

# Catastrophic Multiple-Death Fires in 2016

Stephen G. Badger September 2017

#### 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 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 the 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 throughout the United States. We understand that, in many cases, a fire department cannot release information due to ongoing litigation. In other cases, fire departments have been unable to determine the information we requested.

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#### Catastrophic Multiple-Death Fires in 2016

Last year, 21 of these fires resulted in 160 fatalities, topped by a fire in a California warehouse that killed 36.

Every year, NFPA reports on the most severe loss-of-life fires in the United States, referred to here as catastrophic multiple-death fires. These events are defined as fires that cause five or more deaths in a home or three or more deaths in a non-home structure or non-structure fire, such as wildfire or vehicle fires. Vehicle crashes with a post-crash fire are included in this study if a fire in the vehicle caused the crash or the local coroner or medical examiner confirmed to NFPA that the victims died of thermal injuries or inhalation of products of combustion, rather than impact injuries.

Of the estimated 1,342,000 fires that firefighters in the U.S. responded to in 2016, 21 were considered catastrophic multiple-death fires. These fires killed 160 people, including 13 under the age of six. Of those 21 fires, 11 occurred in homes and accounted for 65 of the deaths, including 12 victims under the age of six. Eight fires occurred in non-home structures and accounted for 65 deaths, including one under the age of six. Additionally, two non-structure fires accounted for 30 deaths.

Of the 21 catastrophic multiple-death fires in 2016, three were considered major loss-of-life fires. The most severe occurred in California in December, when firefighters responded to a warehouse fire at 11:24 p.m. and found a two-story, 5,100-square-foot (474-square-meter) warehouse involved with heavy smoke conditions. The building, of unprotected-ordinary construction, was being used at the time as an artist collective with living and work spaces and a performance area. Firefighters made an initial interior attack, but due to high heat and zero visibility they were driven to a defensive attack from the exterior. Firefighters were able to enter only after the fire had been extinguished and the structure shored up. Over the next several days, the bodies of 36 victims were located. Due to a gag order, no further information has been released by authorities. This was the largest loss-of-life fire since the 2003 Station nightclub fire in Rhode Island, where 100 people died. There have been 12 structure fires in the past 50 years that killed 36 people or more.

The two non-structure fires were also considered major loss-of-life fires. The first occurred in Texas when a hot-air balloon came into contact with electrical transmission lines and crashed after catching fire, killing the pilot and 15 passengers. The National Transportation Safety Board is still investigating this incident. The last vehicle fire killing more than 16 people occurred in 2006, when an aircraft crash and fire in Kentucky killed 24. There have been 19 vehicle fires with 16 or more deaths in the past 50 years.

The second non-structure, major loss-of-life fire was an arson-caused wildfire in Tennessee that killed 14 people. The fire was started in a national park, and after several days the winds increased and blew the fire into a residential area. There have been only three other wildfires in the past 50 years that killed 14 or more: 14 wildland firefighters died in Colorado in 1994, 19 wildland firefighters died in Arizona in 2013, and 25 people died in a California wildfire in 1991.

Overall in 2016, of the 1,342,000 fires firefighters responded to, 371,500 occurred in residential structures, 104,000 occurred in nonresidential structures, and 866,500 occurred outside of structures or involved vehicles. These fires accounted for an estimated 3,390 deaths, 2,800 of which occurred in residential structures, 150 in nonresidential structures, and 440 in vehicle or outside fires.

The 21 catastrophic multiple-death fires accounted for 0.002 percent of the total estimated fires and 4.7 percent of the total fire deaths in the U.S. in 2016. The losses in these fires in 2016 are much higher than what was reported for 2015. The 2015 experience was an anomaly, with the lowest number of such fires and associated deaths ever reported—nine such fires resulting in 42 deaths, including four victims under the age of six. Of the nine fires that occurred in 2015, four were in homes and accounted for 23 deaths, including four children under the age of six. Two were in nonhome structures, resulting in eight deaths, and three were in wildland and aircraft fires, resulting in 11 deaths.

