



CLARK COUNTY FIRE DEPARTMENT
Fire Prevention Bureau
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Permit Type: 105.6.36
Control Number: A.0
Effective Date:

TITLE: PYROTECHNICS BEFORE A PROXIMATE AUDIENCE – INDOOR AND OUTDOOR

SCOPE: The storage, use and handling of pyrotechnic material and equipment intended for an indoor pyrotechnics display shall comply with this guideline, the 2006 Edition of NFPA 1126, and Chapter 33 of the Clark County Fire Code. This guideline also applies to any use of “proximate” effects in an indoor or outdoor setting.

PURPOSE: To provide standardized Clark County Fire Department (CCFD) permit requirements relating to the use of pyrotechnic effects and equipment which provides for the reasonable and safe conduct of proximate pyrotechnics displays.

PERMIT FEES:

Permit fees shall be assessed in accordance with the Permit Fee Schedule as adopted in the Clark County Fire Code. For applications that are expedited, additional fees shall apply.

DEFINITIONS:

See the 2006 edition of Standard for the *Use of Pyrotechnics before a Proximate Audience*, NFPA1126 for definitions with respect to indoor pyrotechnics.

Assessor’s Parcel Number (APN): A unique number assigned to each property by the Clark County Assessor’s office.

Device Shield: A solid barrier intended to prevent the device and its contents from being propelled into the audience. The shields shall be a minimum of 2-inches taller than the device and positioned to protect the audience in the event that the device tips over.

Fallout area: The designated area in which hazardous debris is intended to fall after a pyrotechnic device is fired.

Fallout radius: A line that defines the fallout area of a pyrotechnic device.

Post Show Report: CCFD report of unusual events that may have occurred during the display including numbers of unfired product and proximity issues. This report could be used to identify reasoning for additional CCFD supervision of subsequent shows is necessary.

Proximate Audience: An audience closer to pyrotechnic devices than permitted by NFPA 1123, *Code for Fireworks Display*.

SPECIFICATIONS AND SUBMITTAL REQUIREMENTS:

The submittals, as described herein, shall be submitted ten days in advance of the date of the first display under each permit in order to avoid additional fees. See the current permit fee schedule.

The permit application will have three (3) sets of plans, drawn to scale and submitted for review with the minimum fee due. Reference the Clark County Fire Department Permit and Service Fee Schedule for details. Once approved, an inspection can be scheduled.

The following information must be provided with all submittals:

Licensing:

A copy of a valid Nevada State Fire Marshal pyrotechnic company license for the type of effects to be fired.

An operator with the appropriate certification will be required for the technicians overseeing or firing the display. Close proximity product may be fired by a company holding a theatrical (indoor) license as defined by the Nevada Office of the State Fire Marshal (OSFM). A State of Nevada, OSFM certified operator may oversee another operator without a Nevada certification provided that there is direct and continuous supervision.

These documents will be required for any indoor or outdoor close proximity display of pyrotechnics.

Insurance:

Provide a copy of a valid bond or Certificate of Insurance for the specified event. "Clark County, its agents, employees and volunteers" shall be named as additional insured and certificate holder. General liability limits, including contractual liability, in the minimum amount of \$2,000,000 shall be provided to conduct an indoor pyrotechnics display.

Greater liability insurance amounts may be required in certain cases as required by the Chief.

Production Schedule:

Provide a detailed description to include the following, but not limited to:

1. The name of the contact person for the property/facility, their telephone number, fax number and email address.
2. A schedule of firing.
3. The contact information for the technician, such as office telephone, cellular telephone, fax number and email address, as well as a valid Nevada State Fire Marshal license for the technician.
4. A brief description of each effect including the size/load, number, maximum height and firing locations. (Multi-shot pre-manufactured devices are counted as one device.)
5. Note if any component for devices are mixed on site (binaries).
6. The target time and dates the pyrotechnic effects are to be unloaded and stored on site.
7. Flame certificates for all scenery, sets, displays, curtains, and any other materials within the pyrotechnics display or fallout area. If the performers are on stage during the display, materials/costumes worn by performers are to be flame retardant. (see NFPA1126) Lighting, rigging and other materials may also require flame certifications depending on the hazards presented. For temporary show, the flame certificates shall be available on site. A field fire test may be performed by the CCFD Inspector in addition to review of the flame certificate.
8. The time and date of initial set-up, site inspection and demonstration shots.
9. The time and date of the pyrotechnic display along with any rehearsal times and dates. If multiple display and/or rehearsals are needed, all dates and times will also need to be provided.

