

Minnesota State Department of Public Safety



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State Fire Marshal Division

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Inspection Checklist for Indoor Fireworks Displays

Effective May 28, 2003, all indoor fireworks displays must receive a permit from the State Fire Marshal Division in accordance with Minnesota Statute 624.22. The application for this permit must be made in writing at least 15 days in advance of the date of performance, show or event using the permit application form available on the State Fire Marshal Division web site.

The State Fire Marshal is authorized to charge a permit fee of \$150, plus the cost of conducting the inspection. The permit fee must be submitted with the application. The applicant will be invoiced for the actual cost of the inspection, including staff time and travel costs, after it has been completed.

Minnesota Statute 624.22 allows the State Fire Marshal to authorize a local fire chief or fire marshal to issue these permits. In those cases local fire authorities will conduct the required inspection. Cities which have received this authorization are listed on the State Fire Marshal Division web site.

The application materials must include the following information:

- The name and qualifications of the fireworks operator(s) who must be certified by the Minnesota State Fire Marshal.
- Date, time and location of the production
- Proof of bond or certificate of insurance. An amount of at least \$1.2 million is recommended. (*\$1.5 million beginning July 1, 2009*)
- A diagram of the facility at which the display will be held. This diagram (drawn to scale or with dimensions included) must show the point at which the fireworks/pyrotechnics special effects are to be discharged, the location of ground pieces, possible overhead obstructions, and the lines behind which the audience will be restrained. These diagrams must also include the fallout radius for each pyrotechnic device used during the display.
- Names and ages of all assistants that will be participating in the display. The primary operator must be at least 21 years of age. All assistants shall be at least 18 years of age.
- The manner and place of storage of the pyrotechnic materials or devices.
- \$150 permit fee.

When the application is deemed complete and is accepted, a thorough investigation of the operator and an all-inclusive inspection of the facility will be conducted prior to the performance, show or event taking place. This will include an inspection of the entire building including areas where the show may not be directly taking place (i.e. kitchen, exterior building elements, etc.). State Fire Marshal Division Inspectors will be required to issue correction orders that may or may not be directly related to the fireworks display or location. Nevertheless, the orders will still need to be corrected within the time period indicated on the inspection sheet.

Below is a checklist of items State Fire Marshal Division Inspectors will be looking for when they conduct an inspection of a facility requesting an indoor fireworks permit. These checklists are safety tools. They are offered by the Minnesota State Fire Marshal Division to efficiently organize the activities, material and processes necessary in producing events that incorporate proximate pyrotechnics. State Fire Marshal Division Inspectors may find and issue correction orders on other hazards that are not specifically referenced or addressed in this checklist:

1. Fire Department Access

- Fire lane kept clear.
- Hydrants not blocked and in good working order.
- Fire department connections clear (if applicable).
- Standpipe connections clear (if applicable).

2. Fire Extinguishers

- At least two fire extinguishers provided.
- Fire-extinguishers charged and in good working order.
- Location in a designated place.
- No obstructions to access or visibility
- Operating instructions on nameplate are legible and facing outward.
- Safety seals and tamper indicators are not broken or missing.
- Examination for physical damage, corrosion, leakage or clogged nozzle.
- Pressure gauge reading in operable condition.
- Must be in accordance with National Fire Protection Assoc. Std. 10.

3. Exiting (Means of Egress)

- All designated exits are clear and unobstructed.
- Exit signs illuminated.
- Emergency lighting and backup power for at least 90 minutes (for facilities with two or more exits).
- Exits signs visible.
- No unapproved locking devices (chains, bolts, locks, bars, etc.) on exit doors.

- Exit doors swing in the direction of egress travel when occupant load exceeds 50.

4. Electrical

- Electrical cords should not interfere with the means of egress.
- Extension cords should not be substituted for permanent wiring.
- Open junction boxes or exposed wiring is prohibited.

5. Flame Proofing or Interior Flame Spread

- All rooms within sprinklered assembly occupancies (bars, restaurants, meeting rooms, etc.) must meet a minimum Class C (or III) flame spread rating (flame spread of 76-200 with a smoke developed index of 0-450). All rooms within un-sprinklered assembly occupancies must meet a minimum Class B (or II) flame spread rating (flame spread index of 26-75 with a smoke developed index of 0-450). Corridors within sprinklered assembly occupancies must meet a flame spread of Class B; UNSprinklered assembly corridors must meet a flame spread rating of Class A (flame spread index of 0-25 with a smoke developed index of 0-450). A Deputy State Fire Marshal will ask for this information so it is important that this be available at the time of inspection. **A permit will not be approved until the flame spread rating can be proven by the building owner.** The State Fire Marshal Division does not have a list of flame spread ratings for products. The supplier (where you purchased the material) or manufacturer should have this information.
- Set and scenic materials treated with a flame retardant material.

