### FIRE PREVENTION BUREAU  INSPECTION CHECKLIST

**FIREWORKS PUBLIC DISPLAY**

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A-Approved, R-Re-inspection Required

This Checklist outlines general requirements. Information contained herein applies to typical instances and may not address all circumstances

### PAPERWORK

1. □ □ Fire Department Permit
2. □ □ Approved Site Plan

Review safety plans and procedures and personal protective equipment (NFPA 1126.6.5.7)

### PERSONNEL

3. □ □ Verify and record pyrotechnic operator identity
4. □ □ Verify pyrotechnic operator possesses valid license of proper type
   - Special Effects - First Class
     - may conduct and is restricted to the use, preparation for transportation and the preparation and use of all types of fireworks and special effects pyrotechnics, for the sole purpose of producing a visible or audible effect where and when such use is a necessary part of a motion picture, television, theatrical or operatic production, as permitted by the AHJ.
   - Theatrical
     - authorizes the use of special effects, blank cartridges, colored fire, flash paper, flash, smoke composition, and the preparation of use of binary A and B flash composition in stage or theatrical productions only. See Title 19 “Fireworks In California” For More Licenses
5. □ □ Verify and record information on the identity and ages of all assistants, helpers, etc.
6. □ □ Interview licensed operator to gain understanding: years experience with public display.
7. □ □ Years of experience at this site, ask to describe the show and how he/she will manage the event.
SECURITY

8. ☐ ☐ Verify site security of storage area, discharge area, display area and fallout area as indicated on approved plan and methods for restricting un-authorized persons. See “SPECIFIC REQUIREMENTS” below.

9. ☐ ☐ Verify arrangements for traffic and crowd control before, during and after display.

TRANSPORTATION AND STORAGE ARRANGEMENTS

10. ☐ ☐ Transportation shipping documents match product in vehicle

11. ☐ ☐ Vehicle placards are provided as required

12. ☐ ☐ Fireworks storage is in an approved manner and location

14. ☐ ☐ Storage container(s) is locked and secured

FIRE PROTECTION AND SAFETY EQUIPMENT

15. ☐ ☐ Fire extinguishers available and accessible

16. ☐ ☐ Shovel and container available for retrieving duds

17. ☐ ☐ Appropriate protective gear (i.e. hard hat, long sleeved shirt, etc) available for persons manually discharging fireworks

18. ☐ ☐ Verify quantities, locations, and cueing of devices to be used

MORTOR INSPECTION

19. ☐ ☐ Compare list of mortar racks, etc. with actual equipment

20. ☐ ☐ Mortars are approved for use with type of shells to be fired

21. ☐ ☐ Mortars are inspected prior to use for defects, debris, etc.

22. ☐ ☐ Base plugs are securely attached to bottom of mortars

23. ☐ ☐ Mortars are proper length for size of shells to be fired (NFPA 1126: 5.1, 5.2, 5.3, 5.4)

RACK INSPECTION

24. ☐ ☐ Racks have no more than 10 tubes per unit

25. ☐ ☐ Base and ends of racks are nominal 2” thick lumber

26. ☐ ☐ Racks have blocks (nominally 2” x 4”) separating individual mortars

27. ☐ ☐ Racks for mortars 3 inches or larger have side braces of 1” x 6” nominal lumber or ½” x 4” plywood

28. ☐ ☐ All racks with more than 5 tubes have diagonal side braces

29. ☐ ☐ Racks are secured to prevent falling over
TROUGH INSPECTION

30. □ □ No trough is more than 8 feet in length

31. □ □ Bottom surface of trough is provided with ¾” plywood if not sufficiently stable to support firing of the mortar

32. □ □ Troughs are constructed of minimum ¾” plywood and secured with 3/8” through-bolts, rods or angle iron “U” brackets at each end and center

33. □ □ Sand or soft dirt, free of rocks or debris, is on-hand to fill trough

34. □ □ Minimum separation distance between mortars is provided

35. □ □ Trough is of adequate height to securely bury mortars 2/3 of their minimum legal length

DRUM INSPECTION

36. □ □ Drums are in good condition

37. □ □ Sand or soft dirt, free of rocks or debris, is on-hand to fill drum

38. □ □ Drums are of adequate size to provide minimum separation distances between mortars

39. □ □ Drums are of adequate height to securely bury mortars 2/3 of their minimum legal length

TRENCHES, ETC. TO BURY MORTARS IN GROUND

40. □ □ Planking below mortars is provided for unstable or unleveled surfaces

41. □ □ Trenches are of sufficient depth to securely bury mortars 2/3 of their minimum legal length

42. □ □ Minimum separation distance between mortars is provided

43. □ □ Sand or soft dirt, free of rocks or debris, is on-hand to fill trench

AERIAL SHELL INSPECTION

44. □ □ Number of shells matches quantity listed on permit

45. □ □ Shells properly labeled for use in California

46. □ □ Operator examines shells for damage

47. □ □ Operator sizes shell for proper fit in mortars

GROUND DEVICE INSPECTION

48. □ □ Ground devices match items listed on permit

49. □ □ Location and spacing of devices is per approved permit

50. □ □ Equipment available to secure and brace ground devices
DISCHARGE FALL/OUT AREA INSPECTION

