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**Gregory S. Shaffer**  
*County Manager*

# Santa Fe County Operational Permit Application: Flame Effects Before an Audience

**Authority Having Jurisdiction (AHJ or Designee): Santa Fe County Fire Department**

## **IFC2021 Section 308.3.2 - General Requirements - Open Flames – Theatrical Performances.**

Where *approved*, open-flame devices used in conjunction with theatrical performances are allowed to be used where adequate safety precautions have been taken in accordance with [NFPA 160 \(IFC2021 Chapter 8, Pg 80-11 – NFPA 160 version 2021\)](#).

## **NFPA 160 – 21: Standard for the Use of Flame Effects Before an Audience**

### **Use Permit Requirements and Flame Effects Plan**

1. An Operational Permit shall be required for the use of flame effects before an audience ([160.5.1.1](#)).
2. An Operational Permit application meeting, in-person or online, shall be required no later than 30 business days prior to the initial flame effect performance. All documentation required by this permit application shall be submitted and ready for SFCFD review at the time of the required meeting. The applicant shall be responsible for scheduling the call/meeting with the Fire Department([SFCFD FMO](#)).
3. The Operational Permit fee shall be \$50.00 USD per flame effect setup/occurrence. ([SFCO 2023-6, Section 15, Item C](#)).

Performance 1 Date: \_\_\_\_\_ Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

Performance 2 Date: \_\_\_\_\_ Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

Performance 3 Date: \_\_\_\_\_ Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

Performance 4 Date: \_\_\_\_\_ Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

Performance 5 Date: \_\_\_\_\_ Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

Performance 6 Date: \_\_\_\_\_ Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

Performance 7 Date: \_\_\_\_\_ Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

Performance 8 Date: \_\_\_\_\_ Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

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**Performance Dates and Times - Continued:** (160.5.1.3.2.1, 160.5.3.2 (2))

- Provide a separate sheet of performance dates, start times and end times if more space than provided on this form is required to list all occurrences.
- This Operational Use Permit shall expire at the End Time of the last performance listed.  
(160.5.1.3.2.2)
- This Operational Use Permit shall authorize the use of only the number and types of flame effects in the venue as specified in the Flame Effect Plan (160.5.1.3.1).
- Any activity authorized by this use permit shall be conducted by the permittee or the permittee's agents or employees in compliance with all requirements of this standard applicable thereto and in accordance with the approved plans and conditions (160.5.1.3.3).

**Flame Effects Plan** (160.5.3)

1. Responsible Person, Group or Organization (160.5.3.2 (1)): \_\_\_\_\_
  2. Exact address/location of the production (160.5.3.2 (3)): \_\_\_\_\_
    - Site Plan showing building layout and access for First Responders.
    - Building Plan showing stage layout and access for First Responders.
  3. Flame Effect Operator\*: Name of the person who has overall responsibility for the operation, safety and maintenance of the flame effect performance(s) (21 years of age required) (160.8.4):  
\_\_\_\_\_
- \*The flame effect operator is defined as the person who has overall responsibility for the flame effect. Attendants and assistance can be less than 21 years of age. (160.A8.4)
4. Provide the AHJ or Designee with the Flame Effect Operator experience and training documentation (or) Pyrotechnic/Flame Effect license for AHJ or Designee review and approval. (160.8.1.2)
  5. Flame Effect Classification (160.3.3.20, 160.A3.3.20, 160.5.3.2 (4)):
    - Group I Flame Effect:** An attended, manually controlled flame effect.
    - Group II Flame Effect:** An individual or group flame effect designed for unattended operation that is temporarily or permanently installed outside any structure.

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- Group III Flame Effect:** An attended, temporarily installed flame effect for a specific production with limited operation and fixed time for removal.
- Group IV Flame Effect:** A large individual or group flame effect that is permanently installed inside or outside any structure designed for unattended operation without a main show supervisory control system.
- Group V Flame Effect:** A large individual or group flame effect that is temporarily or permanently installed inside or outside any structure and is designed for intermittent operation or continuous operation under the supervision of a main show control system but without full time supervision by a technician.
- Group VI Flame Effect:** A large individual or group flame effect that is temporarily or permanently installed inside or outside any structure and is designed for intermittent operation under the supervision of a main show control system and a technical director, with cast members in close proximity to the effect at the time of operation.
- Group VII Flame Effect:** An individual flame effect that can be temporarily or permanently installed inside or outside any structure that, due to its unique operating requirements, does not fit into any other classification.

**Flame Effects Plan: (160.5.3)**

6. Provide a Site Plan showing all of the following items (list of requirements may be modified by the AHJ or Designee based on flame effect design) (160.5.3.2 (5)):
  - a. A narrative description of the flame effect.
  - b. The location of the flame effect to be fired and their controls and control sequence.
  - c. The area affected by the flame effect device.
  - d. The location of the audience.
  - e. The fuels used and their estimated consumption.
  - f. Air for combustion and ventilation for indoor effects.
  - g. Flammable materials piping.
  - h. Storage and holding areas and their capacities.
  - i. Supplemental fire protection features.

