



Death in the line of duty...

NIOSH
Fire Fighter Fatality Investigation
and Prevention Program

A summary of a NIOSH fire fighter fatality investigation

Career Fire Fighter Dies in Heavy Smoke on Second Floor of a of a Residential Structure—Texas

Executive Summary

On July 9, 2014, a 46-year-old male career fire fighter died while conducting interior operations in a two-story residential structure fire. At 15:55 hours, Engine 104 with a crew of four was dispatched to a shed fire. The captain observed fire and black smoke coming from the right side and rear of the structure and called in a box alarm. The crew reported hearing ammunition going off while fire fighter 1 (FF1) and fire fighter 2 (FF2) pulled a 1¾-inch hoseline off the engine.

The captain and FF1 unsuccessfully attempted to force entry into the garage on the front right corner of the structure while FF2 tried knocking down the fire on the right side of the structure.



Two-story residential structure.

The captain and FF1 were able to make forcible entry at the front door.

The captain ordered the hoseline to the front door. After seeing only minimal smoke and no visible fire or civilians on the first floor, they proceeded to a narrow stairway to the second floor. The captain, FF2, and FF1 went to the top of the stairs and encountered several louvered doors and a scuttle hole to the attic. The captain opened the attic access but could only see dark, brown smoke. The captain used a thermal imager and opened doors, searching for civilians and fire. The captain used a pike pole to open the attic scuttle door and poked holes in the ceiling. The captain heard one of the fire fighters say he was getting hot, low on air, and, "Let's go get flashlights." The crew backed down the stairs. The captain then realized FF1 was missing. The captain radioed FF1 several times with no response, then he informed the incident commander of a missing fire fighter. The captain went back to the second floor and could hear a PASS alarm in the room on his left and notified command. His low-air alarm was going off so he had to back out. Engine 63 made entry through the rear double doors off the deck on the second floor and located FF1 just inside the double doors. Engine 63 encountered the rapid intervention crew and took him down a ladder off the rear deck to the yard. After receiving basic life support, he was transported to the hospital where he died from his injuries.

Contributing Factors

- *Crew integrity*
- *Air management*
- *Mayday procedures*
- *Fire-fighting experience*
- *Operational characteristics of the SCBA and other life safety devices*
- *Fireground communications*
- *Ventilation timing*
- *Hoseline deployment*
- *Construction features of the residence*
- *Munition hazards*

Key Recommendations

- *Fire departments should ensure that crew integrity is properly maintained by voice or radio contact when operating in an atmosphere that is immediately dangerous to life or health (IDLH).*
- *Fire departments should ensure that fire fighters and officers are properly trained in air management.*
- *Fire departments should ensure that fire fighters understand the operational characteristics of their SCBA and other life safety devices.*
- *Fire departments should ensure that fire fighters are properly trained in out-of-air SCBA emergencies and SCBA repetitive skills.*
- *Fire departments should ensure that fire fighters are properly trained in Mayday procedures and survival techniques.*
- *Fire departments should ensure fire fighters are sufficiently retrained when transitioning from the emergency medical service back to fire operations.*
- *Fire departments should ensure that accountability officers are proficient in fire fighter tracking/monitoring systems.*
- *Fire departments should ensure that fire fighters are trained in situational awareness, personal safety, and accountability.*

The National Institute for Occupational Safety and Health (NIOSH), an institute within the Centers for Disease Control and Prevention (CDC), is the Federal agency responsible for conducting research and making recommendations for the prevention of work-related injury and illness. In 1998, Congress appropriated funds to NIOSH to conduct a fire fighter initiative that resulted in the NIOSH Fire Fighter Fatality Investigation and Prevention Program, which examines line-of-duty deaths or on-duty deaths of fire fighters to assist fire departments, fire fighters, the fire service, and others to prevent similar fire fighter deaths in the future. The agency does not enforce compliance with state or Federal occupational safety and health standards and does not determine fault or assign blame. Participation of fire departments and individuals in NIOSH investigations is voluntary. Under its program, NIOSH investigators interview persons with knowledge of the incident who agree to be interviewed and review available records to develop a description of the conditions and circumstances leading to the death(s). Interviewees are not asked to sign sworn statements and interviews are not recorded. The agency's reports do not name the victim, the fire department, or those interviewed. The NIOSH report's summary of the conditions and circumstances surrounding the fatality is intended to provide context to the agency's recommendations and is not intended to be definitive for purposes of determining any claim or benefit.

For further information, visit the program website at [NIOSH program](https://www.cdc.gov/niosh/fire/) or call toll free 1-800-CDC-INFO (1-800-232-4636). (this link is also accessible at the following URL: <https://www.cdc.gov/niosh/fire/>)