51. N Location is as per approved permit
52. N Minimum required fall out area is provided
   o Minimum 15ft or 2X fallout radius (NFPA 1126: 6.4.1)
   o Concussion mortars min 25ft in secured area (NFPA 1126: 6.4.2)
   o Trajectory of comets/mines not over audience (NFPA 1126: 6.2.11)
   o Waterfall effect area to be free of flammable materials (NFPA 1126: 6.2.12)
   o Wire rocket effects to be properly secured and terminated (NFPA 1126: 6.2.9)
   o Airbursts over audience to be minimum height of 3 times the diameter of effect, and no sparks within 15 ft of floor (NFPA 1126: 6.2.14(1) & (2))
52. N Arrangements provided to secure fall out area when shell loading begins

ELECTRICALLY FIRED DISPLAY INSPECTION

53. N Power source is restricted to batteries or individually isolated generators
54. N Firing system is protected against accidental firing
55. N Method for circuit testing is available
56. N Firing panel is located a minimum of 100 feet from devices
57. N Devices are located within continuously unobstructed full view of operator

MANUALLY FIRED DISPLAY INSPECTION

58. N Safety caps protecting fuses remain in place until immediately before firing

RELOADED MORTARS DISPLAY INSPECTION

59. N No HDPE mortars will be reloaded
60. N Ready box (es) are located more than 25 feet upwind of the closest mortar
61. N Ready box (es) are divided into separate compartments for each shell size
62. N Ready box (es) are covered with a flame-resistant canvas cover

OPERATION OF DISPLAY

63. N Attend safety briefing by operator
64. N Discharge, display, and fall out areas are cleared of all unauthorized personnel prior to loading shells
65. N No one under the age of 18 is in discharge, display, and fall out areas once loading of shells begins
66. N Mortars are aimed over fall out area and away from spectators
67. N On electrically fired shows, discharge area is cleared of all persons prior to electrical circuit testing
68. □ □ All devices are ONLY fired upon order or signal of the licensed operator

69. □ □ During discharging of shells, operator observes activities to ensure wind and trajectory are adequate and makes adjustments if necessary

70. □ □ If a misfire occurs, mortar shall be identified, marked and left undisturbed

**POST DISPLAY ACTIVITIES**

71. □ □ NO ONE permitted to enter display, discharge or fall out areas until pyrotechnic operator has determined the area to be safe and secure.

72. □ □ Entire firing area is inspected by pyrotechnic operator and crew to locate any unexploded shells.

73. □ □ Shells located are properly disposed of.

74. □ □ Unfired shells removed and returned directly to supplier or stored in manner approved on permit

**NOTIFICATION**

75. □ □ PYROTECHNIC OPERATOR provides verbal reports to State Fire Marshal for any incident involving injury or death to public or crew, or for any fire requiring emergency action or response resulting from the firing of the show.

76. □ □ AUTHORITY HAVING JURISDICTION files charges of violations that would be cause for revocation or denial of a license to the State Fire Marshal within three years of the alleged act or omission.

77. □ □ AUTHORITY HAVING JURISDICTION reports fireworks seized pursuant to 12722 Heath & Safety Code to State Fire Marshal within 3 days.

**STATE FIRE MARSHAL LICENSING REQUIREMENTS:**

**GENERAL REQUIREMENTS** (Refer to NFPA 1126 for more)

78. □ □ Verify audience separation by a minimum of 15 ft. or twice the fallout radius of the device, whichever is greater. (NFPA 1126 Section 8.4.1)

79. □ □ Verify pyrotechnic material or device will not be propelled so that it damages overhead properties, equipment, ceiling or walls. (NFPA 1126 Section 8.6.2)

80. □ □ Verify there will be no glowing or flaming particles within 10 ft. of the audience. (NFPA 1126 Sec. 8.4.3)

81. □ □ Verify means of shielding or containment is adequate to prevent any injury to the performer when pyrotechnic special effects are placed on or in contact with a performer’s body. (NFPA 1126 Sec. 8.2.2.3.1)

82. □ □ Confirm that the pyrotechnic devices shall be fired **only** when the area where the effect is to occur, is in clear view of the pyrotechnic operator or an assistant who is in direct communication with the operator. (NFPA 1126 Sec. 8.3.5.1)

83. □ □ Verify a secured location for unattended pyrotechnics. (NFPA 1126 Section 8.5.6)

84. □ □ Verify the availability of at least four extinguishers. (NFPA 1126 Section 8.1.1)
85. ☐ ☐ Verify that at least one is located on each side of the performance where pyrotechnics are used. (NFPA 1126 Section 8.1.1.2)

86. ☐ ☐ Verify that performers and support personnel will not disturb the placement and wiring of all pyrotechnic devices during the performance. (NFPA 1126 Section 8.6.4)

