

## **Category V**

### **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 emergencies that endanger life or property. The agency should conduct a thorough risk-analysis as part of activities in Category II to determine the need for fire investigation program.

#### **Summary:**

Lawrence Douglas County Fire Medical Department utilizes nine fire investigators comprised of the Division Chief of Prevention/Fire Marshal, a Prevention Captain, a Fire Captain assigned to Operations, and two members per shift from the Operations Division, for the investigation of fires. Company officers have the authority to conduct level one fire investigations of which the cause is obvious and accidental in nature. The six Operations investigators receive an investigation incentive and report directly to the Prevention Captain who is program manager of the Fire Investigation Unit. The Prevention Captain reports directly to the Division Chief of Prevention. All the investigators are required to complete the training necessary to be Certified Fire Investigator II as outlined in Kansas Annotated Regulations (K.A.R.) 22-19-2.

The Shift Commander is responsible to activate the investigation unit on any incident he or she identifies as a Level 2 or Level 3 fire investigation. A fire investigator may be called to the scene of level 1 investigation to assist the incident commander with identifying the origin and cause. When notified, the Fire Investigator responds to the scene and analyzes the situation. The investigator determines the need for additional resources and notifies the Prevention Captain. Upon request, additional investigators will assist the assigned investigator. Level 3 fire investigations are multi-agency investigations with support from local law enforcement departments, and/or State agencies, and/or Federal agencies. The additional resources bolster investigations and provide enhances law

enforcement expertise to the incident. Examples of agencies the department may request include the State Fire Marshal and/or the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF).

Investigator meetings are on the first Thursday of every month, which allows for information sharing between investigators and 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**

There is adequate and appropriate authorization for the existence of the fire investigation program. The existing authorization is sufficient and no additional requirements are needed.

**Appraisal**

Kansas Annotated Regulations and the 2015 International Fire Code (IFC) section 104.10 authorize the fire investigation program.

According to State regulations, 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 9199, authorize the department to investigate the cause, origin, and circumstances of fire or explosion.

Department fire investigators complete Fire Investigator II Certification per SOP 111.15 *Fire Investigation Incentive*, and meet the requirements as outlined in K.A.R. 22-19-2. K.S.A. 31-157 grants law enforcement powers to each Certified Fire Investigator II.

**Plan**

The Fire Chief and the Fire Marshall will continue to monitor changes to state statutes, code or ordinances to ensure there is adequate and appropriate authorization for the existence of the fire investigation program.

**References**

2015 International Fire Code (Available on site)

KSA 31-157

KAR 22-19-2

City ordinance 9199

SOP: 111.15 Fire Investigator Incentive

**CC 5C.2 The agency uses a consistent approach to the scientific method which is utilized to investigate and determine the origin and cause of all fires and explosions.**

### **Description**

NFPA 921 Guide for Fire & Explosion Investigations (2017 edition) chapter 4 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. This process is further identified in NFPA 1033; Standard for Professional Qualifications for Fire Investigator.

The department fire investigators follow the job performance requirements of NFPA 1033. These requirements are provided in sections 4.2 through 4.7 of the standard. Section 4.1.2 requires the investigator to use all the elements of the scientific method as the operating analytical process through-out the investigation and for the drawing of conclusions. Following this standard allows the investigators to reach conclusions based upon the information from each fire scene.

### **Appraisal**

The departments Fire Investigators conduct fire investigations utilizing NFPA 921 as a guiding document. NFPA 921 continues to provide in depth information as to how a fire scene is investigated. The documents lay out a reasonable and achievable methodology on the process used to determine origin and cause of a fire. NFPA 1033 describes what job performance requirements and education is necessary to complete a fire investigation in a thorough and educated manner.

**Plan**

NFPA 921 will continue to guide the overall methodology of the fire investigations for department investigators and will remain a resource for investigators to use during fire investigations. NFPA 1033 will continue to guide the department's fire investigators on the minimum knowledge and job performance requirements for the position. No changes are necessary at this time.

**References**

NFPA 921

NFPA 1033

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

### **Description**

The department currently has nine fire investigators. Each investigator successfully 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. Annual opportunities for continuing education, training, and skills development are available through the Kansas Chapter of the IAAI, Annual Kansas City Arson Task Force, IAAI CFITrainer.net site, and from local law enforcement agencies. These training opportunities are reviewed to ensure the investigator shall be able to maintain the requirements of NFPA 1033 section 1.3.8. Fire investigators provide valuable information in the referrals to the juvenile fire setters program.

