shooter(s), at a distance of not less than 5 yards.
- g. Any member of a reenactment or demonstration has the authority to call a cease-fire for safety related reasons. Upon hearing a "cease fire", all members shall immediately cease both loading and firing.
- h. Upon the completion of a reenactment or demonstration, the safety officer shall check for any loads not discharged. In the event a member has a "hot load," the arm shall be uncapped or unprimed, the cock or hammer set down to its lowest position, and the arm shall be pointed in a safe direction until an opportunity is granted to discharge the round.
- i. A designated area will be assigned by the site manager and the safety officer. In case of a misfire, the following is recommended to deal with the problem:

## **Level I Misfires for Musket and Rifle**

### a. Failure to Spark:

1. Hold the weapon in firing position for 10 seconds to make sure there is no hang fire.
2. The interpreter explains to the public what has happened.
3. Return to the priming position.
4. Half-cock the firelock.
5. Check priming and the flint. If working with the flint (striking or knapping), attach the hammer stall. Also, dump priming when working with flint.
6. Reprime if necessary.
7. Repeat drill from "Shut Pan" command. This is done without reloading and ramming. After the third time the weapon misfires, remove the visitors from the area and remove the weapon to a safe area for clearing.

### b. Flash in the Pan

1. Hold weapon in firing position for 10 seconds to make sure there is no hang fire.
2. The interpreter explains to the public what has happened.
3. Return to the priming position.
4. Half-cock the firelock.
5. Pick touch-hole and reprime.
6. Repeat drill from the "Shut Pan" command. This is done without reloading and ramming.
7. After the third time the weapon misfires, remove the visitors from the area and remove the weapon to a safe area for clearing.

## **Level II Misfires for Musket and Rifle**

When a firearm misfires:

- a. Remain at position, aim, and count to ten.
- b. Repeat prime, aim, fire procedure

- c. If the firearm does not discharge, pick the vent and repeat procedure number two. With flintlock firearms, wipe battery and pan with a piece of cloth, then pick vent.
- d. If the firearm still does not discharge, repeat procedures number three and two.
- e. Bring your firearm to **recover arms** and announce "misfire."
- f. If more than one person is giving the firing demonstration, maintain **recover arms** until the firing demonstration is finished.
- g. Upon completion of the firing demonstration, the safety officer will step forward with a CO2 small arms discharge unit and blow out the powder charge.

**At no time should a worm and ramrod / cleaning rod be used to extract charges.**

### **Special Requirements for Battle Reenactments**

The above requirements apply, in addition to the following:

- a. Only premeasured cartridges will be used. No pouring from the horn is allowed.  
**Exception:** Flintlock owners will be allowed to prime only, but this shall be from a small horn commonly referred to as a priming horn. Priming from the main horn shall not be allowed.
- b. At the safety officer's discretion, ramrods may be required to be left in camp. If this decision is made, the safety officer shall also ensure this requirement is carried out.
- c. No wadding or projectiles will be used. This includes the material used to fabricate the cartridge.  
**Exception:** For pistols, the first charge only may use wadding to keep the charge from falling out of the barrel while the pistol is holstered.

### Table of Maximum Loads

Caliber (Rifle or Musket)	Maximum Load
69-75	150 grains FFg
62	130 grains FFg
58	120 grains FFg
54	110 grains FFg
50	90 grains FFg
45	75 grains FFg
32	60 grains FFg

#### NOTES:

1. Maximum loads for pistols shall be half the load for rifles and muskets.
2. Decrease loads proportionally for FFFg powder.