CCFD Close Proximity Device Data Sheets:

Provide data sheets with required information for the identification of the pyrotechnic devices used in the display. A copy of the sheet in the preferred format is attached. If

these are on file with CCFD, they can be referenced rather than provided for a new submittal. See Appendix A.

Monitors:

Provide monitors (when needed), that shall have an acceptable means of communication with the firing technician. The sole duty of the monitor is to enforce crowd control around the display area. Unauthorized persons will not be allowed to enter the display area or fallout area until the area has been inspected and deemed safe by the technician. All monitors must report status of assigned areas to the lead pyro technician. Clark County Fire Department reserves the right to determine the minimum number of monitors required for each display. This may consist of approved employees of the property, i.e. security guards, engineering staff etc.

MSDS:

Provide MSDS (Material Safety Data Sheets) for all devices being used in the pyrotechnics display such as electric matches, comets, mines, gerbs, airbursts and any other devices used. If these are on file with CCFD, they can be referenced rather than provided for a new submittal. The MSDS may be on file through electronic submittals; however, MSDS shall be available on site.

Device Shields and Device Holders:

Provide a statement of whether or not device shields will be used. If the maximum height of the effect is greater than the separation distance from the audience, a device shield shall be used.

Storage:

Storage must be in accordance with Chapter 33 of the IFC. It shall be in a container or magazine and be located in an approved secured area or room. Storage/work areas must be posted "No Smoking". No combustible storage, open flame or smoking within 25 feet of storage/work areas is permitted.

If 1.4 G or 1.4S explosives are used, storage shall be in approved magazines in accordance with the Clark County Fire Code, Chapter 33 and NFPA 1126.

Mixing Locations:

Note location where binary compounds are mixed/assembled (work area). Mixing or assembling shall not be conducted on the magazine and shall be done in an approved location. See Section 8.1.3 of NFPA 1126. The location must be noted on plot map. A

statement that mixing will be done in an approved location can be provided if the location can not be determined in advance of the submittal.

Removal of Unfired Product

Note provisions for removal of any unfired product.

Site Plan:

A detailed site plan must be provided for the area where the pyrotechnics display is being held. The plans shall have dimensions or be drawn to scale. The site plan will also provide the following as applicable:

Indicate the locations of:

- stages
- platforms
- truss heights
- ceiling heights
- backdrops
- signs
- lighting
- ceilings
- proscenium openings – if any
- curtains
- devices
- operators
- monitors
- storage
- magazines
- mixing areas
- fallout area
- fallout radius
- audience areas
- combustible materials
- drapes on walls or hung from ceiling for the show
- device locations
- operator firing positions

The heights of stages or platforms being used as firing positions must be provided. The heights of permanent trusses and building elements shall be shown. The proposed

heights of all temporary trusses, backdrops, signs, lighting, ceilings or other associated types of items shall be measured from floor level or from stage/platform level if applicable and must also be included in each submittal to determine the maximum allowable height of each device.

Provide each device firing position along with approved dimensions/distances to spectators drawn to scale as required and any other associated separation distances. Separation distances shall be measured horizontally from pyrotechnic display pieces to spectators.

Provide the description of the surface upon which the pyrotechnic display will be located including, but not limited to, the stability of the surface and elevation. In absence of this information, all pyrotechnics shall be fired on a stable surface.

Discharge Site:

A detailed layout must be provided showing the location of all pyrotechnic devices. Show the locations of shooters (firing operators) and spotters.

Demonstration:

A demonstration must be witnessed by a Clark County Fire Department representative prior to the issuance of any permit. At least one sample of each type of device may be required to be fired at the demonstration (demo). Consideration will be given to the location of any combustibles and persons in the proximity of pyrotechnic effects. The acceptance of each pyrotechnic device/effect will be at the discretion of the Clark County Fire Department representative in charge of the show.

Automatic Sprinklers:

Indoor pyrotechnic displays shall only be permitted in venues provided with automatic sprinklers throughout.

Proscenium Opening:

In showrooms or other related rooms, pyrotechnic effects may not be permitted in front of a proscenium opening. The determination of the allowance of devices beyond the proscenium will be based on the severity of the effects, proximity and other factors. Any pyrotechnics permitted in other indoor areas will be evaluated with the consideration of no proscenium separation.

Repeated Shows:

Shows that are repeated may require an Inspector to be present during rehearsals and research and development firings associated with the pyrotechnic effects.

