

Selected Published Incidents Involving Grills

**One-Stop Data Shop
Fire Analysis and Research Division
National Fire Protection Association**

**May 2007
(Revised 2012)**



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This report includes articles from NFPA publications about fires involving grills. Included are short articles from the “Firewatch” or “Bi-monthly” columns in *NFPA Journal* or its predecessor *Fire Journal* and incidents from either the large-loss fires report or catastrophic fires report. If available, investigation reports or NFPA Alert Bulletins are included and provide detailed information about the fires.

It is important to remember that this is anecdotal information. Anecdotes show what can happen; they are not a source to learn about what typically occurs.

NFPA’s Fire Incident Data Organization (FIDO) identifies significant fires through a clipping service, the Internet and other sources. Additional information is obtained from the fire service and federal and state agencies. FIDO is the source for articles published in the “Firewatch” column of the *NFPA Journal* and many of the articles in this report.

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Index # 1746

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Hot coals start multimillion-dollar fire, California

An early morning fire that started on the wooden deck of a waterfront house destroyed the home and severely damaged three others.

The single-family, three-story, wood-frame house covered approximately 2,700 square feet (250 square meters). Smoke alarms on each level operated. There were no sprinklers.

On the afternoon of the fire, the occupants of the house used a charcoal barbecue grill to cook food on their rear-facing wooden deck. Once they were finished, they went inside and left the grill unattended. As the coals continued to burn, they eventually became small enough to fall onto the wooden deck through rust holes in the grill. The deck ignited, and strong winds helped spread the fire to three neighboring houses.

Passersby saw the fire and called 911 at 4:50 p.m.

No one was injured, but the buildings, valued at \$4.5 million, and their contents, valued at \$450,000, were destroyed. The occupants, who were renting the house, were not aware that there were holes in the grill.

Kenneth J. Tremblay, 2012, "Firewatch," *NFPA Journal*, September/October 22.

Fire on Porch Spreads into Home, Pennsylvania

An early-evening fire spread into a single-family dwelling from a rear deck, heavily damaging the home. The alarm was delayed while the occupant initially tried to control the fire himself and hung up on 911 operators several times before finally making his report at 6:36 p.m.

The two-story, wood-frame house, which was 60 feet (18 meters) long and 38 feet (12 meters) wide, had engineered wood floor joists, wooden roof trusses, and an asphalt-shingled roof. Hardwired smoke alarms with battery backup were located on each floor and near the bedrooms, as required by local code. There were no sprinklers.

The fire started near a propane-gas-fired grill on the rear deck, which consisted of composite decking on a wood frame. Eventually, the fire spread into the house.

Ironically, a one-hour-rated wall assembly separating the garage from the house prevented significant loss to the garage. The house, valued at \$909,000, and its contents, valued at \$200,000, were destroyed.

Kenneth J. Tremblay, 2008, "Firewatch", *NFPA Journal*, November/December, 18.

Embers From Charcoal Grill Ignite Deadly Fire, Massachusetts

A 19-year-old man died when embers from a charcoal grill started a fire on a third-floor porch that spread into his apartment, trapping him.

The three-story, wood-frame building, which measured 60 feet by 40 feet (18 meters by 12 meters), contained three apartments. Local smoke alarms installed outside the apartments' kitchens and in the building's rear stairwell operated, waking the occupants of a rear bedroom, allowing them to escape. There were no sprinklers.

A neighbor called 911 to report the fire around 6:00 a.m. Once firefighters extinguished the blaze investigators determined that embers from the charcoal grill ignited a couch on the porch. The fire grew rapidly, breaking through the kitchen door and spreading into the apartment hall to the bedrooms. A fire wall kept the blaze from spreading to an attached building.

The building, valued at \$990,000, and its contents, valued at \$48,000, sustained \$480,000 and \$18,000 in property damage, respectively. Alcohol intoxication was cited as a factor in the victim's death. One firefighter was injured.

Kenneth J. Tremblay, 2008, Firewatch, NFPA Journal, May/June, 21.

Unattended Grill Ignites Deck, Texas

Occupants of a single-family manufactured home left an operating propane-gas-fired grill unattended on a wooden porch. Heat from the grill, which had been modified to burn charcoal briquettes, ignited the porch, and the fire spread into the house, killing two children.

The one-story home was 75 feet (23 meters) long and 14 feet (4 meters) wide. Its exterior walls were covered with siding and the roof with asphalt shingles. Smoke alarms had been installed, but they failed to operate. There were no sprinklers.