## 4. Cartridge Blank Ammunition

- a. A safety officer will be selected for the event. He or she will be part of a safety committee appointed by park personnel.
- b. Prior to the start of any day's event which will include the firing of blanks, everyone will participate in ammo and safety inspections. Anyone not present for the safety inspection may not participate that day.
- c. The following restrictions apply to all individuals at all state sanctioned events:
  1. Do not fire any weapon directly at another person or within 20 yards.
  2. No live ammo will be allowed.
  3. No wax tipped blanks, paper wadding, wooden bullets, or any blank that will have any kind of projectile will be allowed.
  4. Blank ammunition will be kept under the reenactor's control at all times. Those not on his / her person will be stored in a secure area.
  5. Live blanks or spent brass will not be given out to visitors at any time. All spent brass will be policed up after the firing demonstration.
  6. There will be a demonstration safe zone set up before any firing demonstration. Great care will be taken to see that firearms will not be fired at visitors, parking areas, or other areas that visitors have access to.
  7. No visitor will be allowed within 20 feet of a firing demonstration.
  8. No bayonets affixed to weapons at any time except for demonstration purposes when the visitors are behind barricades.
  9. No hand-to-hand combat, except for "staged" scenes during public shows.
  10. No firing of weapons inside of buildings, historic structures, or vehicles unless prior approval by park staff.

## Special Requirements for Battle Reenactments

The above requirements apply, in addition to the following:

- a. Only premeasured cartridges will be used. No pouring from the horn is allowed.

**Exception:** Flintlock owners will be allowed to prime only, but this shall be from a small horn commonly referred to as a priming horn. Priming from the main horn shall not be allowed.

- b. At the safety officer's discretion, ramrods may be required to be left in camp. If this decision is made, the safety officer shall also insure this requirement is carried out.

- c. No wadding or projectiles will be used. This includes the material used to fabricate the cartridge.

**Exception:** For pistols, the first charge only may use wadding to keep the charge from falling out of the barrel while the pistol is holstered.

### Table of Maximum Loads (Blanks)

Caliber (Rifle or Musket)	Maximum Load
69-75	150 grains FFg
62	130 grains FFg
58	120 grains FFg
54	110 grains FFg
50	90 grains FFg
45	75 grains FFg
32	60 grains FFg

#### NOTES:

1. Maximum loads for pistols shall be half the load for rifles and muskets.
2. Decrease loads proportionally for FFFg powder.

## 5. Displays

- a. Safety is the business of all reenactors. The safety officers will be responsible for the display or demonstration.
- b. The safety officers will inspect every living historian's or reactor's equipment, ammunition, storage area, firearms, cannons, Gatling guns, and all tents at the encampment. Those that do not pass inspection will not be allowed in the encampment area.
- c. Firearms Rules
  1. There will be no live ammunition allowed in the encampment or on State Parks grounds at any time.
  2. All ammunition will be inspected before display or demonstrations.
  3. All firearms will be inspected for safety violations.
  4. At all times, firearms are to be secured by the reenactors and under no circumstances will the public be allowed to handle, pick up, or use a Reenactors firearm.
    - A. Reenactors will not leave their firearms where someone from the public may pick them up.
    - B. All firearms and blank ammunition not in use will be under guard at all times.
    - C. Blank ammunition will not be loaded except by command of the officers or non-commissioned officers.
    - D. Extreme care will be taken to see that demonstration firing of blanks will be done in a controlled area and in a safe direction. At no time will pistols be loaded or drawn without the order of officers or non-commissioned officers.
    - E. At no time will a reenactor aim at someone. They will aim to the side at all times.
    - F. There is a 50 ft. rule in effect. If a person you are shooting at is closer that distance, there is a chance of injury.
    - G. The only ammunition that the public will be allowed to touch will be the "movie props," and the safety officer must inspect them beforehand.

- H. When pistols are used, care will be taken to see that there is nobody standing to the side of the cylinder where injury could happen.
- I. When not on a firing demonstration, all pistols are to be kept in the holster with the flap in the lock position.
- J. Cannon black powder will be kept in a locked and guarded container. There will be no smoking in the area where the black powder is stored or used.
- K. Empty brass from expended blanks will be policed up after a firing exercise. There will be no brass given away to the public. This is because the jagged edges can cause cuts. A call will be made "fire in the hole" when firing the cannon or Gatling gun.

d. Blades Rules

1. Swords will not be drawn except on order from the officer or non-commissioned officers in command of the detail.
2. Bayonets will not be removed from their sheath until ordered by officer or non-commissioned officers.
3. All demonstrations with blades will have a 10-foot safety zone between the public and the reenactors.
4. Knives will be kept in control of the owner at all times. They will stay in their sheaths in the locked position.
5. Under no circumstances will a member let anyone from the public touch or use their bladed weapon.