As noted in the CCFD amendment to Section 3301.5 the Clark County Fire Code:

3301.5 Supervision. The fire code official is authorized to require operations permitted under the provisions of Section 3301.2 to be supervised at anytime by the fire code official in order to determine compliance with all safety and fire regulations.

Exception: Where the pyrotechnic special effects are used in an approved set show that is repeated continuously, the *fire code official* may waive the requirement for attendance to all productions, provided the fire code official has successfully witnessed product demonstration and at least one performance.

Any pyrotechnic displays that occurs without the issuance of a permit and/or that occurs without a Clark County Fire Department representative being in attendance, will result in disciplinary actions against the pyrotechnics company and said company's operator.

Indoor close proximity separation distances:

The following are the required distances that shall be maintained from pyrotechnic display pieces and spectators and must be noted on the submittal:

1. As noted in NFPA 1126, each pyrotechnic device fired during a performance shall be separated from the audience by a minimum of 15 ft or twice the fallout radius of the device, whichever is greater, except as otherwise approved by Clark County Fire Department. All separation distances must be measured horizontally and devices shall not be directed towards the spectator viewing area.
2. Shields shall be a minimum of 2-inches taller than the device and intended to protect the audience from the device tipping over.
3. The maximum allowable height of each device shall be no more than 3/4 the distance to the lowest overhead obstruction, (40 feet height of nearest obstruction equals 30 foot maximum height of effect). (It is acceptable to fire between lower obstructions. Inspector to confirm.)
4. Concussion mortars and canon simulators are required to have a minimum separation distance of 25 feet. Depending on the size of the load and type of effect used, CCFD may increase this distance. Concussion mortars must be located in an isolated area acceptable to the fire official.
5. Pyrotechnic effects shall not be permitted to be shot over the heads of spectators, over egress aisles or exit pathways. This restriction will apply to devices such as: airbursts, confetti breaks, confetti streamer canons, gerbs, comets, mines, line rockets, confetti canons, and any other similar types of effects that utilize a pyrotechnic charge. Devices that do not use a pyrotechnic charge such as CO₂

driven effects are permitted to be located above spectators, egress aisles, and exit pathways.

Outdoor close proximity separation distances:

The safety separation distances for outdoor close proximity displays shall be as determined for indoor close proximity displays. Weather conditions shall be considered. The product used for the outdoor close proximity displays shall be identified as close proximity devices by the manufactures' literature or other methods acceptable to CCFD.

Disabling of Fire Alarm Systems:

The individual(s) stationed in the fire control room must be knowledgeable in all aspects of the fire protection, smoke control systems and fire alarm panels. These items are subject to change as required by the on-site inspector(s).

Section 8.1.6.2 of NFPA 1126 is amended to read as follows:

8.1.6.2 Portions of fire detection systems specific and limited to the pyrotechnic effects shall be permitted to be bypassed, only as required to prevent a nuisance alarm during the operation of pyrotechnic effects when the following conditions are met:

- (1) Approval of the authority having jurisdiction and as defined on the permit application.**
- (2) Approval of the owner, venue operator or their agents.**
- (3) Presence of an approved fire watch capable of directing the operation of all fire detection and life safety systems installed in the building.**
- (4) Waterflow switches and the fire alarm notification systems shall not be permitted to be disabled or bypassed.**
- (5) System bypass shall only be preformed by a licensed fire alarm contractor or owner's representative as approved by the authority having jurisdiction.**

Fire Extinguishers:

The fire extinguishers shall be compatible to the pyrotechnic product being used. Clark County Fire Department reserves the right to determine the minimum number of fire extinguishers required for each display.

As noted in NFPA 1126:

In all cases, at least two pressurized water, Class 2-A extinguishers shall be provided and two Class 10-BC extinguishers shall be provided, in addition to those required by NFPA 10, *Standard for Portable Fire Extinguishers*, and the authority having jurisdiction.

Security:

For temporary displays, a 24-hour security detail shall be provided once the pyrotechnics are delivered on site. The security provisions for long running shows are to be reviewed with the Inspector. The security personnel shall be able to perform the following:

1. Be physically capable to maintain a constant watch over the pyrotechnics storage facility and have constant communication with fire control room representatives or responsible party at approved locations to summon further emergency response.
2. Replacement security personnel must be provided to continue the watch in the event of a shift change.
3. Be advised of the duties to not allow any persons other than pyrotechnic personnel in the storage or display area.
4. Be trained in the use of a portable fire extinguisher and capable of extinguishing a small incipient fire utilizing a portable fire extinguisher.

