

CATASTROPHIC MULTIPLE-DEATH FIRES FOR 2009

Stephen G. Badger

September 2010



**National Fire Protection Association
Fire Analysis and Research Division**

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CATASTROPHIC MULTIPLE-DEATH FIRES IN 2009

Although the first catastrophic multiple-death fire of 2009 occurred on New Year's Day, the year ended with the lowest number of catastrophic multiple-death fires in the last 10 years.

Shortly after seven that morning, the fire department received multiple calls for a house fire with people still inside. At the time, there were nine occupants in the home. Upon arrival, firefighters found the basement of the two-story home engulfed in fire, with heavy smoke and fire throughout the rest of the home. Several people were trapped inside and on the front porch roof. First-arriving firefighters raced inside to attempt rescues and others raised ladders to rescue those trapped on the porch roof. The fire, which was later determined to have been caused by an electrical malfunction in recessed lighting in the basement, spread rapidly throughout the balloon-frame home. The house was equipped with smoke alarms, but it was not reported if they activated. Six occupants were killed and the other three suffered non-life threatening injuries.

According to Michael J. Karter Jr.'s "U.S. Fire Loss for 2009," published in the September/ October 2010 issue of *NFPA Journal*, firefighters in the United States responded to an estimated 1,348,500 fires in 2009, 377,000 of which were in residential structures, 103,500 in non-residential structures and 868,000 outside of structures. These fires accounted for an estimated 3,010 deaths, 2,590 of which occurred in residential structures, 105 in non-residential structures, and 315 in fires outside of structures.

Twenty-one of the fires were categorized as catastrophic multiple-death fires, defined here as a fire or explosion in a home or apartment with five or more fire-related deaths; or a fire or explosion in all other structures, as well as outside of structures (such as wildfires and vehicle fires), that claims three or more lives. These 21 fires accounted for 103 fire deaths, including 26 children under the age of six, and three contract firefighters. These fires accounted for .002 percent of the total estimated fires and 3.4 percent of the total fire deaths for 2009.

By comparison, in 2008, there were 19 catastrophic multiple-death fires, resulting in 114 deaths, including 26 children under age six.

The total of 21 fires in 2009 is the second-lowest number of catastrophic multiple-death fires in the past 10 years (2000 through 2009) with the 103 deaths the lowest number ever in catastrophic multiple-death fires, according to NFPA's records. The 2009 total of 21 fires was 11 fires fewer than the 10-year average, and the 103 deaths were 82 deaths below the average over the same period. (This does not include the death toll from the September 11, 2001, terrorist actions in New York City and Washington, D.C.)

Catastrophic Residential Structure Fires

As in past years, the largest share of multiple-death fires occurred in residential structures. There were 10 such fires in these properties in 2009, with nine in single-family homes (four of which were manufactured homes) and one in an apartment building (though the number of units was not reported). These accounted for almost 48 percent of the fires. This is a decrease of six from 2008. There were 59 deaths in catastrophic residential multiple-death fires in 2009, down from 79 in 2008. Of the 59 deaths, 25 were children under six years old. This was one fewer than in 2008. See Table 1 for additional information on residential fires.

All but one of the fires broke out between the hours of 11:00 p.m. and 7:00 a.m., resulting in 53 of the deaths, or almost 90 percent, including all but one of the children under age six.

The largest residential loss of life fire killed nine people, including five children under age six. This fire broke out in a two-story apartment building of unprotected ordinary construction, but due to ongoing litigation there was no information released by the fire department on the incident.

One fire killed eight people; two were under age six. This fire broke out in a common room of a two-story single-family home of unprotected wood-frame construction, as the family slept. The house had no smoke alarms. When firefighters arrived, the house was already fully-engulfed in fire.

Two fires killed six people each. The first one was the fire cited earlier on New Year's Day. The second fire, which killed three children under the age of six, broke out in a 1 ½ -story single-family home of unprotected wood-frame construction. There were smoke alarms present that a survivor reported hearing. A fire of undetermined origin broke out in the living room near a couch and overstuffed chair, and had made considerable headway before being discovered. Numerous rescues were made by first arriving firefighters before fire suppression activities could be initiated.