An occupant of the home discovered the fire and called 911. Responding firefighters were too late to save a 6-year-old girl and a 4-year-old boy, who died of smoke inhalation. The two children were found in their bedroom.

Damage to the house, valued at \$30,000, and its contents, valued at \$10,000, was not reported.

Kenneth J. Tremblay, 2008, Firewatch, NFPA Journal, March/April, 24.

State: Maine

Dollar Loss: \$10,000,000

Month: August

Time: 4:53 am

Property Characteristics and Operating Status:

This occupied, four-story, 10-unit apartment building was of unprotected wood-frame construction and covered 7,200 square feet (670 square meters).

Fire Protection Systems:

There was a full coverage smoke detection system present. The system operated. There was a full coverage wet-pipe sprinkler system present but there was no coverage in the attic area. The system activated when fire spread down from the attic into living areas.

Fire Development:

A propane grill on a third-story balcony ignited wood construction members and fire spread to the soffit and undetected into and throughout the attic area.

Contributing Factors and Other Details:

Damage was estimated at \$5,000,000 to the structure and \$5,000,000 to the contents.

Stephen G. Badger, 2008, "*Large-Loss Fires in the United States in 2007*", NFPA Fire Analysis and Research, Quincy, MA

Undetected Fire Spreads Through Voids, Maine

Fire and smoke spread undetected through a National Guard armory for approximately 90 minutes before it broke out of the building through the roof and was seen by a neighbor. The building, which was closed for the evening, had no fire detection or suppression equipment.

The combination one- and two-story structure measured 180 feet (54 meters) by 100 feet (30 meters) with a section that created a second floor measuring 100 feet (30 meters) by 75 feet (22 meters). Steel with heavy-timber framing formed the floors and roof, and brick covered the exterior walls. For the most part, armory's roof was flat and covered by a rubber membrane, although one section of it was topped by a pitched wooden false roof that created a void over a leaking portion of the flat roof. There were no sprinklers.

The fire is thought to have begun when cardboard boxes stored in a first-floor kitchen next to a propane-fired gas grill top came in contact with the grill's standing pilot and ignited. The fire spread through the drop ceiling in the kitchen, then into a second-floor gym and offices. It also spread into the pitched roof and other voids in the building before it was detected.

The building, valued at \$525,000, and its contents, valued at \$300,000, suffered damages of \$200,000 and \$100,000, respectively. There were no injuries.

Kenneth J. Tremblay, 2004, Firewatch, *NFPA Journal*, November/December, 18.

Heat from gas grill causes \$4.5 million fire, Pennsylvania

A single-family house was heavily damaged when heat from a propane gas-fired grill ignited the wood siding. The fire spread through a roof overhang into the attic and caused \$4.5 million in damage before firefighters could control it.

The two-story, wood-frame house, which was 50 feet (15 meters) long and 30 feet (9 meters) wide, had wood sidewalls and a wood-shake roof. There were no sprinklers, but there were smoke alarms, which operated during the fire.

The barbeque grill was left close to an exterior wall. To cook off the grease and food remaining on the grill, the residents left the propane gas burners on. Heat from the grill ignited the wood siding, and the fire spread to the second floor and attic.

The house, valued at \$4 million, sustained \$2 million in damage. Its contents, valued at \$6 million, sustained \$2.5 million in damage. One firefighter was injured.

Kenneth J. Tremblay, 2002, Firewatch, *NFPA Journal*, May/June, 30.

Sprinklered apartment building destroyed by fire in unprotected areas, Ohio

A fire that began on the balcony of a third-floor apartment spread to concealed spaces above the residential sprinkler system in this large building. The balconies allowed the fire to spread around the nearest fire wall, which meant the blaze burned in two fire divisions, as well as the concealed spaces.

The three-story, 27-unit apartment building was 210 feet (64 meters) long and 30 feet (9 meters) wide. Wood framing and trusses were used for walls and floors, and asphalt shingles covered the roof. The building was divided by two-hour-rated fire walls into three fire divisions, each containing three units on each floor. Sprinklers had been installed in each apartment based on NFPA 13R, *Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height*. Single-station smoke alarms were also present in each unit.

The fire was first detected by a resident returning home after work, who called the fire department at 4:45 a.m. Several other occupants were awakened by the sound of flames and by other occupants, who beat on their doors to sound the alarm. All the occupants evacuated safely, some with help from first-arriving firefighters.

Responding within seven minutes of the alarm, firefighters noted flames coming from the roof. Firefighters from two engines and a medical unit placed two hose lines on the

building's upper floors, while others completed the connection to the water supply. The incident commander immediately called for additional help, including an aerial platform and ladder.