87. ☐ ☐ Verify that the venue manager has provide a separate, lockable room or facility for the preparation of pyrotechnic materials and devices, to prevent unauthorized access. (NFPA 1126 Section 8.1.3)

88. ☐ ☐ Verify manufacturers mark for pyrotechnic devices and materials to be used indoors. (NFPA 1126 Section 8.2.12)

89. ☐ ☐ Verify the presence of qualified "Fire Watch" personnel. (NFPA 1126 Appendix Section A..8.1.6.(3))

**SPECIFIC REQUIREMENTS BY TYPE OF DEVICE**

Prior to approving a particular device

90. ☐ ☐ Verify the outer edge, top and side of the sphere does not touch an audience seat, walls, ceilings or other objects/structure.

91. ☐ ☐ Verify actors or other participant will not be within the sphere while the device is fired.

**AIRBURSTS**

92. ☐ ☐ Verify that all “airbursts” are pyrotechnic devices that are suspended in the air to simulate outdoor aerial fireworks shells without producing hazardous debris. (NFPA 1126 Sec. 3.3.2)

93. ☐ ☐ Verify that if Airbursts are to be fired above the audience, the following conditions exist: (NFPA 1126.8.2.13)

94. ☐ ☐ The airburst shall be suspended by a minimum 30-gauge metal wire that is attached securely to a secure support acceptable to the AHJ.

95. ☐ ☐ The airburst shall occur at a minimum height of three times the diameter of the effect.

96. ☐ ☐ Where the effect is demonstrated, there shall be no burning or glowing particles less than 15 ft. above the floor.

**BINARY MATERIALS / SYSTEMS**

97. ☐ ☐ Verify that all “Binary Systems” are a two-component pyrotechnic system.

98. ☐ ☐ Verify person mix material possesses a Special Effects First Class license.

99. ☐ ☐ Exception: Binary A and B flash composition pre-packaged by a licensed manufacturer may be mixed and utilized by a Special Effects Second Class license or a Theatrical license. (Title 19 Section 992.12)

100. ☐ ☐ Verify that Binary systems are to be mixed and used in accordance with the manufacturer’s instructions. (NFPA 1126 Section 8.2.3)

101. ☐ ☐ Verify that Binary systems will be mixed one unit at a time, and no more units than are needed for immediate use shall be mixed. (NFPA 1126 Section 8.2.3.1)
Inspection Checklist
Pyrotechnic Effects In Indoor Or Outdoor Use

Y  N  Verify Binary Systems are only mixed in the bottles supplied by the manufacturer.  (NFPA 1126 Section 8.2.3.2)

103  Y  N  Verify that no additional tools shall be used in the mixing of binary systems.  (NFPA 1126 Section 8.2.3.3)

COMETS

104  Y  N  Verify that all “Comets” are a single pellet of pyrotechnic composition that is ignited and simultaneously propelled into the air from a mortar or tube; a comet is self-consuming as it rises into the air and can be designed to split apart. Includes roman candles (NFPA 1126 Section 3.3.9)

105  Y  N  Verify the trajectory of Comets and mines does not carry over the audience. (NFPA 1126 Sec. 8.2.10)

CONCUSSION EFFECT

106  Y  N  Verify that Concussion effects are pyrotechnic effects that produce a loud noise and a violent jarring shock dramatic effect.

107  Y  N  Verify the effects are secured by being placed under the stage or behind barricades made of equipment road cases to prevent access by the audience, performers, and support personnel.  (NFPA 1126 Sec. 8.3.7)

108  Y  N  Verify effects are separated from the audience by a minimum of 25 ft.  (NFPA 1126 Sec. 8.4.2)

FLASH POT / FLASH POWDER

109  Y  N  Verify “smoke and mine pots are Heavy schedule steel pots welded to a steel base. Professional grade for frequent use.

110  Y  N  Verify that “flash Pots” are a device used with flash powder that produces a flash of light and directs the flash.

111  Y  N  Verify that Flash Powders are a specific pyrotechnic material in powder form composed of fuel(s) and oxidizer (s) that upon ignition produces a flash of light, sparkles, an audible report, or a combination of these effects.

112  Y  N  Verify flash pots are constructed so that they do not fragment when the pyrotechnic material is fired and so that their shapes are not distorted after use. (NFPA 1126 Sec. 8.2.5.1)

GERBS/FOUNTAINS

113  Y  N  Verify that Gerbs and Fountains are a cylindrical preload pyrotechnic device, intended to produce a controlled spray of sparks with a reproducible and predictable duration, height, and diameter.

114  Y  N  Verify that no flammable materials are within their fallout area. (NFPA 1126 Sec. 8.2.11)

LANCE

115  Y  N  Verify that “Lances” are a thin cardboard tube packed with a color-producing pyrotechnic composition. Usually used in a set piece.
### LINE ROCKET

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### WATERFALLS, FALLS, PARK CURTAIN

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