Six fires killed five people each. The first fire killed one child under the age of six and broke out in the area of a space heater in the living room of a single-family manufactured home. The cause was listed as undetermined. There was a smoke alarm located in the kitchen but it had no battery.

The second fire which also killed one child under the age of six broke out in a two-story single-family home of unprotected wood-frame construction. No further information was reported.

A third fire killed two children under the age of six and broke out in a single-family manufactured home, with an undetermined cause and origin. There was no information reported on smoke alarms. A nearby relative spotted the glow of the fire through the trees and called 911 after investigating and finding the home fully engulfed. It later burned to the ground.

The fourth fire broke out in a single-family dwelling. A child playing with an unidentified heat source ignited a mattress in the living room. Four of the victims were children under the age of six and the other was an adult. Another adult and four children escaped or were rescued. There were no smoke alarms present.

The fifth fire killed three children under the age of six in a single-family manufactured home when a fire of undetermined cause broke out in the kitchen. There was no information reported on smoke alarms. The house was fully involved on arrival of firefighters.

The last fire broke out in a single-family manufactured home with no smoke alarms. The cause and origin were undetermined but the structure was fully involved on arrival of firefighters. The victims included three children under the age of six.

Catastrophic Non-Residential Structure Fires

Five of the 21 fires broke out in non-residential structures -- two in manufacturing properties, and one each in a homeless shelter, a board and care facility, and a boarding house. In 2008, there were three fires in the non-residential category. The manufacturing properties were a refinery gasoline storage tank and a food preparation plant; both involved explosions followed by fire. These explosions and fires accounted for 20 of the 103 deaths -- the same number of deaths as in 2008. None of the victims were children under age six. Two of these fires occurred during the hours of 11:00 p.m. and 7:00 a.m. Four of the properties were operating; the status of the fifth was not reported. Causes were reported for just two of the fires -- one was incendiary and one involved a cutting torch. See Table 2 for additional information on non-residential structure fires.

Five people died in a fire in a homeless shelter that was originally two connected commercial buildings, one and two stories in height, of protected noncombustible construction with an opening between them. The fire was first seen burning on top of a pile of donated clothing at a sorting table in the shipping/receiving area, but the cause is undetermined. The shelter had a 42-bed capacity but only 28 residents were in the shelter at the time of the fire. The five victims were located on the second story, four in a TV room and one in a sleeping area. Excessive travel distance to exits and heavy smoke blocking the exits were cited as factors in the deaths. The shelter had no smoke alarms or automatic suppression equipment.

Three fires killed four people each. The first fire killed four residents in a one-story residential board and care occupancy of unprotected wood-frame construction that also included a partial basement. A building fire alarm system was installed consisting of smoke detectors in sleeping areas and most common spaces. Heat detectors were installed in the kitchen, laundry room, and shower room, as well as in the attic space. A wet-pipe sprinkler system designed to meet the requirements of NFPA 13D, *Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes* was also provided. Although both systems operated, the origin of the fire -a plastic trash receptacle on a porch which did not require detection or sprinkler coverage --prevented either system from having an early impact on the fire. The fire spread into the attic and then throughout the rest of the building. The cause was not determined but investigators reported that human activity was involved in some way. Several residents had been relocated and evacuated before deteriorating fire conditions prevented further rescue attempts. Some of the residents who were evacuated out of the building returned to what they deemed the safety of their familiar space and died while others who had been staged in a mudroom at the main entrance simply did not escape.

The second fire broke out after a natural gas explosion ripped through a one-story food preparation plant which was in full operation. There were smoke alarms present that operated and a complete sprinkler system present but it was damaged in the explosion. The explosion and fire are still under investigation by the Chemical Safety Board (CSB).

