Evacuation is always a problem in high-rise buildings when fire strikes. In this building, the evacuation problem was complicated by the fact that most of the occupants on the seventh floor, the floor of origin, were foreigners who did not speak English. Nevertheless, through the efforts of the local Police and Fire Departments, 119 guests in this hotel were evacuated within 12 minutes and there were no fatalities.

(See story on following pages)

Fire fighters were able to reach seventh and eighth floor windows to evacuate some guests. Most of the seventh, eighth and ninth-floor occupants used the stairs to exit from the building when a fire on the seventh floor filled the corridors with intense heat and smoke.

PEORIA Journal Star
The Peoria fire occurred on February 13, 1975, on the seventh floor of the nine-story Howard Johnson's Motor Lodge. It was confined to the room of origin, but the door to the room had been left open and severe heat and heavy smoke filled the seventh-floor corridor, creating an extremely serious evacuation problem. A medium amount of smoke also entered the eighth floor, and a small amount of smoke entered the ninth-floor corridor through one of the stairwells.

THE BUILDING

The Motor Lodge was nine stories high with a basement, and was built in 1966-67 of fire-resistant construction with reinforced-concrete columns and floors. The floors were seven inches thick on all upper floors except the eighth floor, which was 13 inches thick. The distance between floors was 9 feet 1 inch.

The room partitions were metal stud walls with a ¾-inch rigid insulation board on one side covered with ¾-inch gypsum wallboard and ⅜-inch prefinished wood paneling on both sides. The partitions between every other room did not have the wood paneling; instead, they had a vinyl fabric wall cover and a sound-attenuation blanket between studs.

The doors to the guest rooms were solid-core doors without automatic door closers. The stairwell doors were Class B, ½-hour-rated fire doors with self-closing devices. The floors of the corridors and the guest rooms were carpeted. Ceilings were coated with a sprayed-on acoustical material, applied directly to the concrete of the floor above.

The heating-and-cooling system was a two-zone, two-pipe system with hot or chilled water pumped from the equipment room in the basement to the individual room units located on the outside wall. The ventilation system exhausted air from the rooms through vents in the bathrooms to the roof. Make-up air was 40 to 50 percent outside air forced into the corridors, creating a positive pressure throughout the building.

The hotel was not sprinklered, but did have a wet standpipe hose system with a Fire Department pumper connection. There was a fire alarm system with local horn alarms, but no alarm connection to the Fire Department. The alarm horns and pull stations were located in the center of each floor. There was one alarm station per floor, plus additional units in the first-floor restaurant. Combination fixed-temperature and rate-of-rise heat detectors were located in the supply room on each floor and in the stairwell on every odd-numbered floor.

The basement and first floor were equipped with portable fire extinguishers, but there were no extinguishers on the upper floors.

Two automatic passenger elevators were located in the west end of the hotel. Behind the elevators was a storage room that held bedding supplies and foldaway beds. Two stairwells were on each floor: one at the
east end and one at the west end of the building. A rubbish disposal chute was also located in the storage area. Between the storage room and corridor was a small area that contained ice and soft drink vending machines on even-numbered floors, and was equipped with a sink and cabinets on the odd-numbered floors for use by the hotel cleaning staff. The seventh floor area contained the sink and cabinet arrangement. The door to this area was almost directly across from the room of fire origin. During the fire, the door to this area from the corridor was open, but the second door to the storage area was closed. (See Figure 1.)

The layout of the seventh-floor rooms was typical of modern single-bedroom hotel rooms, with a small bathroom, plus the usual bench-type furniture to hold luggage along one wall, and a clothes rack. There was one double bed in each room, plus chairs, tables, lamps, and a television set.

The first floor of the hotel was 95 feet by 130 feet, more than twice the area of the upper floors; it contained the lobby area, a restaurant and kitchen, banquet or conference rooms, and a lounge. The second through the seventh floors were 48 feet by 110 feet; each contained 14 single-bedroom guest rooms. The eighth and ninth floors were 60 feet by 110 feet; there were 14 rooms on the eighth floor and 12 rooms on the ninth, which included double bedroom units and two parlor rooms.

The eighth and ninth floors were cantilevered over the second through the seventh floors, projecting six feet on both the north and south sides. (See Figure 2.) This created a six-foot-wide horizontal concrete barrier between the seventh and eighth-floor windows. This barrier apparently prevented the fire from spreading externally to the eighth-floor room above the room of origin. The windows on the eighth and ninth floors (Rooms 802 and 902) above Room 702, the room of origin, were broken by the heat, but the contents of the rooms were not ignited.

THE FIRE

The fire occurred sometime around 1:00 am. There were 125 guests registered at the Motor Lodge, 112 of whom were attending a construction equipment exposition in the city. Many of the conference attendees located on the upper floors of the Lodge were from Australia, Brazil, Canada, Denmark, and Ecuador. Most of the seventh-floor occupants did not speak or understand English. There were no children and very few women guests in the Lodge on the day of the fire. One hundred and nineteen guests were in the Lodge at the time of the fire, plus the desk clerk and a porter.