6. Pyrotechnic Materials and Devices

- Current indoor Minnesota Fireworks Operator Certification in the possession of the pyrotechnic operator.
- Fire department notified, briefed and personnel assigned to event (where required by the authority having jurisdiction).
- Proper ventilation in working order.
- Demonstration of devices when required by the inspector

7. Kitchen Requirements (If applicable)

- An approved hood suppression system if cooking appliance(s) produces grease-laden vapors.
- Kitchen supplied with an approved Class K extinguisher if cooking with vegetable oil or animal fats.

8. Combustible Waste Material

- Combustible waste material creating a fire hazard shall not be allowed to accumulate in buildings or structures or upon premises.

- Waste containers with a capacity exceeding 40 gallons shall be provided with lids and shall be constructed of noncombustible or approved combustible materials.
- Dumpsters and containers shall not be stored in buildings or placed within 5 feet of combustible walls, openings or combustible roof eaves.

9. Open Flames (Candles or Other Decorative Open Flame Devices)

- Open flames, candles or other decorative devices are not permitted in assembly occupancies (bars, restaurants, meeting facilities, etc.). Candles on tables are permitted when they are securely supported with noncombustible bases and the candle flames are protected.

10. Flammable/Combustible Liquid Tanks, Liquefied Petroleum (LP) Tanks or other Hazardous Materials.

- A thorough inspection will be conducted to determine whether the hazardous material(s) was/were installed and maintained in accordance with the Minnesota State Fire Code.

11. Pyrotechnic firing systems.

- Verify operational and safety features and functions of the systems.
- Verify operator and spotters have clear view of effects and communication with operator.

12. Verify that all devices are securely fixed with proper audience separation.

- A minimum 15 feet or 2X fallout radius.
- Concussion mortars a minimum of 25 feet in secured area.
- Trajectory of mines and/or comets not over the audience.
- Waterfall effect area to be free of flammable materials.
- Wire rocket effects to be properly secured and terminated.
- Airbursts over audience to be minimum height of 3 times the diameter of effect, and no sparks within 15 feet of floor.

13. Rehearsal and Show Checklist

- Safety meeting with all participants.
- Rehearsal, if required.
- Performance
- Final alert to all performers, crew and support personnel
- Final inspection immediately preceding performance
 - ✓ Confirm pyrotechnic wiring connections and firing system.
 - ✓ Confirm placement, mounting, orientation and readiness.
 - ✓ Confirm firefighting equipment in position.
 - ✓ Confirm spotters in place with communication
- Firing show
 - ✓ Confirm and maintain audience separation, performers positioned correctly, support personnel readiness.

- ✓ Confirm and maintain unobstructed view of effects by operator and/or spotter.
- ✓ Observe effect performance for safe operation.

14. Post-Show Checklist (Pyrotechnician)

- Inspect all pyrotechnic devices to confirm firing.
- Confirm the integrity of fallout zones and adjacent areas
- Return unfired devices to approved storage or repackaging for transport
- Return disarmed fire detection/HVAC systems to normal operating mode.
- File post-show report, if required.

After a permit has been granted, the permittee shall keep all floor plans and permits available at the site for inspectors or other designated agents of the authority having jurisdiction. Any change to the show or event after the permit has been issued requires approval by the permitting authority prior to the occurrence of the show or event.

The operator shall use products provided with written information supplied by the manufacturer detailing the following information:

1. The name of the pyrotechnic device and a description of the effect;
2. The performance characteristics (duration, height, diameter of the effect, etc.);
3. Material Safety Data Sheets (MSDS) for the pyrotechnic materials;
4. The manufacturer's statement regarding whether the pyrotechnic is intended for indoor use and whether it is to be used with any cautions or special considerations;
5. Instructions for proper method, placement, loading, and using the pyrotechnic device;
6. The name, address, and phone number of the manufacturer.

Only those devices suitable for use in the facility in which the display, show or event will occur may be used.

Where the use of certain indoor pyrotechnics requires smoke detectors to be bypassed or air-handling systems to be disengaged, the fire department shall be notified and a representative shall be present during the demonstration with a direct communication link to emergency services personnel (radio). The cost of providing an on-site fire department representative may be charged to the permit holder. Upon completion of the event, performance or show, the life safety system(s) shall immediately be returned to normal operating conditions as soon as the likelihood of false alarms has passed.