The third fire was in a two-story, eight-unit boarding house. This incendiary fire broke out in a first-story function room and spread throughout the structure. No information was reported on smoke alarms, but there was no suppression equipment present.

An explosion killed three people on the top of a 67,000-barrel floating roof gasoline storage tank where workers were cutting a hole in the top in preparation for the installation of measuring equipment. The explosion occurred when work resumed after a lunch break. A gas vapor test was done at the start of the work day, but not after the lunch break.

Catastrophic Non-Structural Fires

There were six non-structural incidents: two in passenger vehicle crashes and fires, and one each in a box truck with fireworks (explosion/fire), a motor home, a wildland fire, and an aircraft with a fire on board prior to crashing. This is three more than in 2008. These fires killed 21 people, with one victim under age six. This is six fewer deaths than were reported in this category in 2008. See Table 3 for additional information on non-structural fires.

(Vehicle crashes are included in this study if a fire in the vehicle caused the crash or if the local coroner or medical examiner confirms that the victims died of fire-related injuries, not impact injuries.)

Two of the fires killed five people each. Both involved passenger vehicles that crashed and caught fire. The first occurred when a multi-vehicle collision on an interstate highway caused the gasoline tank on the victims' car to catch fire. The second fire killed a child under age six and four others when an SUV left the roadway, went down an embankment, flipped over on its roof in a gully and caught fire.

Two fires killed four people each. One was an explosion that occurred when workers were in the rear of a box truck with fireworks and was installing igniters' in the fireworks tails for a display. One person escaped with serious burns. The cause of the explosion was still undetermined. The second one involved a small aircraft in flight. The pilot radioed a mayday, reporting smoke in the cockpit and an engine fire. The plane crashed a short time later, killing the four onboard.

Two incidents killed three people each. The first occurred in a 28-foot (9-meter) long motor home in the yard of a single-family home. A chemical reaction occurred during an illegal drug manufacturing process, trapping three victims with the fire between them and an exit. The second incident killed three contract firefighters on board an air tanker that crashed while responding to a wildfire.

The role of smoke detection and suppression equipment

Of the 10 residential structure fires, only six had information available on automatic smoke detection equipment. Of the six, only three structures were equipped with smoke alarms. Of the three, only one system operated, one didn't operate, and the operation of the third was not known. It was not reported why the occupants in the home that had operational smoke alarms failed to evacuate. Three structures had no smoke alarms at all. In these fires, 18 people died including nine children under age six. There was no suppression equipment in the residential properties.

Information on detection equipment was reported for three of the five non-residential structures. One structure had no equipment. One structure, a board and care facility, had smoke alarms in the sleeping areas and most common spaces and heat detectors in the kitchen, basement and attic.

The smoke alarms operated and alerted the residents. One structure had a smoke alarm system with unreported coverage that also operated, but was ineffective due to an explosion prior to the fire.

Four of the properties reported information on automatic suppression equipment. Two had no suppression system. One structure had suppression equipment that was destroyed in the explosion. One structure had a wet pipe system; two heads activated, but the system was ineffective because the fire began on the exterior and was well-developed by the time it entered the area that was protected by sprinklers.

Smoke alarms have been proven effective in reducing the risk of death in home fires. The most effective arrangement is to use interconnected multiple-station smoke alarms that are supplied by hard-wired AC power with a battery backup. These should be located outside each sleeping area, on each level, and in each bedroom. Homeowners should routinely test smoke alarms according to manufacturers' recommendations. NFPA recommends testing residential smoke alarms at least monthly. Batteries should also be replaced according to manufacturer's recommendations; conventional batteries should be replaced at least yearly. If an alarm "chirps," a warning that the battery is low, the battery should be replaced right away. All smoke alarms, including alarms that use 10-year batteries and hard-wired alarms, should be replaced when they are 10 years old or sooner if they do not respond properly when tested.