#### **Catastrophic Home Fires**

There were 11 catastrophic multiple-death fires in homes in 2016, compared to four the year before. Nine fires occurred in single-family homes (including one manufactured-home), one occurred in a two-family duplex, and one occurred in a 13-unit apartment building. These fires killed 65 people, 42 more than in 2015. Of the 65 victims, 12 were children under the age of six, which was eight more than the year before.

Eight of the home fires broke out between the hours of 11 p.m. and 7 a.m. and killed 49 people, including seven under age six.

One of the catastrophic home fires killed 10 people, one fire killed seven, three fires killed six, and six fires killed five. The 10-fatality fire broke out at 1:21 a.m. in a one-story single-family home of unprotected wood-frame construction. The fire was caused by a short circuit in an electrical cord for a window air-conditioning unit in a family room. The fire extended to bags of clothing, then spread throughout the home. There were no working smoke alarms in the home.

The seven-fatality explosion and fire occurred at 3:50 a.m. in a three-story, 13-unit garden-style apartment building of unprotected-ordinary construction. There were smoke alarms present but they were destroyed in the explosion and did not operate. A natural gas leak in the basement allowed it to fill with gas, and an unknown source ignited the mixture. A second similar building was also destroyed. It was not reported in which building the deaths occurred.

All three six-fatality fires broke out in single-family homes, one of which was a manufactured home. Only one home had a smoke alarm, but it was missing its battery and did not sound.

Five of the five-fatality fires broke out in single-family homes, and one occurred in a two-family duplex. It was known that four of these homes had smoke alarms. In three of these fires, the alarms did not operate because two were disconnected and the batteries of the other had been removed. The operation of one alarm was not reported. No information was reported on detection equipment in the other homes.

The cause of ignition of the home fires was reported in eight incidents. Two fires were caused by improper disposal of smoking materials and two to electrical failure or short circuit. Two fires were due to embers escaping, one from a fireplace and one from a fire pit located on a wooden deck. One fire was due to combustibles too close to a heat source and one to deficient installation of a woodburning heater.

The area of origin was known in eight of the 11 home fires. Three broke out in a living room or lounge area, two each broke out in storage areas and on porches or balconies. The last one broke out in an attached garage and spread into the home.

## **Catastrophic Non-Home Structure Fires and Non-Structure Fires**

Eight of the 21 catastrophic multiple-death fires in 2016 were in non-home structures and resulted in 65 deaths, including one child under age six. There were two such fires in 2015, accounting for eight deaths. The increase in the number of deaths in this category over 2015 was largely due to the California warehouse fire that killed 36—this fire alone accounted for 55.4 percent of those killed in non-home structure fires. Other fires in non-home structures occurred in two rooming houses, two adult board and care facilities, one boarding house, one motel, and one vacant warehouse. In addition to the fire that killed 36, one fire killed six, one killed five, three fires killed four each, and two fires killed three each.

The fire that killed six people broke out at 4:54 a.m. in a dwelling being used as a boarding house. The fire began in a den, but the cause is listed as undetermined at this time. Neither smoke alarms nor an automatic suppression system were present. The fire that killed five has no information reported other than it was a vacant warehouse.

Seven of the eight non-home fires broke out between the hours of 11 p.m. and 7 a.m., killing 60 of the 65 victims, including one under age six. Seven of the eight properties were fully operating and one was closed for the night.

The cause of the fire was determined in two incidents, both rooming houses. One was deliberately set and the other was caused by improper disposal of smoking materials.

The area of origin was reported as known in three of the eight non-home structure fires. Two broke out in living rooms or lounges and one broke out in a bedroom.

In 2016, two non-structure fires—the hot-air balloon and wildland fires mentioned above—killed 30 people, or almost 19 percent of those killed in multiple-death fires.

## The Role of Suppression Equipment and Smoke Detection

Information about automatic smoke detection equipment was available for nine of the 11 catastrophic home structure fires. Six homes were equipped with smoke alarms. Five of these system did not operate: two systems were disconnected, two were missing batteries, and one was destroyed in an explosion. In one fire the operation was not reported. None of the homes had automatic suppression equipment.

Information on detection equipment was reported for four of the eight non-home structure fires. One had no equipment. Two had smoke alarms that operated, but no information was reported as to why the victims did not escape. A smoke alarm was found in the debris of the 36-fatality warehouse fire, but it is not known if it operated. Four of the properties were known to have no automatic suppression equipment. No information was reported for the other four non-home structures.