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- j. Emergency Response procedures.
- k. Means of Egress.
7. A current Safety Data Sheet (SDS) for the materials (fuels) consumed in the flame effect(s) (160.5.3.2 (6)).
8. Documentation that the combustible materials used for construction of the flame effects have been rendered flame retardant (160.5.3.2 (7)).
9. All flame effects shall have operating instructions shall have written operating instructions, including start-up, show operations, normal shutdown procedures and emergency shutdown procedures. (160.6.2.1)

**Flame Effect Demonstration** (160.5.4.1, SFCFD FMO)

- No less than 24 hours prior to the performance, the AHJ or Designee shall require a walk-through and representative demonstration of the flame effect as it will be performed, per the Flame Effects Plan, in front of the audience.

**Interruption of Fire Protection and Life Safety Systems during Flame Effect demonstrations and Operations** (160.5.5)

- Fire Protection and Life Safety Systems shall not be permitted to be interrupted during the operations of Flame Effects.

**Rehearsal and Pre-Show Operations**

1. The Flame Effects Operator shall advise all performers and support personnel that they are exposed to a potentially hazardous situation when performing or otherwise carrying out their responsibilities in the vicinity of the flame effect. (160.7.5.1)
2. Prior to each performance, the Flame Effects Operator shall hold a safety meeting with all cast and support personnel required for the flame effect to review sequence of events, hazards present before, during and after the flame effect(s) and emergency procedures necessary in case of a fire or life safety emergency (SFCFD FMO).

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### **Protective Clothing**

1. The flame effect performers, operators, and assistants shall be protected by clothing or other means suitable for their exposure to flame effects. (160.7.10.1)
2. Protective clothing requiring fire resistance shall be tested and documented to be flame retardant, and documentation shall be furnished to the AHJ or Designee for permit approval. (160.7.10.2)

### **Flame Effect Security**

1. A means shall be provided to render installed flame effect systems inoperative when not in use. (160.7.11.1)
2. Portable flame effects shall be stored and secured when not in use. (160.7.11.2)

### **Flame Effect Operator Qualifications**

1. All Flame Effects Operators shall be at least 21 years of age. (160.8.4) Attendants and assistants can be less than 21 years of age. (160.A8.4)
2. The Flame Effect Operator shall demonstrate competency by documented experience and training provided to the AHJ or Designee (or) by holding a license acceptable to the AHJ or Designee. (160.8.1.2)
3. No Flame Effects Operator(s) shall use or handle flame effect materials or devices while under the influence of the following: (160.8.3)
  - a. Intoxicating beverages
  - b. Narcotics or controlled substances
  - c. Prescription drugs and/or nonprescription drugs that impair judgement.

### **Additional Fire Safety Provisions for Temporary Installations**

1. Four or more fire extinguishers of the proper classification and size, as approved by the AHJ or Designee, shall be readily accessible while the flame effects performance is being conducted. (160.11.3.2)

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2. In all cases, at least two (2) pressurized water, Class 2-A extinguishers and two (2) Class 10-BC extinguishers shall be provided, in addition to those required by NFPA 10, for the building.  
(160.11.3.2.1)
3. The additional fire extinguishers shall be placed so that at least one each is located on opposite sides of the performance where flame effects are used. (160.11.3.2.2)

### **Standby Fire Safety Personnel Requirements**

1. Where required by the fire hazards evaluation or the AHJ or Designee, standby fire safety personnel shall be present along with operational supplemental equipment. (160.11.4.1)
2. Standby fire safety personnel shall have a working knowledge of the supplemental fixed or portable firefighting equipment used in the area of the flame effects. (160.11.4.2)
3. Standby fire safety personnel shall have a means of communication or of transmitting an alarm during the operations of flame effects. (160.11.4.3)

### **Acknowledgements**

I hereby attest and acknowledge my responsibilities as the Flame Effect Operator and shall comply with the terms of this application and all applicable Fire Codes and referenced Standards as identified by the Santa Fe County Ordinance 2023-6 and Santa Fe County Resolution 2023-104 and specifically Santa Fe County Ordinance 2023-6 Section 7 Item I.

Review and Operational Permit approved by the Fire Code Official or their Designee, shall not relieve the applicant of the responsibility of compliance with the Santa Fe County Fire Code.

**Note:** any deviation to the submitted and approved application without the consent of the Authority Having Jurisdiction or their Designee will render Operational Permit approval null and void.

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Position/Title

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_: Initials