The fire appeared concentrated in the attic at the center of the apartment building, but flames threatened to spread to either side of the structure. After aerial master streams had been used to slow down and shrink the fire, interior hose lines were used to attack remaining fire pockets. During what they thought was the overhaul phase, firefighters discovered that the flames had spread to the other fire divisions through the ceiling/floor voids. They opened up the ceilings and walls to complete extinguishment.

Investigators determined that the fire began on the balcony of a third-floor unit in the center of the building. Although the exact ignition scenario couldn't be confirmed, a propane-fired gas grill that had recently been used appears to have failed or been left partially turned-on, leading to the ignition. Flames spread to the attic, then above the sprinklers in the concealed space.

The blaze intensified as the grill's propane cylinder failed, releasing gas into the flames. The propane cylinder of the gas grill on the adjacent balcony also failed as the fire spread around the fire wall separating them. The two cylinders feeding the fire had what investigators called a "direct and devastating" effect. Three sprinklers operated late in the fire, when flames finally spread into areas protected by the sprinkler system.

One firefighter cut his hand during overhaul, and a resident was injured when she fell while leaving the building. The building, valued at \$1.2 million, suffered losses estimated at \$1 million. Damage to the contents, valued at \$275,000, was estimated at \$200,000.

Kenneth J. Tremblay, 2001, Firewatch, *NFPA Journal*, March/April, 22.

Fire started after mattress placed against grill, Colorado

An outdoor charcoal grill ignited a mattress placed against it on a balcony of a three-story apartment building. Wood on the deck was also ignited. Flames spread to the attic and concealed spaces, heavily damaging the 24-unit building.

The wood-frame apartment building was 200 feet (61 meters) long and 50 feet (15 meters) wide. Single-station smoke alarms had been installed in each unit, and there were manual pull stations at points of egress. A wet-pipe sprinkler system provided coverage to all living spaces.

A third-floor resident saw the fire on the porch and tried unsuccessfully to extinguish the flames with a portable fire extinguisher. He called 911 at 12:10 p.m., as did a passerby. The fire spread to the attic above the sprinklers, and flames spread along the roof line; a drop-down fire inside the building was controlled by five sprinklers.

Investigators determined that the unit's occupant had placed the mattress against the grill he'd used 12 hours earlier and heat from the briquettes ignited the mattress. The structure, valued at \$1 million, sustained losses of \$250,000. Contents, valued at \$300,000, had losses of \$75,000. There were no injuries.

Kenneth J. Tremblay, 2001, Firewatch, *NFPA Journal*, September/October, 26.

Propane gas grill fire spreads from apartment balcony, Wisconsin

A propane gas grill on a fourth-floor balcony leaked fuel, which ignited, and the resulting fire spread to the apartment building roof.

The four-story building, constructed of wood framing with a brick veneer, housed several apartments on the second, third, and fourth floors. Retail businesses were located on the first floor, and there was a parking garage in the basement. Smoke alarms were installed throughout, and there were heat detectors in the attic and mechanical rooms. Manual pull stations were located on every floor. A residential wet-pipe sprinkler system installed in compliance with NFPA 13R, *Installation of Sprinkler Systems in Residential Occupancies Up To and Including Four Stories in Height*, was operational at the time of the fire.

The fire began when the occupant of a fourth-floor unit started a propane grill on her balcony in preparation for cooking. She had only had the grill for about a month and had difficulty lighting the grill due to a faulty igniter switch. To start the grill, she resorted to either matches or lighted pieces of paper.

As she waited for the grill to warm up, the woman got a phone call and after five minutes shut off the grill. When she returned 45 minutes later, she restarted the grill again using a match when the igniter didn't work. Once the fire was going, however, she noticed flames near the neck of the propane cylinder. Although she immediately turned the burners off, the fire still burned at the cylinder. The woman called 911 to report the fire, then returned to the balcony to find that the fire had spread to the floor.

The woman tried to control the fire, but the flames continued to spread, so she left the apartment with her 4-year-old son. On the way out, she told occupants of the building she met in the stairwell about the fire but failed to activate a pull station that would have alerted the entire building.

Attempts by two occupants to control the fire with a portable extinguisher knocked down about 70 percent of the blaze, but failed to extinguish the flames that soon reached the ceiling of the balcony.

Responding to the 7:13 p.m. call, firefighters found fire on the top floor. Shortly after their arrival, they' saw fire rolling across the fourth-floor ceiling. They later discovered fire in the eaves, but didn't realize fire was in the attic above them. When firefighters

discovered there was no standpipe connection available, they lowered ropes from a fourth-floor window and pulled a hose line up.