It is unfortunate that none of the structures had suppression equipment because sprinklers are proven to save lives across many different kinds of properties, including homes. The risk of dying in a reported fire in a home decreases by about 80 percent when sprinklers are present, and sprinklers reduce the average property loss in home fires by 71 percent per fire. More information about home fire sprinklers is available at NFPA's Fire Sprinkler Initiative, online at <a href="https://www.firesprinklerinitiative.org">www.firesprinklerinitiative.org</a>.

Smoke alarms have been proven effective in reducing the risk of death in home fires. The most effective arrangement is interconnected, multiple-station smoke alarms supplied by hardwired 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 home 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 hard-wired alarms and alarms that use 10-year batteries, 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 leave the building when they sound. Children should be familiar with the sound of a properly operating smoke alarm and follow a practiced escape plan that emphasizes two exits from any location, as well as a designated meeting place once they have left the structure. Exit drills in the home are part of many schools' curricula. Practicing the plan helps families determine whether children and others readily waken to the sound of a smoke alarm if it sounds during night, 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.

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#### HOME FIRE DEATHS

#### **Tennessee**

# Date, Time of Alarm, Number of Deaths

August, 1:21 a.m., 10 deaths (two under age six)

# **Number of Stories, Occupancy Type, Construction Type**

This was a one-story, single-family home of unprotected wood-frame construction with a floor area of 1,085 square feet (101 square meters).

#### **Smoke Alarm and Other Protection Devices**

There were no working smoke alarms in the home. There was evidence that there had been some but they were removed at some point prior to the fire. There was no automatic suppression equipment present.

# Fire Origin and Path

Investigators reported that a short circuit in an electrical cord to a window air-conditioning unit in the family room caused this fire. The fire extended to plastic bags with clothing and spread throughout the room and home.

# **Contributing Factors and Victim Locations**

At the time of the fire there were 10 occupants in the home. All 10 perished. Seven died at the scene and three were rescued and sent to the hospital where they died over the next few days. The fatalities included three adults, four juveniles, and three children, with two under age six. There were security bars on several of the windows but did not play a role in the deaths. Seven of the victims were located in three different bedrooms, two were located in an open area between the kitchen and living room, and one was located in the family room.

#### Maryland

# Date, Time of Alarm, Number of Deaths

August, 11:55 p.m., seven deaths (one under age six)

# Number of Stories, Occupancy Type, Construction Type

This was a three-story, garden-style, 13-unit apartment building of unprotected, ordinary construction that covered approximately 4,000 square feet (372 square meters). The building was occupied at the time of the explosion and fire.

#### **Smoke Alarm and Other Protection Devices**

There was a system of smoke alarms and manual pull stations in the building. The system was destroyed in the explosion and did not operate. There was no automatic suppression system within the building. There were unknown-type fire extinguishers available, but they were not used and were also destroyed.

## Fire Origin and Path

A natural gas leak in the basement allowed the basement to fill with gas and an explosion occurred. The ignition source of the explosion is still undetermined and the investigation is ongoing.

# **Contributing Factors and Victim Locations**

A second building of similar size and construction (but with 14 units) was also destroyed in the explosion. In addition, 26 civilians were treated for various injuries due to the explosion and fire and three firefighters were injured fighting the fire. The victims included five adults and two children, including one under age six. There was no information on the location of the victims, including which building they were in.

#### **New York**

## Date, Time of Alarm, Number of Deaths

May, 3:50 a.m., six deaths

## Number of Stories, Occupancy Type, Construction Type

This was a two-and-a-half-story single-family home of unprotected wood-frame construction that covered 792 square feet (74 square meters). The home was occupied by seven people at the time of the fire.

#### **Smoke Alarm and Other Protection Devices**

There was a single smoke alarm found. It did not operate and was missing a battery. There was no automatic suppression equipment present.

## Fire Origin and Path

The fire broke out when carelessly disposed-of smoking materials ignited ordinary combustibles on an enclosed front porch and extended into the home when windows failed into the living area. The fire then extended up an open staircase to the second floor.