Smoke alarms are only effective if occupants exit the building when they sound. Children should be familiar with the sound of a properly operating smoke alarm. They should follow a practiced escape plan, one that emphasizes two exits from any location as well as a designated meeting place once they have evacuated the structure. Exit drills in the home are part of many school curricula. Practicing the plan helps families determine if children and others readily waken to the sound of a smoke alarm if it sounds during nighttime hours, and that, along with assistance for family members who require it, can be factored into the plan. Practicing escape plans, as well as basic fire prevention principles, might have prevented many of the fires and deaths included in this report.

Where We Get Our Data

NFPA obtains its data by reviewing national and local news media, including fire service publications. A news clipping service reads all daily U.S. newspapers and notifies the NFPA Fire Analysis and Research Division of catastrophic fires. Once an incident has been identified, we request information from the local fire department or the agency having jurisdiction. NFPA's annual survey of U.S. fire experience and mailings to state fire marshals are additional data sources, although not principal ones. We also contact federal agencies that have participated in the investigation of such fires. The diversity and redundancy of these sources enable us to collect the most complete data available on catastrophic fires in the U.S. We understand that in many cases, due to ongoing litigation, a department cannot release information. Also in some cases departments have been unable to determine the information we request.

Stephen G. Badger, a fire data assistant with NFPA's Fire Analysis and Research Division, is retired from the Quincy, Massachusetts, Fire Department.

TABLE 1 RESIDENTIAL STRUCTURE FIRES

Mississippi

Date, Time of Alarm, Number of Deaths

December, 4:36 a.m., 9 (5 under age 6)

Number of Stories, Occupancy Type, Construction Type

This was a two-story apartment house of unprotected ordinary construction. Number of units not reported.

Smoke Alarm and Other Protection Devices

Due to ongoing litigation, no information could be released.

Fire Origin and Path

Due to ongoing litigation, no information could be released.

Contributing Factors and Victim Locations

Due to ongoing litigation, no information could be released.

New York

Date, Time of Alarm, Number of Deaths

January, 2:51 a.m., 8 (2 under age 6)

Number of Stories, Occupancy Type, Construction Type

This was a two-story, single-family home of unprotected wood-frame construction that covered 800 square feet (74 square meters).

Smoke Alarm and Other Protection Devices

There were no smoke alarms present, and no automatic suppression equipment.

Fire Origin and Path

The cause of this fire that broke out in a common room was undetermined.

Contributing Factors and Victim Locations

At the time of the fire, the family was asleep.

District of Columbia

Date, Time of Alarm, Number of Deaths

January, 7:03 a.m., 6 (1 under age 6)

Number of Stories, Occupancy Type, Construction Type

This was a two-story, single-family home of unprotected wood-frame (balloon) construction. The ground floor area was not reported.

Smoke Alarm and Other Protection Devices

There were smoke alarms present. The coverage and the activation were not reported. There was no automatic suppression equipment present.

Fire Origin and Path

This fire broke out in a basement ceiling, the result of an electrical short in recessed lighting.

Contributing Factors and Victim Locations

The balloon construction of the house contributed to the spread of heavy smoke throughout the structure. No information was given on the victims' locations.

Kentucky

Date, Time of Alarm, Number of Deaths

July, 2:00 a.m., 6 (3 under age 6)

Number of Stories, Occupancy Type, Construction Type

This was a one-and-a-half story, single-family home of unprotected wood-frame construction that covered 1,048 square feet (97 square meters).

Smoke Alarm and Other Protection Devices

There were smoke alarms present that an occupant reported hearing. There was no automatic suppression equipment.

Fire Origin and Path

A fire of undetermined origin broke out near a couch and overstuffed chair in a first-story living room. The fire spread considerably before being discovered. The smoke and fire throughout the home self-vented through a front door and window.

Contributing Factors and Victim Locations

First arriving fire companies made multiple rescues, thus delaying fire suppression for several minutes. One victim was located on a couch in the area of origin. The other victims were located in various areas throughout the dwelling. Three other occupants suffered smoke inhalation.