A second alarm was sounded as firefighters fought for more than two hours to control the fire.

Investigators determined that the fire began when a propane gas leak was ignited by the grill's burners. The fire then spread to combustible wood framing and roof supports, through the vinyl and aluminum covered soffits. The residential sprinkler system in the apartment operated, but the fire spread in the attic. Eventually, the ceiling collapsed. Fire spread from the deck into the fourth floor was reduced by the sprinkler system, which didn't extend to the attic and roof.

The building suffered a \$2 million loss. There were no injuries during the fire.

Kenneth J. Tremblay, 2000, *Firewatch*, *NFPA Journal*, July/August, 18.

Propane leak causes blaze, California

A street celebration was interrupted when propane escaping from an improperly installed tank ignited and melted a nearby natural gas regulator.

The incident occurred in the town's historic district outside a restaurant where a portable cooking grill and wooden folding tables had been set up for the celebration. The single-story building measured 128 by 24 feet and contained four occupancies. It was constructed predominantly of brick and mortar with a tar and gravel roof. An addition constructed of unprotected wood framing contained the restaurant's kitchen. The structure had no smoke detectors or fire suppression systems. At the time of the fire, the restaurant and one other occupancy were open.

The restaurant had set up a homemade propane-gas-fired barbecue, measuring 18 by 60 inches, along a wooden sidewalk just outside the kitchen. The grill, which was supported by four legs with wheels, had removable grates and a metal top. Under the grill was a metal shelf with two propane gas burners and a 5-gallon LP-Gas tank connected to the burners by a rubber hose. Because the space between the shelf and the grill was small, the LP-Gas tank was unsecured and sitting at a 45-degree angle.

A shop owner from across the street saw the restaurant manager working around the LP-Gas tank and noticed the tank venting liquid propane four or five times. Shortly afterwards, the propane ignited, and the shop owner saw a flame resembling a blowtorch coming from the tank. The flame hit a natural gas regulator on the building, causing it to fail. The leaking natural gas ignited, and flames spread along the outside of the kitchen's wooden wall to the wood shake-shingle roof and the attic. Several shop owners tried unsuccessfully to extinguish the blaze with portable extinguishers

The fire department received numerous calls reporting the fire at 5:50 p.m., and an engine company responded from three blocks away. Firefighters used a deck gun and a hose line to try to control the blaze, which was spreading. A second engine company tried to establish a water supply line from a nearby hydrant, but firefighters couldn't remove the frozen hydrant caps. The company then advanced a hose line inside to control fire spread using water from the unit's tank until a water supply could be established. A third engine company provided water to the second company from a distant hydrant. Firefighters extinguished the blaze after the natural gas line was shut down.

Investigators interviewed several witnesses and watched a videotape that someone at the celebration had taken from the time the propane tank first vented. They determined that the improperly installed LP-Gas tank had come into contact with the bottom of the grill and that heat from the grill heated the propane, forcing it to vent through the pressure relief valve. The heated cylinder vented several times before gas ignited. The improperly installed tank exposed the supply hose, which failed, causing more propane to escape.

The restaurant manager suffered first- and second-degree burns on his arms and was brought to a local hospital for treatment. No one else was injured. Damage to the building, valued at \$364,924, and its contents, valued at \$100,000, was estimated at \$85,000 and \$10,000, respectively

Kenneth J. Tremblay, 1998, *Firewatch, NFPA Journal* May/ June, 36.

Grill ignites combustibles on apartment building's balcony, Utah

A blaze that began on the wooden balcony of an apartment complex when a barbecue grill ignited combustibles spread to other balconies and to ceiling/roof concealed spaces. However, sprinklers prevented the flames from spreading into the apartments' living spaces.

The three-story building was of protected, wood-frame construction. It had eight units on each floor and a parking garage in the basement. The 9-year-old structure contained smoke detectors and a sprinkler system. At the time of the fire, the building was occupied mainly by students from a local university.

Firefighters arrived to find the exterior wooden balconies on all three floors involved in fire and flames, which extended to the roof. Firefighters connected to nearby hydrants and stretched hose lines to the second and third floors and to the rear of the building. They also searched the 12 units that were exposed to the fire.

A single sprinkler in the second-floor apartment of origin kept the blaze from spreading to the interior, and six sprinklers in the unit above held the fire in check. To reach flames that had spread to the concealed ceiling/roof space on the third floor and vented from the roof, firefighters had to open up the ceilings and use a scuttle hole.