# **Contributing Factors and Victim Locations**

One of the victims was attempting rescues when he died. He was located on the second floor when the fire broke out but was found on the first floor. The fire had blocked the exit. The other five were attempting to escape. Two of them were originally on the second floor and were also found on the first floor. It is believed that smoke blocked their exit. The other three were found in second-floor bedrooms. One person was severely burned while attempting to make rescues, but was able to flee the fire thinking others were following behind them. Two victims were adults and the other four were children.

#### Nebraska

## Date, Time of Alarm, Number of Deaths

October, 12:05 a.m., six deaths (two under age six)

# Number of Stories, Occupancy Type, Construction Type

This was a two-story single-family home of unprotected wood-frame construction that covered 2,174 square feet (202 square meters).

## **Smoke Alarm and Other Protection Devices**

Neither smoke detection equipment nor automatic suppression equipment were present.

## Fire Origin and Path

The fire began when a spark from a fireplace ignited nearby combustible materials in the living room.

## **Contributing Factors and Victim Locations**

No additional information was reported.

#### Georgia

## Date, Time of Alarm, Number of Deaths

October, 10:30 p.m., six deaths (four under age six)

# Number of Stories, Occupancy Type, Construction Type

This was a one-story single-family mobile home of unprotected wood-frame construction that covered 840 square feet (78 square meters). It was occupied by six people.

# **Smoke Alarm and Other Protection Devices**

There were no smoke alarms or automatic suppression equipment present.

#### **Fire Origin and Path**

The fire began at a wood-burning heater that was poorly installed and spread to a bedroom. No further information was reported on the installation or how ignition occurred.

## **Contributing Factors and Victim Locations**

Factors listed by firefighters as being involved in the fire and spread included the home's location in a rural area (extending the response time), and the poor installation of the heater. Two victims were located near the rear door, three were in a bedroom, and the last victim was located in a doorway to a bathroom. Two victims were adults and four victims were children under age six.

#### Alabama

Date, Time of Alarm, Number of Deaths

January, 11 p.m., five deaths

Number of Stories, Occupancy Type, Construction Type

This was a one-story single-family home of unprotected wood-frame construction. No information was reported on the area covered.

**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.

#### Illinois

Date, Time of Alarm, Number of Deaths

January, 5:01 a.m., five deaths

Number of Stories, Occupancy Type, Construction Type

This was a two-story single-family home of unprotected wood-frame construction that was occupied by three adults and two children. The floor area was not reported.

**Smoke Alarm and Other Protection Devices** 

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

Fire Origin and Path

The fire broke out in a first-floor common room when arcing occurred at an unknown-type electrical failure at a plug or cord. No information was reported on the fire spread.

## **Contributing Factors and Victim Locations**

Firefighters had difficulties with entry into rooms on the second story due to clutter and the bodies of three deceased dogs. The five victims were asleep in second-floor bedrooms. Firefighters located the victims on a secondary search of the home. One adult male was located in one bedroom and the other four victims—two adults, one juvenile, and one child—were found in a second bedroom.

#### Virginia

Date, Time of Alarm, Number of Deaths

January, 3:13 a.m., five deaths (two under age six)

Number of Stories, Occupancy Type, Construction Type

This was a two-story single-family home of unprotected wood-frame construction with brick veneer that covered 3,278 square feet (305 square meters). The home was occupied by 10 people at the time of the fire.

#### **Smoke Alarm and Other Protection Devices**

There was evidence of smoke alarms being present but they did not operate and had been disconnected. There was no automatic suppression equipment in the home.

## Fire Origin and Path

The fire started in an attached garage when a cigarette was improperly disposed of under a set of steps that led into the home and spread into the home through a utility room.

## **Contributing Factors and Victim Locations**

The victims were three adults, all with mobility impairments, and two children under age six. Two adults were located on the first floor—one in a bedroom and the other in a hallway—and two children were located in a second-floor bedroom with an adult. In addition to the fatalities, two occupants also suffered serious smoke inhalation injuries, and two firefighters received burns.

#### Michigan

# **Date, Time of Alarm, Number of Deaths**

January, 9:31 a.m., five deaths

## Number of Stories, Occupancy Type, Construction Type

This was a two-story single-family home of unprotected wood-frame construction that covered 960 square feet (89 square meters) and was occupied by five people.