South Carolina

Date, Time of Alarm, Number of Deaths

January, 5:38 a.m., 5 (1 under age 6)

Number of Stories, Occupancy Type, Construction Type

This was a single-family, single-wide, manufactured home of unprotected wood-frame construction covering 980 square feet (91 square meters).

Smoke Alarm and Other Protection Devices

A smoke alarm with no battery was found in the kitchen. There was no automatic suppression equipment.

Fire Origin and Path

The fire broke out in the living room near a space heater. The carpet around the heater was first ignited.

Contributing Factors and Victim Locations

Upon arrival, firefighters found nearly 75 percent of the structure involved in fire, forcing an exterior attack.

West Virginia

Date, Time of Alarm, Number of Deaths

January, 5:03 a.m., 5 (1 under age 6)

Number of Stories, Occupancy Type, Construction Type

This was a two-story single-family home. No other information was reported.

Smoke Alarm and Other Protection Devices

No information was reported.

Fire Origin and Path

No information was reported.

Contributing Factors and Victim Locations

No information was reported.

Alabama

Date, Time of Alarm, Number of Deaths

March, 6:00 a.m., 5 (2 under age 6)

Number of Stories, Occupancy Type, Construction Type

This was a one-story manufactured home of unprotected wood-frame construction. Its size was not reported.

Smoke Alarm and Other Protection Devices

No information was reported.

Fire Origin and Path

A nearby relative spotted a glow from the fire, went to investigate, found the home fully engulfed then called 911. By the time firefighters arrived at the home, it had already burned to the ground.

Contributing Factors and Victim Locations

None reported.

Michigan

Date, Time of Alarm, Number of Deaths

April, 7:40 a.m., 5 (4 under age 6)

Number of Stories, Occupancy Type, Construction Type

This was a one-story, single-family home of unprotected wood-frame construction that covered 1,664 square feet (155 square meters).

Smoke Alarm and Other Protection Devices

No smoke alarms were found. There was no automatic suppression equipment present.

Fire Origin and Path

The fire was ignited in the living room on a mattress by a child playing with an unknown heat source.

Contributing Factors and Victim Locations

The victims were located in several areas. A woman and one child were located in one bedroom and three children were found in the master bedroom - one on them in a closet. The woman and three of the children were pronounced dead shortly after arrival at the hospital, and the fourth child died a week later. Another woman and four children survived. Two of the surviving children were removed by neighbors prior to the arrival of firefighters. The woman passed another child out a window before escaping through the same window herself.

Missouri

Date, Time of Alarm, Number of Deaths

May, 4:31 a.m., 5 (3 under age 6)

Number of Stories, Occupancy Type, Construction Type

This was a single-family, single-wide manufactured home with additions. The manufactured home was 14 feet (4 meters) wide by 60 feet (18 meters) long. The size of the additions was not reported.

Smoke Alarm and Other Protection Devices

It was not known if there were smoke alarms present. There was no suppression equipment.

Fire Origin and Path

This fire of undetermined cause broke out in the kitchen.

Contributing Factors and Victim Locations

The home was fully involved on arrival and 75 percent of the structure was on the ground already and rescue attempts were impossible. One adult was found in a bedroom in one of the additions, the other adult was located in a living room near the front door. Two children were located in another bedroom and the third child was located in a third bedroom.

Florida

Date, Time of Alarm, Number of Deaths

November, 6:44 a.m., 5 (3 under age 6)

Number of Stories, Occupancy Type, Construction Type

This was a one-story, single-family, manufactured home of unprotected wood-frame construction. The single-wide was 12 feet (4 meters) wide by 70 feet (21 meters) long.

Smoke Alarm and Other Protection Devices

There were no smoke alarms or suppression equipment present.

Fire Origin and Path

This fire was still under investigation.

Contributing Factors and Victim Locations

Upon arrival, firefighters found the home fully involved in fire and initiated an exterior attack. An adult and three children were found in rooms on the right side of the home and a child was in a room on the left side of the home.