## 6. Horses, Mules, and Equipment

- a. Horses can be a safety problem when dealing with the public. Therefore, the following rules will be required for the handling of horses in reenactments, living history events and special events.
- b. General Rules
  1. Reenactors, owners, and guests are responsible for the care, safety and actions of their animals and may be held accountable for failure to comply. A rider must show a letter of training, or a certification from his/her unit showing that they have been trained and tested before using the horse on park property. If they do not have a certification from their unit, and then they must pass an inspection by the event coordinator to show their ability to saddle, mount and control their animal before use in an event.
  2. Horses or mules will not be left alone at any time the public is in the park. It will be the owner's responsibility to picket or corral a horse when not in use.
  3. Owners will need to present a current Coggins test certificate before unloading the animal on state property. The test must have been performed within one calendar year.
  4. The rider is responsible for knowing and understanding where designated campsite and designated trails are located.
  5. Horses and riders must camp in designated horse areas and must stay on designated horse trails. Do not cut switchbacks or ride cross country.
  6. Horses are not allowed in designated swimming areas.
  7. Horses may be tethered to your stock trailer.
  8. Horses must not be tethered to trees, shrubs, or other park structures while in camp.
  9. Hay bags should be used for feeding horses or mules. (Water is available throughout the area.)
  10. Please rake and bag manure and hay before leaving your campsite, for later disposal at your return destination.
  11. No stallions are permitted for reenacting and living history.

c. Picket lines and corrals

1. Picket lines will be used with a strong rope tied between two trees. There will not be any "picket pens" used other than display. Should something frighten the horse and the "picket pen" is pulled out of the ground, then there is a serious safety problem. Horses on picket lines should be tied to prevent the head from being lowered below the horse's chest. They should not be able to step over the picket line. If a picket line is arranged for the horse to graze (where the horse could step over the rope), then only one horse should be tied to the picket line at any given time.
2. Corrals will have room for horses, water and feed (hay and grain).
3. Picket lines will be roped off with a boundary.
4. There will be someone on guard with the animals in picket or the corral whenever the public has entry to the park area.

d. Equipment

Equipment to include saddles, halters, and bridles is to be kept in a safe usable condition. Poorly maintained equipment can be dangerous to the animal and rider.

## 7. Encampments

### a. The Encampment

1. Great care will be taken in arranging the encampment so that there are no ropes or other items that impede the safe and even flow of the public when viewing the encampment.

### b. Fire Regulations

1. Campfires are allowed, but no dug fire pits. The use of either metal pans or fire rings are allowed.
2. Fire pails (buckets) will be kept within reach of all campfires and tents. The safety officer will check to see that water is available at all times.
3. When camp is set up overnight, there will be a "fire watch" mounted throughout the night.
4. The safety officer will check with the local authorities for burn bans. If there is a burn ban, it will be complied with unless the safety officer can obtain a waiver.
5. When breaking camp, the fire will be extinguished and the coals bagged for later disposal at your return destination.

## 8. Cavalry

- a. The following safety standards and procedures are to be utilized by all reenactment units and individuals while on property owned and/or operated by the Texas Parks and Wildlife Department. These are minimum standards. Units may set their own standards as long as the following are included.
- b. General: Unit commanders are responsible for:
  1. Compliance of their unit members and guests with these safety standards and procedures
  2. Ensuring their unit members, guests and animals are properly trained to participate
- c. Battlefields
  1. Horses, men, and equipment not assigned to artillery should stay a minimum of 25 feet away from artillery caissons and powder lockers at all times.
    - A. Gunpowder will be carried in pre-rolled cartridges, extra cylinders or small, approved flasks only. Individuals will carry no large cans of powder, either as riders or foot troops. Artillery gunpowder will be kept in appropriate containers and is covered fully in the artillery standard operating procedure.
    - B. Pistols will be carried with the hammer between the nipples or on an empty cylinder. Carbines, rifles and shotguns will be carried in a similar manner.
    - C. Caps will be kept in a cap box or "capper."
    - D. Loads: Cream of wheat only will be used to pack gunpowder. No wadding to include but not limited to wax, felt, leather, or rawhide wads.
    - E. Live rounds will not be carried at any time.
    - F. Never fire directly toward another person. Weapons will be elevated when fired. Do not fire if within 25 feet with a pistol, or 50 feet with a carbine, rifle or shotgun, of another person. Do not fire any weapons if within 50 feet of a cannon or limber.
    - G. Edged weapons such as sword, saber, and knife will be kept elevated when in use against an opponent.

