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LESSON LEARNED

Fire Operations: Ensuring that Electronic Accountability Systems Do Not Replace Manual Accountability Methods

SUMMARY

Fire department manual accountability methods can be supplemented, but not replaced, by electronic accountability systems that can sense when crew members become immobile or call for assistance.

DESCRIPTION

On April 4, 2004, an arson-caused fire at a Houston, Texas, nightclub killed one firefighter and seriously injured two others. The Houston Fire Department (HFD) dispatched units to the incident after receiving reports of a burning truck in the building's parking lot. HFD units noticed the structural fire in-progress and initiated fire suppression operations as additional resources arrived onsite. At 6:08 p.m., the incident commander (IC) assigned an engine company to establish and maintain HFD's electronic accountability system and to act as the rapid intervention team for the incident.

HFD's electronic accountability system consists of a wireless computer that tracks the statuses of firefighters at an incident site. Each firefighter carries a transmitter that broadcasts his status to the computer during response operations. The transmitter can be used to signal for help in the event of an emergency and will automatically emit a distress signal if a firefighter remains immobile for more than 1 minute.

HFD's electronic accountability system did not provide an accurate account of firefighters' statuses and locations during the incident. At one point during the operation, the IC ordered firefighters to evacuate the building in response to deteriorating incident conditions. As units exited, one team member reported seeing an unidentified firefighter incapacitated inside the structure. However, 18 minutes after the evacuation order, the electronic accountability system indicated that all firefighters were safely accounted for.

This discrepancy prompted the IC to conduct a face-to-face roll call of firefighters operating at the incident site. The face-to-face roll call indicated that one member of an interior fire attack unit remained missing despite the electronic accountability system's reading to the contrary. This firefighter eventually succumbed to thermal burns while incapacitated inside the building. The firefighter's electronic transmitter had been destroyed during the fire and only fragments could be found at the incident site. Following the incident, the Texas State Fire Marshal's Office (SFMO) emphasized the importance of such manual accountability procedures as face-to-face roll calls and maintaining lists of personnel operating in dangerous areas. The SFMO further stated that accountability

For more information on personnel accountability see the *Lessons Learned Information Sharing* Best Practice document: [Incident Site Safety Planning: Personnel Accountability](#).

procedures must track responders by both location and function during future incident responses.

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CITATION

Texas Department of Insurance. *State Fire Marshal's Office Firefighter Fatality Investigation: Firefighter Kevin W. Kulow, Houston Fire Department, April 4, 2004.* Austin, TX. ND.

https://www.llis.dhs.gov/member/secure/detail.cfm?content_id=26510

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