



1. General Information

Objectives

- To assist suppression companies with conducting the initial stages of a fire investigation
- To provide assistance with identifying which information to obtain pertinent to an investigation
- To assist fire ground officers in deciding when it is appropriate to request Fire Investigations personnel.
- Significantly reduce out-of service time for units on the scene
- Ensures that early stages of the fire investigation are conducted properly
- Builds confidence in decision making with regards to determining the origin and cause of fires

Overview / Recognition

There are many incendiary fires that are not investigated because no one detects the questionable nature of the fire or there is no request for a Fire Investigator. It is the responsibility of the Incident Commander to request an investigation in the event he/she observes circumstances, which indicate the fire may be incendiary in nature, or the cause is unknown. This request should be made as soon as possible so that the scene remains secured and evidence can be preserved and collected.

The Incident Commander shall ensure that Fire/EMS Personnel maintains custody of the scene at all times, until the arrival of the Fire Investigator. This would require personnel to secure the scene in a manner that prohibits access to the fire scene and/or post detonation site after the emergency has been mitigated. In most cases securing the scene with fire line tape will suffice. The recognition of signs of

forced entry such as broken doorframes or torn window screens is also very valuable to the investigation and such observations should be passed on to the Fire Investigator. Recognition examples are:

- Separate and unconnected fires
- Lack of accidental causes
- Unidentifiable point of origin
- Unusual burn patterns
- Missing inventory
- Evidence of forced entry
- Missing personal items
- Presence of ignitable liquids

2. Requesting a Fire Investigator

For the most effective investigation, a fire/explosives investigator should be notified and respond to all serious fires/explosions or possible arson fires immediately after fire apparatus is dispatched. Fire Investigators carry a complete, "ready to go" compliment of turnout gear, excavation tools, evidence collection equipment and camera equipment in his/her response vehicle.

The first Fire Investigator arriving on the scene shall ascertain if additional assistance is needed (i.e., Accelerant Detection Canine, Bomb Squad, Bureau of Alcohol, Tobacco and Firearms, Federal Bureau of Investigation, Fire Prevention, Hazardous Materials Team, County Police or additional Fire Investigators) utilizing the established Incident Command/Management System. Additional resources will be requested through "Command" and operate with in the ICS. Appropriate Branch/Division/Group should be established in accordance to the ICS general order and NIMS. Calls for assistance should be made immediately upon determining the need and may be done at the discretion of the ranking Fire Investigator.



The Fire Investigator shall interview the Incident Commander and first arriving firefighters regarding their initial size-up and knowledge of the circumstances. This interview may be in the form of a written statement. Incident Commanders should make every effort to allow first arriving suppression units to remain on the scene until the interview/statements are completed.

The ranking Fire Investigator shall be in charge of the investigation once the emergency operations are complete and shall assume operational control of any portion of the building necessary for the investigation. This shall be coordinated with the Incident Commander.

If fire ground operations are in progress when the Fire Investigator arrives, and he/she is unable to get into the fire building for a preliminary scene examination, the Fire Investigator shall immediately begin documenting the scene and interviewing witnesses.

Incident Commanders are required to request response from the on-duty Fire Investigator(s) for the following:

- All multiple alarm fires/explosions.
- All fatal fires/explosions or suspected fatal fires/explosions.
- All critical injuries from fire or explosions.
- All injuries involving fireworks.
- All suspected explosions (i.e., gas, propane, destructive devices, drug labs, etc.).
- All bomb incidents (i.e., molotov cocktails or any destructive device).
- All cross burnings.
- All undetermined or arson fires in structures/dwellings.

- All known causes to fires in structures/dwelling with an estimated loss over \$50,000.
- Set fires to vacant and abandoned structures.
- All set fires to vehicles not stolen, with evidence or witnesses on the scene.
- Any set fire with suspect information. (If a suspect is on the scene suppression personnel should request through PSC Police assistance and shall not in any way endanger themselves or take matters into their own hands.)
- All fires involving County property. (Notification may be made if necessary for Federal and/or State Properties to ensure the appropriate agency is dispatched to investigate.)
- All church fires or fires on church property.
- Multiple fires (dumpsters, brush, vehicle fires, etc. occurring in the same area and time).
- Vehicle accidents involving fire deaths.

Incident Commanders are required to notify the on-duty Fire Investigator for the following:

- Children under seven (7) years of age who are playing with fire, obtain the child's full name, age, address, phone number(s), parent's full name, address and phone number(s).
- Several false alarms regardless of whether or not a suspect can be identified.
- All non-critical fire injuries of accidental fires, obtain name, address, date of birth, phone number(s), race, nature and extent of injuries, unit transporting and hospital destination.



