

# FIRE INVESTIGATION IN BUILDINGS DURING CONSTRUCTION

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## Background

### Introduction

Determining origin and cause of all fires is a responsibility of the fire department. Many states have adopted legislative statutes that clearly establish authority and responsibility for conducting fire investigations. The person who is charged with this responsibility varies from state to state. In some cases, it addresses the fire chief. In other cases, the authority is vested in law enforcement. There are also many federal agencies that have enforcement authority regarding fires.

Regardless of what authority is involved, collecting data on fires relating to the source of the fuel and the determination of the source of ignition are critical to making long term fire prevention efforts work. We learn lessons from every fire. Some of the lessons eventually turn into code requirements and best management practices.

To support the idea that these fires are infrequent events, we should look at fire loss data. Annually we have about 830 fires. This amounts to 2.27 fires per day. Considering the size and complexity of the United States the spaces them in a relatively small grouping. Notably, the most significant cause of fire involves torches, soldering irons and other heat devices. They represent 64 percent of the loss.

Most fire departments leave the determination of origin and cause to the first in officer on an emergency. This is a fundamental principle when creating a fire reporting system for almost all fire agencies. 99.9 percent of the fire investigations are done as a matter of routine and require very little support from the department to be achieved. All fire agencies should train their first responders, (firefighters and fire officers) in their role in the fire investigation process. This basic skill is part of firefighter certification. But, one cannot assume that this basic skill set will be sufficient in the types of fires being discussed in this material.

### Plan for Complexity

Having a major fire in a building under construction is entirely a different story than investigating a single family dwelling fire. Most fire departments are not adequately equipped for dealing with all of the implications of a fire that runs into six or seven figures in loss. This is not a negative statement towards fire departments. It is a reflection of reality.

If a fire department responds to a fire in a building under construction, one of the first things that has to be recognized is that the fire investigation is very likely to be very broad and very intense and involve multiple agencies. It is likely to involve some agencies external to the community and there could be the potential for conflict if the department has not planned for this interaction. One of the goals of the local

fire authority should be to have a harmonic, team like atmosphere when conducting investigations of this nature.

A sample of the type of organizations that might be involved would include the following:

Bureau of Alcohol, Tobacco and Firearms

OSHA

NIOSH

State Fire Marshal

Law Enforcement Agencies (Local and State)

Fire Insurance Investigators

A top priority for any investigation is to protect the area of origin. This is usually a task for the operations division as their actions may adversely impact a point of origin. This is in reference to actions such as master streams and physical assault on the building as a result of overhaul.

#### Media Attention

Often these types of fire generate significant media coverage. There are often criticisms leveled at all entities involved in the incident. This can include, but not be limited to, firefighting, construction personnel, code personnel, and others. One strategy that should be considered is to prevent any public statements or declarations by members of the fire department regarding operational activities at the scene including prevention of comments about cause and origin.

#### Summary

There is almost always something complicated about conducting an investigation in a building that is still under construction. It is not suggested that every fire department has to become an expert in this topic. It is suggested that you should have a contingency plan prepared so that the investigative process can be as professional as possible. For additional information on this topic, please see the following resources:

International Association of Arson Investigators (use the pull down tab on training)

Fire and Arson Scene Evidence: A Guide for Public Safety Personnel, Research Report, US Department of Justice, Office of Justice Programs, Washington DC, June 2000

<http://www.ojp.usdoj.gov>

NFPA Standard 921 Guide for Fire and Explosion Investigations