One of the guests returned from a party at another hotel and attended a party on the ninth floor of the Howard Johnson's Motor Lodge. Some time later he left the party and went to his room, where he turned on the TV set and lay down on his bed. The next thing that he remembered was waking up to find his mattress on fire. He attempted to get the mattress out of the room by pushing it out the window. The mattress burst into flames, and he was unable to get it through the window. He then left the room, leaving the window and the door to the room open. He went by elevator to another floor of the Motor Lodge and eventually left the building without notifying anyone about the fire or sounding an alarm.

The Peoria police were patrolling the area around the city's hotels and taverns on the night of the fire because of the large number of out-of-town visitors attending the manufacturing conference. Several policemen were in the parking lot of a motel across the street.
from the Motor Lodge when the fire occurred. A woman reported the fire to the policemen in the motel parking lot, and they proceeded immediately to the Motor Lodge. While crossing the street, they could see flames billowing approximately 15 feet out of the seventh-floor window. They notified the Fire Department by radio through the police dispatcher, then went inside the building and up to the sixth floor, where they began to pound on doors and kick doors open to alert the guests; they then evacuated them from the floor by the stairways.

The officers charged the standpipe hose on the west end of the sixth floor and attempted to enter the seventh-floor corridor, but they were driven back by intense heat and very dense smoke. They found that the straight stream nozzle did not provide protection from the heat of the fire. They secured the still-operating hose in place by closing the stairwell door against it, and they then retreated down the stairway to the sixth floor where they proceeded to the east end of the Motor Lodge. There, they took the sixth-floor standpipe hose from that end of the building and again attempted to enter the seventh-floor corridor. Because the smoke and heat were less intense on the east end of the building, the police officers were able to reach the seventh-floor standpipe hose and proceed down the hallway with it, bouncing water off the walls and ceiling, and knocking on and kicking in doors to arouse the occupants.

The police officers heard an occupant pounding on his door on the north side of the floor. The guest told them that he couldn't get his door open. The police officers kicked that door open. Fire fighters and other police officers arrived to assist in the evacuation.

The Fire Department received the first alarm at 1:20 am and responded with three engines, three aerial ladder trucks, one elevating platform, and one rescue unit. The first-responding unit arrived at the Motor Lodge at 1:24 am; fire fighters could see the fire as they approached the Motor Lodge. The assistant chief immediately struck a second alarm; a third alarm was called at 1:36 am.

Fire fighters using breathing apparatus immediately assisted the police officers in evacuating the seventh, eighth, and ninth floors. The fire in Room 702 made the west stairway inaccessible, and most of the seventh-floor occupants were evacuated down the east stairway. It is estimated that between 5 and 12 guests on the eighth floor were taken down aerial ladders. The 100-foot aerial ladder trucks were positioned on the south side of the Motor Lodge and also in the parking area on the north side of the Motor Lodge.

Police officers and fire fighters checked the eighth and ninth floors and the floors below the seventh floor, and assisted the remaining occupants down the stairways. The total time required to evacuate the building was estimated to be 12 minutes. One officer, while assisting a guest down the stairs, reported that he was knocked to the floor by another guest who was trying to leave the building.

The Fire Department extinguished the fire with little difficulty, using 1½-inch hose lines from an aerial ladder and from the hotel standpipe system. The total Fire Department response was seven engines, three 100-foot aerial ladder trucks, one elevating platform, one rescue unit, five assistant chiefs, and 32 fire fighters.

The manager of the Motor Lodge heard the news of the fire on a police radio scanner in her home and rushed to the scene. She arrived in less than 10 minutes and saw fire apparatus in front of the Motor Lodge, flames shooting from the windows, and guests being evacuated.

She went to the basement and shut off the electrical power to the elevators, bringing the elevators to the basement level after first making certain that they were not being used by the Fire Department or occupants. Then the manager went to the lobby and started to make a roster of the Motor Lodge's guests.

**OCCUPANTS' REACTION**

The occupant of Room 710 on the seventh floor, who was trapped in his room by the fire, commented that it was the most terrifying experience of his life and that at one point he almost gave up hope of being rescued as the smoke and gases from the fire began to fill his room rapidly.

When the fire apparatus arrived and fire fighters immediately began to raise aerial ladders toward his room, he knew there was hope even though the smoke in his room was becoming dense. Before the aerial ladders reached his window, however, a fire fighter broke down the door, and led him out into the corridor and safely down the east stairway.