# **Smoke Alarm and Other Protection Devices**

Smoke alarms had been installed but were disconnected. There was no automatic suppression equipment present.

## Fire Origin and Path

The fire started in bedding next to a bed close to a heat source in a basement bedroom. The heat source was not reported. The fire did not spread out of the basement.

## **Contributing Factors and Victim Locations**

On arrival firefighters found heavy smoke throughout the home with a fire in the basement. Firefighters were informed there were five people in the home so searches were performed on the first and second floors and both proved negative. As the fire was knocked down in the basement, a search located the five victims. Two victims were located in a bathroom and the other three were in bedrooms. The victims were four adults and one juvenile.

#### Pennsylvania

## Date, Time of Alarm, Number of Deaths

April, 9:33 p.m., five deaths (one under age six)

## Number of Stories, Occupancy Type, Construction Type

This was a two-and-a-half-story duplex of unprotected wood-frame construction. No information was reported on the area covered.

#### **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.

## Georgia

# **Date, Time of Alarm, Number of Deaths**

October, 3:34 a.m., five deaths

# Number of Stories, Occupancy Type, Construction Type

This was a two-story, 1,800-square-foot (167-square-meter) split-level single-family home of unprotected wood-frame construction.

## **Smoke Alarm and Other Protection Devices**

There were smoke alarms in the home but they did not operate as the batteries had been removed. There was no automatic suppression equipment present.

# Fire Origin and Path

The fire broke out when embers from a modified fire pit ignited wood decking on the rear wooden deck. The fire extended to the home's siding and entered the living room through windows and the rear door. The fire then spread from the living room up the stairs to the second floor.

## **Contributing Factors and Victim Locations**

All five adult victims were located on the second floor and were asleep when the fire broke out. Four of the victims were located in the master bedroom and one was located in a bathroom.

#### NON-HOME FIRE DEATHS

#### California

**Date, Time of Alarm, Number of Deaths** 

December, 11:24 p.m., 36 deaths

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

This was a two-story warehouse of unprotected, ordinary construction that covered approximately 5,100 square feet (474 square meters). The structure was being operated at the time as an artist collective divided into living and work spaces and a performance area.

# **Detection Systems and Suppression Systems**

There was no automatic detection system present but firefighters found a smoke alarm in the debris. It was not known if it operated. There was no automatic suppression system present.

## Fire Origin and Path

The cause of the fire has been listed as undetermined.

#### **Contributing Factors and Victim Locations**

Throughout the building there were living/work spaces and hallways built of numerous combustibles and at various heights. Also inside were a camping trailer and two recreational vehicles. There was a music event underway on the second floor at the time of the fire. Firefighters were alerted to the fire by 911 calls from occupants and people knocking on the doors of a nearby fire station. First-arriving firefighters found heavy smoke conditions. An interior attack was initiated, but due to high heat and zero visibility firefighters were withdrawn to a defensive attack. All the victims were adults and were found in various locations throughout the structure. All died of smoke inhalation.

#### Georgia

Date, Time of Alarm, Number of Deaths

March, 4:54 a.m., six deaths

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

This was a one-story dwelling being used as a makeshift boarding house. It was of unprotected wood-frame construction, covered 1,000 square feet (93 square meters) and was occupied.

#### **Smoke Alarm and Other Protection Devices**

Neither detection equipment nor automatic suppression equipment were present.

#### Fire Origin and Path

The fire began in a den and spread throughout the structure. The cause is listed as undetermined.

## **Contributing Factors and Victim Locations**

All victims were adults. Three were located in a rear bedroom, one in a hallway, one in the kitchen, and one in a front bedroom.

#### California

Date, Time of Alarm, Number of Deaths

June, 7:30 p.m., five deaths

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

This was a two-story vacant office building. No information was reported on the type of construction or ground-floor area.

**Detection Systems and Suppression Systems** 

No information was reported.

Fire Origin and Path

No information was reported.

**Contributing Factors and Victim Locations** 

No information was reported.

#### California

**Date, Time of Alarm, Number of Deaths** 

August, 5:00 a.m., four deaths

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

This was a one-story adult-care facility of unprotected wood-frame construction. No information on the ground-floor area covered by the building was reported.