If you have any question, contact the on-duty Fire Investigator at 301-306-5686 or after hours via the Emergency Operations Center at 301-583-2200.

Arson/Explosion Hotline 301-77-ARSON (301-772-7766)

3. Classification of Cause

Fire Incidents

The cause of a fire may be classified as accidental, incendiary, natural or under investigation. The first due company shall report the fire as "Under Investigation" if Fire Investigators are called to the scene unless other arrangements are made between the Incident Commander and the on-scene ranking Fire Investigator.

At no time shall individuals other than Fire Investigations Personnel provide written reports directly to citizens regarding the classification of a fire cause.

Explosive Incidents

Generally the cause of explosions will carry the same classifications as fire scenes. Examples would be a natural gas explosion in a house (accidental), a pipe bomb (incendiary), a dust explosion (accidental), or a lightning strike (natural).

Additionally explosions have many sub-classes of classification regarding the type of explosion. Some of these examples are:

- Low Order/High Order
- Chemical/Mechanical Explosion
- Low Explosive/High Explosive
- Seated/Nonseated Explosions

The classification of an explosion scene requires specific training that is not generally

provided to Fire/EMS Personnel outside of the Bomb Squad and Fire investigations Personnel. Bomb Technicians and/or Fire Investigators shall respond to all explosive scenes and will determine the cause. Causes shall be listed as "under investigation" by suppression crews when Fire Investigators and/or Bomb Squad Personnel respond to the scene.

4. Scene Security/Chain of Custody

Fire and explosion scenes always generate the interest of bystanders. Their safety, as well as the security of the scene and its evidence, must be addressed by the Incident Commander. This may be accomplished by fire line tape or may require the assistance of a Police Officer, Fire Fighter, etc. Any unauthorized individuals found inside the secured area should be identified and required to leave.

If a Fire Investigator is requested, the Incident Commander shall ensure that Fire/EMS personnel maintain custody of the scene until his/her arrival. It is important to realize that every fire scene should be treated as a crime scene in which a criminal investigation will be conducted. Fire patterns are used to determine the area and point of origin. Overhaul should be kept to an absolute minimum until the Fire/Explosion Fire Investigator arrives and examines the scene. It is often common practice to start overhaul within the room of origin which destroys critical burn patterns embedded in the drywall. The same void spaces can be inspected for fire spread by removing drywall, plaster, and other wall coverings from the unburned side that was not impinged by fire in an adjacent room.

The positions of objects in the room such as furniture assist the Fire Investigator in determining the fire cause. If an item must be



removed, note the exact position and orientation of the object. (A smoldering mattress; if it needs to be removed, make note of the top, head, and foot so that the scene may be reconstructed).

In the event of any suspicious or unknown cause of a fire, Firefighters need to use extra caution in suppression activities and overhaul of the fire scene. Unnecessary structural damage such as removal or destruction of windows, walls, and doors shall be avoided.

5. Physical Evidence

- Fingerprints
- Tool Marks
- DNA
- Ignitable Liquids/Power Tools

Crime Scene Contamination

The use of gasoline and diesel powered tools and generators should be avoided whenever possible. If gasoline/diesel powered equipment must be used, refueling of any equipment shall be done outside of the structure.

6. Fire Deaths

All fire deaths (including accidental fires) shall be considered a crime scene. When death occurs by fire or explosion, the investigation will be conducted with the Prince George's County Police Department's Homicide Unit. The determination of arson or explosion will be made by the Department's Fire Investigator who has the technical expertise necessary to make this determination.

7. Safety on Explosion Scenes

Structures that have sustained explosions are often more structurally damaged than a

burned building. The possibility of a building collapse is much greater and should always be considered. In case of fuel, gas, or dust explosions, secondary explosions are the rule rather than the exception. Explosion scenes that involve bombing or explosives have added danger. Personnel should be aware of secondary devices and undetonated explosives.

When an incendiary or explosive device is discovered that has not activated, do not move it! Bomb Squad personnel are the only personnel authorized to handle such devices. Touching or moving such device may result in an ignition or explosion. All devices should be considered to be active and dangerous until otherwise determined by a member of the Department's Bomb Squad. Every precaution should be taken to protect lives and property when dealing with an incendiary or explosive device.

Personal Protective Equipment

Fire investigators shall wear the appropriate level of personal protective equipment as the incident dictates.

REFERENCES

- Annotated Code of Maryland, Public Safety Article, Title 3: Law Enforcement, Subtitle 2: Police Training Commission
- Annotated Code of Maryland, Criminal Procedures Article, Title 2: Law Enforcement Procedures; Arrest Process, Subtitle 2: Warrantless Arrests, Section 2-208.3
- National Fire Protection Association (NFPA) 921

FORMS/ATTACHMENTS

N/A