### **Appraisal**

The Prevention Division currently has adequate staffing to handle the fire investigation workload. The Prevention Division requires that all Fire Investigators be Certified Fire Investigator II level certification. The CFI II certification authorizes investigators with law enforcement arrest powers. The department is supporting the credentialing of investigators and providing professional development opportunities through these certifications. This incentive position presents many challenges for the completion and follow up needs of complex fire investigations. The Prevention Division is currently exploring the opportunities and procedures necessary to assist the fire investigator in conclusion of fire cause. Determining the cause has a direct result in the prevention service we provide to the citizens of Lawrence.

### **Plan**

The department will maintain its current staffing level of investigators and will maintain certification through the Kansas State Fire Marshall to CFI II. Training and recertification

requirements will maintain current knowledge and skill levels. The Prevention division will continue to explore the possibility of transitioning the certification and commissioning of investigators for the department. Fire Investigators have been assigned to complete the required training to obtain the designation of IAAI-FIT and certification of IAAI-CFI. This process will be included in their Professional Development Plan for the annual review for the incentive. The Prevention Division will conduct an analysis of recent cases and develop procedures that will assist the fire investigator in determining fire cause.

Provide a plan that clearly, factually and succinctly; summarizes how your agency will continue to assure that it will continue to successfully address this Performance Indicator or how and when it will any short comings indicated in your appraisal.

### **References**

Kansas State Certified Fire Investigator (KAR 22-19-2)

SOP 111.15 Fire Investigation Incentive

NFPA 1033; section 1.3.8

**5C.4** The agency has established written agreements and procedures, that are reviewed and revised at least annually, with relevant local, regional, state/provincial, and federal fire investigation agencies to ensure appropriate and consistent scene processing, evidence collection, and information sharing.

**Description**

The department does not have any established, written agreements and procedures with relevant local, regional, state, and federal fire investigation agencies.

**Appraisal**

The department has benefited from solid working relationships with agencies including but not limited to the Lawrence Police Department, Douglas County Sheriff's Office, State of Kansas Office of the Fire Marshal, Kansas Bureau of Investigation, and Department of Alcohol, Tobacco, and Firearms. The department has worked with these agencies on an as needed, request basis without negative impact to delivery of service, incident processing, or information sharing.

A recent event highlighted the need for department fire investigators to have special deputy credentials to investigate fires in unincorporated areas of Douglas County in which the AHJ did not have fire investigators available and/or the State Fire Marshal's Office was unavailable.

**Plan**

The department is currently working on procedures and having fire investigators deputized through the Douglas County Sheriff's Office to meet this need. The department is currently waiting on a draft to be completed for review between the department and Douglas County Sheriff Department. The Fire Marshall and the Fire Investigation Program Manager will work on establishing procedures with the Douglas County Sheriff Department.

**References**

NA

**CC 5C.5 The agency conducts a formal and documented appraisal, at least annually, to determine the impacts of the fire investigation, origin, and cause program and its efforts to reduce fires based on community assessment, standards of cover, and measures performance.**

### **Description**

The Division Chief of Prevention/Fire Marshal is responsible for the investigation program and periodically reviews its effectiveness with input from the program manager and the fire investigators. Investigators meet monthly to discuss recent cases and to discuss any problems that may arise. These meetings are documented in Firehouse and agenda/notes kept by a member.

Annually, the Fire Investigation Program Manager conducts a formal and documented program appraisal at the monthly manager's meeting. The appraisal includes an analysis of standard operating procedures, equipment and training to determine the impact of the program on meeting the program's goals and objectives. At least two goals and objectives are identified for the next program appraisal cycle.

### **Appraisal**

The current system is effective and addresses identified concerns. The meetings provide excellent opportunities to identify and discuss issues and program shortfalls. Documentation of investigation program meetings needs standardizing and to become a section of the fire investigation SOP. One of the more recent items that came from these meetings was the identifying the need for standardized for Origin and Cause investigation reports. Subsequently 921docs was purchased, investigators trained on the use of the document and we now have a more standardized reporting method for all investigators which will reduce legal challenges and provide for reporting efficiency.

### **Plan**

The oversight of the investigations program will continue to be the responsibility of the Division Chief of Prevention/Fire Marshal. Investigator meetings will continue on a monthly basis. Upcoming monthly meetings will address meeting documentation and SOP

changes. The Program manager will continue to conduct an annual documented program appraisal at the Monthly Manager's meetings to evaluate the program's effectiveness and ensure the program is meeting the needs of the department.

**References**

- Fire Investigation Monthly Meeting Example  
921docs long and short form (Available on site)
- Fire Investigation Annual Program Appraisal