An occupant of the second-floor apartment of origin had cooked food on a small portable hibachi on her balcony at approximately 8:00 p.m. At 9:00 p.m., she left the hibachi outside to cool, along with a bag of charcoal and lighter fluid. Around 1:30 a.m., she placed a cardboard box on the balcony next to the barbecue. At approximately 3:00 a.m., smoke detectors began to sound, and residents of the complex noticed flames on the balcony. Occupants who first became aware of the fire alerted others, and at 3:10 a.m., someone called 911.

All the occupants, who had received emergency planning information the previous evening, escaped without injury. Some said they followed the directions they'd just read.

Fire damaged all three floors and the attic, and water damaged the building to varying degrees. The loss to the building, valued at \$2 million, was estimated at \$150,000.

One fire official said that without the sprinkler system, "the majority of this building would have been in the [basement] parking garage."

Kenneth J. Tremblay, 1996, *Firewatch, NFPA Journal* March/April, 23.

Apartment building severely damaged when escaping propane ignites, Virginia

A fire that began when propane was accidentally released from the tank of a barbecue grill severely damaged an apartment building. The blaze spread quickly through open doors and windows, forcing firefighters to stage a defensive attack.

The two-story, wood-frame apartment building consisted of eight units on each side of a common fire wall. The building had no automatic fire detection or suppression systems.

A resident of a first-floor apartment was removing the propane tank from his grill and left the cylinder valve open, causing a release of propane. The resident, who was deaf, would have been unable to hear the sound of escaping gas, but he said he smelled propane after removing the tank and closed the valve. Since the valve was found open, however, it appears that his actions were ineffective or that he was wrong. The fire began when the resident accidentally dropped the tank on the slate patio floor, causing a spark that ignited the propane.

A resident of the apartment above the unit of fire origin was sitting on her patio when she heard the resident scream and her balcony was enveloped by a fireball. She entered her apartment, leaving the patio door open, and called 911. She then left the building, banging on a neighbor's door to warn them of the fire.

The man at whose apartment the fire began was burned and ran from the building. He was helped by a neighbor, who was a nurse. All of the other residents escaped without injury.

The fire quickly spread through the open patio door of the unit of origin and to the wood deck of the balcony above, reaching the attic and roof. Arriving firefighters, who found the building heavily involved in fire, used hand lines and master streams on aerial apparatus to extinguish the blaze.

The occupant of the unit of origin suffered burns to his arms, face, legs, and the fingers of one hand. Damage to the property, which was valued at \$2 million, was estimated at \$1.2 million. The property manager indicated that propane tanks were prohibited at the building and that all occupants were required to sign a letter confirming that they had none.

Kenneth J. Tremblay, 1994, Firewatch, *NFPA Journal* May/June, 28.

Charcoal grill used inside home ignites fire; kills one, Florida

A 60-year-old man died of burns he sustained in a fire that started when he used a charcoal grill in a bedroom of his home. Lack of an operating smoke detector and the fact that the man was intoxicated contributed to the fire spread and to his death.

The single-story house was of unprotected wood-frame construction and measured 30 by 30 feet. It did not contain any automatic sprinklers, and its battery-powered smoke detector was not operational.

A passerby discovered the fire and told neighbors to call the fire department at 2:12 p.m. Firefighters arrived 2 minutes later and observed heavy smoke coming from the dwelling and fire showing from the bedroom. They forced open the front door and advanced a 1 3/4-inch hand line into the living room, down a hallway, and into the bedroom. Once they had brought the blaze under control, the firefighters conducted a search and found the dwelling's occupant in the living room, suffering from burns and smoke inhalation. He was transported to a hospital.

When they overhauled the fire, firefighters found a charcoal grill in the bedroom next to open windows. The injured occupant told firefighters that he had been cooking on a charcoal grill inside the bedroom because it was raining outside. He had been drinking alcohol and was resting on the sofa in the living room while the food was cooking when he fell asleep. He awoke to find the house full of smoke and a fire in the bedroom. He unsuccessfully tried to extinguish the fire himself, but had to retreat to the living room, where he was overcome by smoke. Investigators determined that wind from the open windows blew the draperies into the grill. They ignited and the fire spread to other nearby combustibles.

Eight days after the fire, the man, who had suffered second-degree burns over 40 percent of his body, died from a secondary infection. Damage to the house and its contents, which were valued at \$49,000, was estimated at \$20,000.

Kenneth J. Tremblay, 1994, Firewatch, *NFPA Journal* July/August, 32.