- H. All mounted "live fire" or shooting will be approved and reviewed by the safety officer before the demonstration is performed.
- I. Horses will be controlled during "live fire" exercises by dismounted troops.
- J. Riders will keep a "safe distance" of 10 feet or more from the public when mounted in the park.
- K. At no time will a reenactor or living historian allow the public to ride his/her mount.
- L. No participant will be allowed to participate in living history or reenacting events if found to be under the influence of a controlled substance, intoxicated, or not trained.

## 9. Pyrotechnics

### Purpose

The purpose for this standard shall be to provide requirements for the reasonable protection of pyrotechnic operators, re-enactors, support personnel, viewing public property, and buildings where pyrotechnics are used during historical displays and reenactments. Further, the purpose of this standard shall be to provide guidelines to the authorities having jurisdiction for the approval of the use of pyrotechnics.

### Scope

- a. Application - This standard shall apply to the performance of historical displays and reenactments where the use of pyrotechnics is an integral part of the event or demonstration. This standard shall not supersede any local, state, or federal statute or standard as if it applies to the use of pyrotechnics. This standard shall apply to any historical display or re-enactment on property controlled by the State of Texas, Department of Parks and Wildlife. This standard should be followed at events held on private property where pyrotechnics are in use.
- b. Non-Application - This standard shall not apply to the manufacture, transportation, labeling or storage of explosives. This standard shall not apply to the use of pyrotechnics not specifically intended for use in historical displays and reenactments. This standard shall not apply to the transportation or handling of pyrotechnics in transit between events, reenactments or demonstrations except where such transportation and handling is at the event, reenactment or demonstration site. This standard shall not, in any way, replace or act as a substitute for existing local, state, or federal statutes, codes, and regulations governing the use of pyrotechnics.

### Responsibilities

- a. Pyrotechnic Operators - Provide the necessary resources, documentation, proof of experience, plans, equipment, safeguards, procedures, etc. to perform pyrotechnic effects for historical displays and reenactments as provided within the scope of this standard.
- b. Authority Having Jurisdiction - Provide the necessary approvals, permits, etc. for equipment, installations, procedures, etc. for the use of pyrotechnics at historical displays or reenactments under their jurisdiction.

- c. Reenactors - Comply with all applicable aspects of this standard, and submit to the authority of the pyrotechnic operator, his/her assistants, specified support personnel and the authorities having jurisdiction over the historical event, demonstration, or reenactment.
- d. Public - Comply with the appropriate parts of this standard as they apply to their safety.

## **Practice**

- a. Transportation - All ingredients, pyrotechnic materials, and pyrotechnic devices shall be transported in accordance with Title 49, Code of Federal Regulations (Federal Regulations for Transport), and any state and local requirement.
- b. Storage of Pyrotechnic Materials and Devices
  - 1. Storage Requirements: All pyrotechnic materials and devices shall be stored in accordance with Title 27, Code of Federal Regulations, Subpart K (Federal Storage Regulation) and any state and local regulations. If more pyrotechnic material than is needed for a single event or demonstration is prepared by mixing it as a single unit, the excess shall be considered, stored, handled, and disposed of as a pyrotechnic material of the applicable explosive class under Title 27, Code of Federal Regulations, Part 55. The time between removal from storage and actual use shall be of the shortest time practicable with respect to the needs of the historical demonstration or reenactment. Pyrotechnic materials and devices shall be supervised.  
**Exception:** Where pyrotechnic materials and devices are secured or inaccessible, they shall not be required to be supervised.
  - 2. Separation Distance from Unprotected Heat Source or Open Flame: Pyrotechnic materials and devices shall not be stored within 50 feet (15.3 meters) of any unprotected source of heat or open flame.