TABLE 2. NON-RESIDENTIAL STRUCTURE FIRES

Texas

Date, Time of Alarm, Number of Deaths

January, 2:53 a.m., 5

Number of Stories, Occupancy Type, Construction Type

This was a one- and two-story, 42-bed homeless shelter of protected noncombustible construction that covered 23,300 square feet (2,165 square meters). Originally, these were two connected commercial buildings forming an L-shaped structure that were converted for use as a homeless shelter. At the time of the fire, there were 28 occupants. Part of this facility was used as a collection point for donated clothing and other items.

Smoke Alarm and Other Protection Devices

There were no smoke alarms or automatic suppression equipment present.

Fire Origin and Path

This fire began in a shipping/receiving area on the first story. A pile of donated clothing covering 950 cubic feet (27 cubic meters) in a sorting area was first seen burning. The cause is undetermined.

Contributing Factors and Victim Locations

The building occupants were asleep at the time of the fire. The five victims were located on the second story, four in a TV room and one in a sleeping cubicle. Contributing to their deaths were several factors -- excessive travel distances to a clear exit, exits blocked by heavy smoke, and all were trapped above the fire. Investigators found several code violations but these were not reported to NFPA. Sometime during the fire, someone opened a large garage door, which allowed the ventilation that spread the fire. Firefighters attacked the fire from the interior for 20 minutes before being forced out of the building by deteriorating conditions.

New York

Date, Time of Alarm, Number of Deaths

March, 5:30 p.m., 4

Number of Stories, Occupancy Type, Construction Type, Operating Status

This was a one-story board and care occupancy of unprotected wood-frame construction that covered 4,280 square feet (398 square meters). At the time of the fire, there were nine residents and two staff members present.

Detection Systems and Suppression Systems

A building fire alarm system was installed consisting of smoke detectors in sleeping areas and most common spaces. Heat detectors were installed in the kitchen, laundry room, shower room as well as in the attic space. A wet-pipe sprinkler system designed to meet the requirements of NFPA 13D, *Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes* was also provided. Two sprinkler heads operated as designed, though they were not effective as the fire started outside the structure and spread inside.

Fire Origin and Path

The fire originated in a plastic trash container on an attached porch. The fire spread into the attic and then throughout the rest of the building. The cause was not determined but investigators reported that human activity was involved in some way.

Contributing Factors and Victim Locations

Although both systems operated, the origin of the fire prevented either system from having an early impact on the fire. Several residents had been relocated and evacuated before deteriorating fire conditions prevented further rescue attempts. Some of the residents who were evacuated out of the building returned to what they deemed the safety of their familiar space and died while others who had been staged in a mudroom at the main entrance simply did not escape.

North Carolina

Date, Time of Alarm, Number of Deaths

June, 11:30 a.m., 4

Number of Stories, Occupancy Type, Construction Type, Operating Status

This was a one-story food preparation plant that covered 250,000 square feet (23,226 square meters) and was of protected noncombustible construction. The plant was in full operation at the time of the explosion and fire.

Detection Systems and Suppression Systems

There was a smoke detection system present that operated. The coverage was not reported. There was a complete coverage combination wet and dry pipe sprinkler system. The system was damaged in the explosion and it was undetermined if any of the system operated.

Fire Origin and Path

This was a natural gas explosion. Workers were purging gas lines installed for a new gas-fired water heater. There was a natural gas explosion when gas that remained within the structure during the purging process found an undetermined ignition source.

Contributing Factors and Victim Locations

The Chemical Safety Board is still investigating this explosion. See www.cbs.gov for further information.

Ohio

Date, Time of Alarm, Number of Deaths

November, 1:53 a.m., 4

Number of Stories, Occupancy Type, Construction Type, Operating Status

This was a two-story, eight-unit boarding house of unprotected wood-frame construction that covered 2,000 square feet (186 square meters).

Detection Systems and Suppression Systems

No information on automatic detection equipment was reported. No automatic suppression equipment was present.