**Detection Systems and Suppression Systems** 

No information was reported.

Fire Origin and Path

No information was reported.

**Contributing Factors and Victim Locations** 

No information was reported.

#### Pennsylvania

**Date, Time of Alarm, Number of Deaths** 

May, 4:00 a.m., four deaths

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

This was a three-story dwelling that was being used illegally as a rooming house. The building was of unprotected, ordinary construction and covered 1,584 square feet (147 square meters). The building was occupied at the time of the fire.

**Detection Systems and Suppression Systems** 

There was one smoke alarm and it operated. There was no automatic suppression system present.

## Fire Origin and Path

The fire broke out when a carelessly disposed-of cigarette ignited a couch on an enclosed first-floor porch being used as a bedroom.

## **Contributing Factors and Victim Locations**

No information was reported on why the victims were unable to evacuate when the alarm sounded. Two adult victims were located on the first floor, and the two children were located in a bedroom on the second floor. Four additional people suffered smoke inhalation, and one firefighter was injured.

## **Oregon**

# **Date, Time of Alarm, Number of Deaths**

August, 5:45 a.m., four deaths

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

This was a two-story motel. The number of units, as well as the construction type and area covered, were not reported.

# **Detection Systems and Suppression Systems**

Due to ongoing litigation no information can be released.

# Fire Origin and Path

Due to ongoing litigation no information can be released.

## **Contributing Factors and Victim Locations**

Due to ongoing litigation no information can be released.

#### Colorado

#### **Date, Time of Alarm, Number of Deaths**

May, 1:30 a.m., three deaths (one under age six)

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

This was a one-story board-and-care home of unprotected wood-frame construction. No information was reported on the area covered.

# **Detection Systems and Suppression Systems**

No information was reported.

## Fire Origin and Path

No information was reported.

## **Contributing Factors and Victim Locations**

No information was reported.

#### Pennsylvania

## Date, Time of Alarm, Number of Deaths

February, 6:30 a.m., three deaths

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

This was a two-and-a-half-story dwelling being used as a rooming house. It was of unprotected wood-frame construction and covered 624 square feet (58 square meters). It was occupied at the time.

## **Detection Systems and Suppression Systems**

There was a full coverage system of smoke/heat detectors present that operated. There was no automatic suppression equipment present.

## Fire Origin and Path

This fire was intentionally set in living room furniture.

## **Contributing Factors and Victim Locations**

The victims, all seniors, were trapped by the fire. There was no information reported on why the occupants did not escape given that the smoke alarms operated.

#### NON-STRUCTURAL FIRE DEATHS

#### **Texas**

#### Date, Time of Alarm, Number of Deaths

July, 7:42 a.m., 16 deaths

#### **Setting**

This was a hot-air-balloon in flight with a pilot and 15 passengers.

#### Climate

The temperature was approximately 85 degrees F (29 degrees C), no rain, with winds 7–17 mph (11–21 kph).

#### Fire Origin and Path

The hot-air balloon caught fire after striking electrical transmission lines, then crashed to the ground on fire.

## **Factors Hindering Occupant Escape**

All the victims were adults. No additional information was reported. The National Transportation Board is still investigating this incident. *More information on this incident can be found online*.

#### **Tennessee**

#### Date, Time of Alarm, Number of Deaths

November, 5 p.m., 14 deaths

#### **Setting**

This was a wildland/urban interface fire. The fire was intentionally set and located in a national park, and after five days near-hurricane-force winds blew the fire into residential areas and private lands.

#### **Climate**

On the day the fire started the temperature was 53 degrees F (12 degrees C), humidity was about 40 percent, winds were approximately 26 mph (42 kph), and rain was 0.17 inches (4.3 millimeters) for the month.

#### Fire Origin and Path

The fire was incendiary in nature.

## **Factors Hindering Occupant Escape**

This fire burned for several days before high winds blew it into residential areas. By the time the fire was contained it had destroyed 2,460 structures, including 2,100 homes and 60 businesses, as well at 17,140 acres (6,936 Hectares). Fourteen people lost their lives; two were children, one was a woman in her 30s, and the rest were mostly seniors.