Cancellations:

Permit applicants and the applicant's agents and employees shall carry out the proposed activity in compliance with this guideline, NFPA 1126, 2006 edition and Chapter 33 of the Clark County Fire Code and other laws or regulations applicable thereto, whether specified or not, and in complete accordance with approved plans and specifications. The revocation of the permit and cancellation of the display shall occur when the following has been determined:

1. The permit has been used by a person other than the person to whom the permit was issued.
2. The permit has been used for a location other than that for which it was issued.
3. Any of the conditions or limitations set forth in the permit has been violated.
4. The permittee failed, refused or neglected to comply with orders or notices duly served in accordance with the provisions of this governing code within the time provided.
5. A pyrotechnics display may be postponed or cancelled due to excess smoke within the confines of the room or any other unsafe condition.
6. Wind or other weather conditions indicate that, in the opinion of CCFD, outdoor close proximity displays are hazardous to spectators.

Section 3308.3.2 of the IFC is amended to read as follows:

3308.3.2 Wind speeds. At the discretion of fire code official, a fireworks display may be cancelled when wind is blowing in excess of fifteen miles per hour, Aerial display may be cancelled when the wind speed exceeds ten miles per hour if, in the opinion of the fire code official, an aerial display might be hazardous to property or endanger any person.

PERMIT REVISIONS AND RESUBMITTALS:

Revisions to approved devices or plans are required to be submitted and approved. Revisions will be assessed additional plan review fees. A copy of the previously approved plan or sample of device shall accompany the revised submittal to facilitate the review. Clearly indicate all changes to the revised plans by clouding the change with a delta number to signify the date of plan change. When several changes have been made, a detailed list of changes is required.

Re-submittals to address a Letter of Correction will require a full submittal. These plans require a copy of the red lined plan from the previous submittal to facilitate the review. Clearly indicate all changes by clouding the change with the delta number to signify the date of plan change.

PLANS CHECK STATUS INSTRUCTIONS:

The status of the review can be checked by logging on to:
www.accessclarkcounty.com/fire.

INSPECTIONS THAT MAY BE REQUIRED AND SCHEDULING INSTRUCTIONS:

If approved, an inspection will need to be scheduled. To schedule an inspection, also go to: www.accessclarkcounty.com/fire.

The inspection will include an examination of the separation distances between the device and a test firing of one of each type of device using the firing devices covered under the permit.

The Clark County Fire Department's Fire Prevention Bureau (FPB) may witness and accept inspection, testing and maintenance of fire and life safety systems conducted by approved individuals as required by and within the scope and authority of the Clark County Fire Code.

This Guideline does not take the place of the Fire Code and does not take precedence over any Fire Code requirement or position taken by the Fire Chief. When a conflict exists between the requirements of this Guideline and the Fire Code or the opinion of the Fire Chief, the Fire Code or opinion of the Fire Chief prevails.

Technical Assistance, when required by the Fire Chief, will require a Technical Opinion and Report prepared by a State of Nevada licensed: qualified engineer, specialist, laboratory, or fire safety specialty organization acceptable to the Fire Chief and the owner. The Fire Chief is authorized to require design submittals to bear the Wet Stamp and Signature of a professional engineer.

Acceptance of Alternative Materials and Methods requires a Technical Opinion and Report prepared by a State of Nevada licensed: qualified engineer, specialist, laboratory, or fire safety specialty organization acceptable to the Fire Chief and the owner. The Fire Chief is authorized to require design submittals to bear the Wet Stamp and Signature of a professional engineer.

APPENDIX A

CCFD CLOSE PROXIMITY DEVICE DATA

(Use a separate sheet for each device to be cataloged.)

INFORMATION REQUIRED PER SECTION 7.1 OF NFPA 1126

(1) Name of Device: _____

Common Name / Category: _____

(2) Performance Characteristics:

Height of Maximum Apex: _____

Maximum Width / Diameter: _____

Duration of Effect: _____ seconds

Sound Produced: _____

(3) MSDA Attached: _____

(4) Circle or highlight manufacture's statement regarding whether to pyrotechnic device or material is intended for indoor use and whether it is to be used with any cautions or special considerations.

(5) Instructions for the proper method(s) of placing, loading, and using the pyrotechnic device, including any cautions or special considerations. (Attach)

(6) Manufacturer: _____

Address of Manufacturer: _____

EMERGENCY PHONE NUMBER: _____