Fire Origin and Path

This incendiary fire was ignited on the first story.

Contributing Factors and Victim Locations

Upon arrival, firefighters found this structure to be well involved. Firefighters found one occupant hanging out a first-story window and three victims in a bedroom on the second story. An interior attack was attempted, but fire conditions worsened and firefighters were evacuated from the structure for a defensive attack.

Arkansas

Date, Time of Alarm, Number of Deaths

May, 2:30 p.m., 3

Number of Stories, Occupancy Type, Construction Type, Operating Status

This was an empty 67,000-barrel, free-standing gasoline storage tank.

Detection Systems and Suppression Systems

No information was reported.

Fire Origin and Path

After a lunch break, workers were preparing the tank to install content measuring equipment. The three workers who were cutting a hole in an internal floating roof (a roof floating on the contents of the tank) ignited flammable vapors in the tank. The explosion blew the internal floating roof and secondary dome-shaped lid off the tank.

Contributing Factors and Victim Locations

A gas vapor test was done at the start of the work day, but none was done after the lunch break.

TABLE 3. NON-STRUCTURAL FIRES

New Jersey

Date, Time of Alarm, Number of Deaths

April, 12:58 p.m., 5

Setting

Limited access highway

Climate

Not reported.

Fire Origin and Path

The gasoline tank of a car ignited in a multi-vehicle crash on a highway, killing the five occupants of the car.

Factors Hindering Occupant escape

None reported. Responding firefighters faced several challenges. The second responding company was delayed by stopped traffic and blocked breakdown lanes. The apparatus could not get closer than 200 feet (61 meters) and hand laid a hose line to the scene to assist a company that was at the scene to extinguish the fire.

California

Date, Time of Alarm, Number of Deaths

August, 10:27 a.m., 5 (1 under age 6)

Setting

Limited access highway.

Climate

No information was reported.

Fire Origin and Path

This was a single-vehicle crash. The vehicle, an SUV, flipped over on its roof and caught fire.

Factors Hindering Occupant escape

No information reported.

North Carolina

Date, Time of Alarm, Number of Deaths

July, 9:00 a.m., 4

Setting

Parking lot/a large box truck

Climate

Not reported

Fire Origin and Path

An explosion occurred as workers were inside a box truck preparing fireworks for a display. At the time, electric igniters were being installed into the tails of fireworks.

Factors Hindering Occupant escape

The four victims were located inside the truck almost up to the cab as the explosion occurred. One person located near the door survived but suffered burns.

Florida

Date, Time of Alarm, Number of Deaths

September, 5:50 p.m., 4

Setting

This was a single-engine airplane in flight which reported a fire on board.

Climate

It was sunny with a few clouds.

Fire Origin and Path

A mayday reported smoke in the cockpit and an engine on fire before the aircraft crashed. The incident is still under investigation. See <http://www.nts.gov> for further information.

Factors Hindering Occupant escape

None reported.

Washington

Date, Time of Alarm, Number of Deaths

February, 10:35 p.m., 3

Setting

This was a 28-foot (9-meter) long, by seven-foot (2-meter) wide motor home parked in yard near a single-family home.

Climate

Not reported.

Fire Origin and Path

The fire was believed caused by a chemical reaction during illegal drug manufacturing. One person escaped the fire with burns and smoke inhalation.

Factors Hindering Occupant escape

The three victims were trapped by a locked door when the fire broke out.

Utah

Date, Time of Alarm, Number of Deaths

April, 10:05 a.m., 3 firefighters

Setting

A wildland fire response resulted in the crash of an air tanker that was responding from another state.

Climate

Dense fog at scene of crash.

Fire Origin and Path

The air tanker, a retrofitted military aircraft, was responding to a wildland fire in New Mexico when it crashed into mountains in fog.

Factors Hindering Occupant escape

For further information see the NTSB investigation report at

http://www.nts.gov/ntsb/brief2.asp?ev_id=20090425X65240&ntsbno=WPR09GA216&akey=1