Another occupant stated that he did not hear the fire alarm, but had been awakened by the heat and smoke. He telephoned his uncle, who was staying in another room, and told him not to go into the hall until he felt
the door to see if it was hot. Then he began to look for a way out himself. He could not get out the door, so he broke a window and inhaled fresh air. By this time the elevator platform was being put into operation; however, it malfunctioned. The occupant then decided to tie bed sheets together, fasten them to the window, and swing down to the next floor. But before he could do this, a police officer came to the door and helped him to safety.

The occupant in Room 709 (see Figure 1) tried to reach the east stairway, but became confused and went toward the west stairway, where the fire was, instead. One of the police officers, while attempting to enter the seventh-floor corridor by crawling on the floor, encountered the man lying face down near Room 702. He grabbed the man by the ankles and pulled him away from the fire, toward the exit. The officer went down the stairway for air and summoned another officer to help him. The two officers then returned to the guest, pulled him into the stairway, and administered mouth-to-mouth resuscitation as they carried him down the stairs to an ambulance.

There was one interpreter for each five to ten foreign visitors on the seventh floor. The reaction of these non-English-speaking guests to the fire was not documented, but it is reported that they were highly confused by the noise and activity and did not understand the shouted commands to evacuate the building. However, fire fighters and police apparently had no unusual difficulty in convincing these guests to leave; the guests were delighted to get out of the building.

INJURIES AND BUILDING DAMAGE

The fire consumed all of the contents of Room 702, the room of fire origin, and damaged the door to the storage room across the hall. The bed frame and bedsprings in Room 702 were found approximately in the center of the room. The hottest spot on the bedsprings and frame appeared to have been at the head of the bed on the left side, facing the headboard. The remains of the television set were found on the floor on the opposite side of the room, which was the normal placement of the television set in each room.

The carpeting in the room was consumed, but the carpeting in the corridor did not burn except for charring in a small area directly outside the door of the room of origin. The seventh-floor corridor walls and ceiling were lightly spalled and damaged by smoke and heat, and had to be refinished. The eighth and ninth floors suffered smoke damage, and there was some smoke and water damage in the lobby.

As a result of the fire, the hotel was closed for three weeks, and the seventh floor was not occupied for a number of weeks after that, while repairs were being

Interior of the room of origin. The bed is in the center right of the photograph.
completed. The loss for building and contents was estimated at between $750,000 and $1,500,000.

There were no fatalities resulting from the fire. However, two police officers and the occupants of Rooms 604, 701, 704, 709, 711, 807, 902, 907, and 909 were admitted to intensive care units of local hospitals for treatment and observation. The occupant of Room 709 suffered first-degree burns on his face; all of the others were treated for smoke inhalation and minor cuts and bruises. One fire fighter suffered a heart attack during the fire and was also taken to the hospital, where he was admitted to the intensive care unit.

ANALYSIS

The ignition source of the fire was not determined, but it is theorized to have been a cigarette when the occupant of Room 702 fell asleep while smoking in bed. The occupant of the room was known to be a smoker, and was asleep in bed when the fire started.

The cantilever construction of the eighth floor over the seventh floor is believed to have prevented the fire from spreading externally to the upper floors.

The presence of the police officers in the immediate vicinity of the Motor Lodge and their early alerting of the occupants, as well as their fire-fighting and rescue actions, most certainly saved one life and possibly many more.

If the doors to the individual guest rooms had been equipped with self-closing devices, or if the building had been sprinklered, the fire probably would have been confined to the single room of origin without endangering the lives of half of the occupants of the building.

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This fire was investigated by Richard Best, NFPA Fire Analysis Specialist, who gratefully acknowledges the assistance of Chief T. D. Hunt, Peoria Fire Prevention Bureau, and the Peoria Police Department.

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FIRE JOURNAL HAS NEW EDITOR

In case you haven’t noticed, there has been a change at the helm of FIRE JOURNAL.

Chester I. (Chet) Babcock, who has been on the masthead as Editor since 1968, is now Director of NFPA’s Editorial Services Division. His promotion to that position, which includes management responsibility for the Association’s extensive editorial operations, was effective May 30, 1975.

The new Editor of the JOURNAL is Paul E. Teague. He has been Acting Editor since January, 1975, when Mr. Babcock was promoted to Assistant Director of the Editorial Services Division.

Mr. Babcock joined the NFPA in 1946 and was assigned to the Fire Record Department. Later, he became Manager of that Department and Staff Chemist. In 1959, he was appointed Associate Editor of the NFPA Quarterly (predecessor of FIRE JOURNAL), and filled the same role with the JOURNAL until becoming Editor in 1968.

As part of his new, expanded duties, Mr. Babcock is Managing Editor of the JOURNAL and the NFPA’s two other magazines, Fire Command! and Fire Technology.

Mr. Teague joined the NFPA in July, 1974 as a Technical Editor. A newspaperman for 12 years, he had most recently been Editor of the Cambridge Chronicle, a weekly newspaper in Cambridge, Massachusetts.

[Signature]

President