c. Permitting and Operator Qualifications

1. **Permitting:** Permitting procedures and requirements vary with each location. If permits are required, they shall be issued by a process acceptable to the authority having jurisdiction. This standard may act as a guide to the authority having jurisdiction for making sound judgments regarding the safety of the event and the qualifications of the pyrotechnic operator. The authority having jurisdiction shall approve the use of all pyrotechnics. The authority having jurisdiction shall determine that appropriate measures are established to provide acceptable crowd management, security, fire protection, and other emergency services.
2. **Pyrotechnic Plans:** Before any event, demonstration or reenactment, the permit applicant shall submit a plan for the use of pyrotechnics to the authority having jurisdiction. The plan shall be kept on-site for safety inspectors or other designated agents of the authority having jurisdiction. Any addition of pyrotechnics to the event or significant change to the presentation of pyrotechnics shall require the approval of the authority having jurisdiction.

**Exception:** For the purpose of this standard, reducing the number or size of pyrotechnics to be used in the event shall not be considered a significant change in the presentation.

3. **Content of Plans:** The plan for the use of pyrotechnics shall be made in writing or such other form as approved by the authority having jurisdiction. The plan shall provide the following:
  - The name of the person, group or organization sponsoring the event, demonstration or reenactment.
  - The date and time of day of the event, demonstration, or reenactment.
  - The exact location of the event, demonstration, or reenactment
  - The name of the person actually in charge of firing the pyrotechnics (e.g., the pyrotechnic operator)
  - The number, names, and ages of all assistants who are to be present.
  - The qualifications of the pyrotechnic operator.
  - The pyrotechnic experience of the operator.

- Confirmation of any applicable federal or state licenses held by the pyrotechnic operator or assistant(s).
- The number and types of pyrotechnic devices and materials to be used, the effects of the devices, and a definition of the general responsibilities of assistants.
- A diagram of the grounds or facilities where the pyrotechnics are to be discharged. The diagram shall show firing stations and the lines behind which the public shall be restrained.
- The point of on-site assembly of pyrotechnic devices.
- The manner and place of storage for the pyrotechnic materials and devices.
- A safety data sheet (SDS) for the pyrotechnic material(s) to be used.

All plans shall be submitted as soon as possible to the authority having jurisdiction in order to provide sufficient time for review and approval. In no case shall the plans be submitted less than 24 hours before the event, demonstration or reenactment.

**Exception:** Submission of plans with less than 24 hours' notice may be made where acceptable to the authority having jurisdiction.

4. Pyrotechnic Demonstrations: Prior to the issue of permits, a walk-through and a representative demonstration of the pyrotechnics shall be provided for and approved by the authority having jurisdiction.

**Exception:** The authority having jurisdiction may waive this requirement based on history, prior knowledge, and other factors, provided the authority is confident the discharge of pyrotechnics can be conducted safely.

The demonstration shall be conducted with sufficient time allowed to reset / reload the pyrotechnics prior to the event, demonstration of reenactment in keeping with the time requirements specified by the pyrotechnic operator.

5. Qualifications of Operators and Assistants: All pyrotechnic operators shall be at least 21 years of age and licensed or approved by the authority having jurisdiction in accordance with any and all applicable laws. All assistants shall be at least 18 years of age.

#### d. Use of Pyrotechnics

1. General fire protection: Fire extinguishing equipment shall be provided as required by NFPA 10, Standard for Portable Fire Extinguishers, and the authority having jurisdiction. To prevent unauthorized personnel from having access to pyrotechnics, the authority having jurisdiction shall provide a separate, lockable room or facility for the preparation of pyrotechnic materials and devices that is acceptable to the pyrotechnic operator. No personnel shall handle pyrotechnic materials or devices while under the influence of intoxicating beverages, narcotics, controlled substances, and prescription or non-prescription drugs that can impair judgment.
2. Firing prerequisites: All pyrotechnic devices shall be placed / mounted in positions and orientated so that, when fired, the effects of the device as described in the pyrotechnic plan are produced. Care shall be taken to safeguard against fallout and the accidental production of projectiles. Pyrotechnic materials and devices shall be fired only from equipment specifically designed for that purpose. Prior to firing any pyrotechnic materials or devices, the pyrotechnic operator or designated event security staff shall prevent unauthorized entry into the area where the special effects are to occur.
3. Firing safeguards: Power sources used for firing pyrotechnic materials or devices shall be restricted to batteries or isolated power supplies used for firing purposes only. All firing systems shall be designed to ensure against accidental firing by providing at least a two-step interlock in which no firing power can be applied to any firing circuit unless the operator intentionally does the following:
  - Enables or arms the firing system; and,
  - Deliberately applies firing power.
4. Firing systems shall not be left unattended while connected to loaded pyrotechnic devices.

