

## **Category 5**

### **Criterion 5C: Fire Investigation, Origin, and Cause Program**

The agency operates an adequate, effective, and efficient program directed toward origin and cause investigation and subsequent classification of fires, explosions, and other emergency situations that endanger life or property to drive community risk reduction activities. The agency should conduct a thorough risk analysis as part of activities in Category 2 to determine the need for a fire investigation program.

#### **Summary:**

The department currently utilizes eight fire investigators comprised of the division chief of prevention/fire marshal, a prevention captain, and two operation's members per shift, for the investigation of fires and explosions. Company officers have the authority to conduct level three fire investigations of which the cause is obvious and accidental in nature.

The operations chief officer is responsible for activating the investigation unit on any incident they identify as a level 1, level 2, or level 3 fire investigation. A fire investigator may be called to the scene of level 3 investigation to assist the incident chief officer with identifying the origin and cause. Level 1 fire investigations are multi-agency investigations with support from local law enforcement departments, and/or state agencies, such as the Kansas State Fire Marshal, and/or federal agencies, such as the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF).

Fire investigator meetings are held once a month which allows for information sharing between investigators and to ensure thorough and consistent investigation protocols. During meetings, a review of the previous month's investigations identifies areas requiring follow-up.

## **Performance Indicators:**

**CC 5C.1      The agency's fire investigation, origin, and cause program is authorized by adopted statute, code, or ordinance.**

### **Description**

The department's fire investigation, origin, and cause program is adequately and appropriately authorized for the existence by local and governmental adopted statutes, codes, and ordinances.

### **Appraisal**

The department's fire investigation program has been authorized by the Kansas Annotated Regulations and the 2018 International Fire Code (IFC) section 104.10. The department has followed Kansas State regulations which state the state fire marshal, the chief of a fire department, or his designee investigates all fires or explosions. The IFC, and its amendments as adopted by the City of Lawrence through ordinance 9636, which authorized the department to investigate the cause, origin, and circumstances of fire or explosion. The department's fire investigators have met the Kansas State Fire Marshal's requirements, which are outlined in K.A.R. 22-19-2 regarding the certification of fire investigators.

### **Plan**

The department's fire marshal and fire chief will continue to monitor changes to state statutes, codes, or ordinances to ensure there is adequate and appropriate authorization for the existence of the fire investigation program.

### **References**

2018 International Fire Code (available on site)

[KSA 31-157](#)

[KAR 22-19-2](#)

[City Ordinance 9636](#)

SOP 111.15 Fire Investigator Incentive

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**CC 5C.2** The agency uses a systematic approach based on the scientific method to investigate all fire and explosion incidents. The investigation should determine or render an opinion as to the incident's origin, cause, responsibility and/or prevention to include the damage and injuries that arise from such incidents.

### **Description**

The department follows the National Fire Protection Association (NFPA) 921: Guide for Fire and Explosion Investigations, Chapter 4 (2021 Edition) which describes the scientific method using a systematic approach to fire investigation. This process involves the recognition and identification of a problem, defining the problem, the collection of data, analyzing the data, using inductive reasoning to develop a hypothesis, testing the developed hypothesis using deductive reasoning, and the formulation of a final hypothesis. The department also uses NFPA 1033: Standard for Professional Qualifications for Fire Investigator, which further identifies the investigation process and outlines job performance requirements.

### **Appraisal**

The department's fire investigation program has found that these NFPA guides have worked sufficiently to provide a systematic approach, based on scientific method, to guide investigations into fire and explosion incidents.

### **Plan**

The department will continue to use these guides as a basis for the overall methodology for fire investigations and will remain a resource for investigators to use during fire investigations.

### **References**

NFPA 921: Guide for Fire and Explosion Investigations, Chapter 4 (2021 Edition)  
(available on-site)

NFPA 1033: Standard for Professional Qualifications for Fire Investigator (available on-site)

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**CC 5C.3 The program has adequate staff with specific expertise to meet the fire investigation, origin, and cause program goals, objectives, and identified community risks.**

**Description**

The department's fire investigation program has eight (8) fire investigators. Each investigator completes a recognized origin and cause basic course through the Kansas Chapter of the International Association of Arson Investigators (IAAI) or National Fire Academy (NFA) and basic Kansas law enforcement training to meet the Kansas Certified Fire Investigator (CFI) II requirements as outlined in K.A.R. 22-19-2. The Fire investigation program is a high functioning program within the department. The level of dedication by the city and the department is matched with the personal dedication of the department fire investigators. The investigators are provided good equipment, training, and education that allows them to perform at a high level. The end result of their efforts is the successful conclusion and classification of the origin and cause of fires.

**Appraisal**

The department has determined it has adequate staffing to handle the initial fire scene investigation workload. The department has experienced challenges with fire investigation follow-up needed past the initial scene investigation. Operations Division sworn personnel, who are incentive-based fire investigators, work with the resources available to them to complete the investigations in a timely manner. Staffing and call-back to support the Operations Division has become more challenging to utilize these shift investigators for investigations. Incentive based fire investigators also pose challenges when resource management across shifts is conducted to maintain minimum staffing. The department has identified the need for full-time fire investigators, and has requested these expansion positions during the last several budget planning cycles.

**Plan**

The department will maintain its current staffing level of investigators and will continue to maintain the required certification. The department's Prevention Division will pursue the transitioning and commissioning of fire investigators into full-time positions, moving away from the incentivized operations personnel to more adequately support this program.

Through the budget request process, the department will continue to communicate the need for more resources within the Prevention Division and fire investigation program.

**References**

[KAR 22-19-2: Certification of Fire Investigators](#)

SOP 111.15 Fire Investigation Incentive

SOP 113.10 Fire Investigations

NFPA 1033: Standard for Professional Qualifications for Fire Investigator; section 1.3.8 (available on-site)

2023 Program Improvement Request for Community Risk Reduction Program (pages 8-10)

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**CC 5C.4      The agency conducts a formal and documented program appraisal, at least annually, to determine the program’s impacts and outcomes, and to measure performance and progress in reducing risk.**

**Description**

The department conducts a formal and documented program appraisal annually that summarizes the program’s impacts, outcomes, and effectiveness in the prior year. New goals are outlined for the upcoming year within this document.

**Appraisal**

The department’s assigned program manager and supportive staff have been able to complete an annual program appraisal. These appraisals are provided to the AHJ for review, as well as posted on the department’s external /internal website for employee review as part of the Annual Compliance Report.

**Plan**

The department will continue to utilize these appraisals to improve performance within the program as well as develop more efficient operational procedures based on the prior year’s performance.

**References**

- 2022 Fire Investigation Monthly Meeting Agenda
- FIU Meeting Minutes October 2022
- 921docs long and short form (available on-site)
- 2021 Fire Investigation Annual Program Appraisal
- SOP 113.10 Fire Investigations
- 2022 CFAI Annual Compliance Report (pages 61-67)