**Exception:** Firing systems that are disconnected from their power source and have a removable activator, key switch, or coded arming system.

Pyrotechnic devices shall be fired only when the area(s) where the effects are to occur are in clear view of the pyrotechnic operator or an assistant who is in direct communication with the operator.

5. Safety precautions: The location where pyrotechnic materials and devices are handled are used shall be kept in a neat and orderly condition and shall be kept free of any condition which may create a fire hazard. Pyrotechnics shall be stored in a manner specified by the Bureau of Alcohol, Tobacco and Firearms (ATF). An enclosed vehicle may be used for storage where permitted by AFT, state, or local regulations. No quantity of pyrotechnic materials greater than that needed for the event, demonstration or reenactment shall be removed from storage. Smoking shall not be permitted within 25 ft. (7.6 m) of the area where pyrotechnics are being handled or fired.

**Exception:** Smoking by Reenactors as part of the event, demonstration or reenactment shall be permitted with the permission of the pyrotechnic operator and the authority having jurisdiction.

No pyrotechnics shall be left unattended. The pyrotechnic operator and assistants shall wear personal protective equipment (PPE) applicable to the hazards associated with the preparation, loading and firing of pyrotechnic devices.

e. Event, Demonstration or Reenactment

1. Additional precautions: The pyrotechnic operator shall warn all participants of the inherent dangers / hazards associated with the firing of pyrotechnic devices. This may take the form of a general safety meeting / briefing held prior to the event, demonstration or reenactment. Issues discussed should include, but are not limited to:
  - Go / no-go conditions to fire pyrotechnic devices.
  - Visual demonstrations and recognition of pyrotechnic devices.
  - Detailed explanation of the methods, effects and applications of the pyrotechnic devices as needed.
  - Discussion of general safety precautions, site specific policies and procedures, (i.e., medical emergencies, safety timeouts, use of code words, etc.)
  - Firing procedures for the pyrotechnic devices.
  - Questions and answers by the participants.

Reenactors who are familiar with the pyrotechnic effects in use may elect to remain in close proximity to the pyrotechnic devices on firing, provided they do so of their own volition and only in performance of their duties. The pyrotechnic operator shall take special care with the briefing of reenactment personnel who will be in close proximity to the pyrotechnic devices when fired. Immediately before any event, demonstration or reenactment, the pyrotechnic operator shall make a final check of wiring, firing position(s), hookups and pyrotechnic devices to ensure they are in proper working order.

The pyrotechnic operator shall also verify safety distances. The placement of all wiring and pyrotechnic devices shall be designed to minimize the possibility of Reenactors and support personnel disturbing the devices during the event, demonstration or reenactment. The pyrotechnic operator shall exercise extreme care throughout the event, demonstration or reenactment to ensure that the pyrotechnic devices function correctly and that the reenactors, support personnel and audience are clear of the devices.

2. Post event precautions: Immediately after the event, demonstration, or re-enactment and before support personnel are permitted to enter the area where pyrotechnic devices were fired, the pyrotechnic operator shall verify that all devices have been fired or made safe. Any unfired pyrotechnic devices shall be fired or made safe according to methods approved by the authority having jurisdiction. All unused pyrotechnics shall be either returned to storage as soon as possible at the conclusion of the event, demonstration. or reenactment or disposed of in a way approved by the manufacturer and the authority having jurisdiction.

## 10. Artillery

- a. Artillery is defined as any form of cannon, howitzer, mortar, or other firearm whose original (full-size) bore is greater than 1.5 inches.
- b. Artillery pieces must have a minimum crew of three persons to fire. When possible, the larger guns should have a crew of six. The need for a larger crew will be determined jointly by the battery commander and the TPWD park manager.
- c. All artillery must have the required equipment on site and be in a safe condition prior to firing. Improperly equipped or unsafe artillery (inspected by the park safety officer and artillery commander) will be removed from TPWD property. Required equipment includes red flags, water buckets, and the proper loading and unloading tools for the artillery piece.
- d. No projectiles or wadding of any kind are to be fired on TPWD property with the exception of prior approval of the TPWD park manager.
- e. Charges will consist of no more than two (2) ounces of cannon powder per inch of bore. Charges will be inspected prior to each event by the artillery commander and the TPWD park safety officer jointly.
- f. The artillery ammunition box will be placed 25 feet to the rear of the respective cannon and a minimum of 45 feet from the spectators' line. The lid hinge must be nearest the cannon (the opening will be away from the artillery piece). The artillery ammunition box is to be constantly manned whenever unlocked. When the box is not in use it is to be removed from the field and placed in a secure location. Ammunition boxes must be fitted with self-closing lids. Lids may not be fitted with any type of hold-open device nor may they be propped open by any external means, such as a stick, branch, etc. Boxes will be labeled to prevent mixing of different types of ammo.
- g. Artillery powder charges are to be kept in individual safety containers within the ammunition box or a designated safety area approved by the TPWD park manager. When ready to transport a charge from the ammunition box to the cannon muzzle each charge must be removed from the safety container and placed in a haversack. The charges are then carried to the cannon where they will not be removed from the haversack until they are to be placed in the artillery piece.

- h. Artillery will not be fired towards a historical building unless they are more than 100 yards away. A 100-foot rule is allowable for artillery firing away (with more than a 45-degree angle) from historical buildings or TPWD park property. At no time will artillery be aimed at a parking lot or any other area where there will be people.
- i. The safe placement of artillery is the joint responsibility of the artillery commanders and the TPWD park manager. Crowds should be kept back in excess of 50 feet behind and to the sides of the cannon.
- j. The rate of fire for artillery pieces will not exceed one round per 3.0 minutes while on TPWD property.
- k. There must be a minimum distance of 20 feet, hub to hub, between artillery pieces or they will not be permitted to fire.
- l. Artillery batteries will place range markers at 75 feet down range and 45 feet wide, forming a safety box to mark the no-fire zone for reenactors and the public. The type of range marker used must be red flags mounted on 6 foot or greater staffs. All battery commanders and TPWD park manager will jointly inspect for the location of the range markers and crowd control personnel before a gun will be allowed to fire.
- m. After loading any gun, the artillery crew will place a red safety flag on a 6-foot or greater staff at the rear of the gun to indicate that the gun is now loaded and ready to fire. This includes a misfired gun.
- n. In case of a misfire:

1. **Misfire Stage One:**

The fire command is given, and the priming just goes "zippp" and nothing happens. Don't panic. This may just be a hang fire, so everyone holds position and waits two to five minutes after the last wisp of smoke is seen at the vent. In the meantime, but some time with interpretation; uneasiness and indecision will quickly transmit itself to an audience.

After your wait, the safety officer has overseen the removal of the spent quill if one has been used; repick, and prime with loose powder. The person handling the weapon should wear a light glove for this and make sure that his horn contains only the required amount of powder. He should stay clear of the wheel.

With the area cleared, the safety officer gives the fire command again and the shooter attempts to fire. This should work in most cases. If not, go to the next step.

## 2. **Misfire Stage Two:**

If a repriming has not been effective, do not reprime again. The following steps are to be taken:

- a. With a "turkey baster" from the chest, several bulbs of water are slowly squeezed into the vent by the officer.
  - b. The safety officer then gently removes the quoin or elevating device and brings the muzzle to full elevation.
  - c. The flooding device, a 3-foot length of hose with an attached funnel, is inserted into the bore by the crew person who holds the funnel end while #3 slowly empties a bucket of water into it.
  - d. The water is allowed to sit in the bore for at least 30 minutes. During this time, the audience is sent off and the crew stays to keep the area secure. The wad hook or worm is gently introduced into the bore, hooked into the charge, and it is withdrawn. Or a CO2 artillery discharger may be used. The charge should be placed in a bucket of water and pulled apart. The remains should be disposed of safely.
  - e. The gun should be thoroughly cleaned, and the crew may be dismissed.
- o. The TPWD park manager reserves the right to add to the restrictions of these rules at any time.

PWD BK P4000-1942 (5/19)

TPWD receives funds from the USFWS. TPWD prohibits discrimination on the basis of race, color, religion, national origin, disability, age, and gender, pursuant to state and federal law. To request an accommodation or obtain information in an alternative format, please contact TPWD on a Text Telephone (TTY) at (512) 389-8915 or by Relay Texas at 7-1-1 or (800) 735-2989 or by email at [accessibility@tpwd.texas.gov](mailto:accessibility@tpwd.texas.gov). If you believe you have been discriminated against by TPWD, please contact TPWD, 4200 Smith School Road, Austin, TX 78744, or the U.S. Fish and Wildlife Service, Office for Diversity and Workforce Management, 5275 Leesburg Pike, Falls Church, VA 22041.

## 11. Weapons Inspection - Cartridge and Cartridge Gun Checklist

Reenactor's Name:	
Safety Officer:	
Revolver and Pistol:	
Date:	

### Revolver and Pistol:

<input type="checkbox"/>	Is the revolver and pistol in good operating condition? Does the safety work or first notch on a single action revolver (Double action revolvers do not have a safety)? Does the cylinder rotate and align in the firing position? Is the barrel free of all obstructions?
<input type="checkbox"/>	Is the revolver and pistol complete? No missing parts?

### Rifle and Carbine:

<input type="checkbox"/>	Is the rifle or carbine in good operating condition? If single shot, does it have a working trapdoor? Does the safety work? Does the magazine operate? Is the barrel free of all obstructions?
<input type="checkbox"/>	Is the rifle or carbine complete? No missing parts?

### Shotgun:

<input type="checkbox"/>	Is the shotgun in good operating condition? Does the safety work? Does the pump or the lock (in case of a double barrel) work? Is the barrel or barrels free from all obstructions?
<input type="checkbox"/>	Is the shotgun complete? No missing parts?

**Blank Ammunition:**

<input type="checkbox"/>	Does the blank ammunition have clean brass and primers?
<input type="checkbox"/>	Is it a crimped cartridge? A paper wadding cartridge? A Styrofoam wadding?
<input type="checkbox"/>	A cork wadding?
<input type="checkbox"/>	Is there anything that would cause a projectile to be shot out of the barrel?
<input type="checkbox"/>	Shotgun ammunition -- are they factory loads? Have cork wadding?

**Holsters:**

<input type="checkbox"/>	For handguns, does the holster fit the firearm?
<input type="checkbox"/>	Does the holster have a lock down strap or flap?

**Ammunition and Web Belts:**

<input type="checkbox"/>	Is the belt complete? (leather or canvas)
<input type="checkbox"/>	Is ammunition movie prop (dummy ammo) with either a fire primer or no primer and no powder, or an approved blank?

**Edged Weapons:**

<input type="checkbox"/>	Are all knives, sabers, swords in the proper scabbards?
--------------------------	---

**General assessment:**

<input type="checkbox"/>	Checked = Okay and passed inspection
<input type="checkbox"/>	Unchecked or blank = Did not pass inspection

## 12. Release of Liability - Texas Parks and Wildlife

I,  (print first and last name), understand and agree with the following statements.

Reenacting and living history is by its very nature a potentially hazardous hobby that I voluntarily engage in at my own volition.

Reenacting requires that I cross rough terrain in all types of weather and may result in injury or death if safety rules are not followed.

I will be using, or in close proximity to, firearms, destructive devices, explosives and/or period vehicles and equipment that are potentially lethal and may result in permanent hearing impairment to me if I do not follow the safety rules.

Pre-existing health problems that may adversely affect me during public events are my sole responsibility.

Unsafe or negligent actions on my part that result in injury or death to another participant are my sole responsibility.

I will follow the rules of the Texas Parks and Wildlife Department at all times.

I will police the area that I am using and pick up all litter and equipment before leaving.

I have read the Safety Rules and agree to abide by those regulations. I agree to hold the Texas Parks and Wildlife Department free of any liability arising from injury and/or death to myself, or damage to my personal property or vehicles.

Signature: (or guardian/parent signature)		Date:	
--	--	-------	--

Mailing address:	
------------------	--

For the Texas Parks and Wildlife Department