BOARD AND CARE FACILITY FIRE
Shelby County, Tennessee
February 8, 1996
FIRE INVESTIGATION REPORT

Board and Care Facility Fire
Four Fatalities
Shelby County, Tennessee
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ABSTRACT

At approximately 11:45 p.m. on February 8, 1996, a fire occurred in a Shelby County board and care facility that was housing elderly residents. The fire was caused most likely by improperly disposed smoking materials. Smoke from the apartment of fire origin spread to other apartments through open doors. Four residents died as a result of this fire.

The 20-year-old facility had six wings and a central core. All areas were of wood-frame construction, and wall and ceilings assemblies were covered with gypsum wall board. Four of the wings contained apartments for elderly residents and two wings contained apartments for elderly residents with special needs. These two wings will be classified as board and care occupancies. The fire occurred in one of the board and care wings. All areas in the building had various fire protection provisions including smoke detectors, fire alarms, fire doors, and door self-closing devices. In addition, the staff was reportedly trained with regard to fire safety.

The building construction and most fire protection equipment that was provided performed well. In many areas, gypsum wall board walls and ceilings restricted the spread of combustion products. Smoke detection and fire alarm systems operated and cross-corridor doors equipped with self closing devices remained closed, again, restricting the spread of combustion products to the wing of fire origin.

However, self-closing devices for many apartments, including the apartment of fire origin, had been removed or deactivated allowing doors to remain open. The open doors permitted smoke to spread from the fire apartment, fill the corridor with smoke and spread into several other apartments. Thus, the open doors compromised much of the benefit afforded by the gypsum wall board wall and ceiling assemblies.

Staff rescued the resident in the apartment of fire origin, but he died several days later from burn injuries. Two other residents suffered smoke-related injuries and died in their respective apartments. Twenty-seven days after the fire, a fourth resident also died of a smoke-related injury.

Based on the NFPA's investigation and analysis of this fire, the following factors were considered as having contributed to the loss of life in this incident:

- Improperly disposed smoking materials
- Lack of automatic sprinkler protection
- Ineffective response of some staff members
- Failure of occupants to respond effectively to operating fire alarms
- Room doors that remained open due to the deactivation of door self-closing devices and chocks
I. Introduction

The National Fire Protection Association (NFPA) investigated the Shelby County board and care facility fire to document and analyze significant factors that resulted in the loss of life.

The investigation was conducted by the NFPA as part of its on-going program to investigate technically significant incidents. The NFPA's Fire Investigation Department documents and analyzes incident details so that it can report lessons learned for life safety and property loss mitigation purposes.

After NFPA became aware of the Shelby County fire, NFPA sent Michael S. Isner, Senior Fire Investigator and Walter Sterling, Senior Fire Protection Specialist to Shelby County, Tennessee, to perform an on-site study of this incident. That two-day, on-site study documentation and subsequent analysis of the event were the basis for this report. Entry to the fire scene and data collection activities were made possible through the cooperation of the Shelby County Fire Department.

This report is another of the NFPA's studies of fires that have particular important educational or technical interest. All information and details regarding fire safety conditions are based on the best available data, observations made during the on-site data collection phase, and on any additional information provided during the report development process. NFPA's intention is not that this report pass judgment on, or fix liability for, the loss of life or property resulting from the fire. Rather, NFPA intends that the report present the findings of its data collection and analysis effort and highlight factors that contributed to the loss of life.

Current codes and standards were used as criteria for this analysis so that conditions at the Shelby County board and care facility on the day of the fire could be compared with state-of-the-art fire protection practices. It is recognized, however, that these codes and standards may not have been in effect during construction or operation of the facility. The NFPA has not analyzed the Shelby County board and care facility regarding its compliance with the codes and standards that were in existence when the facility was built or during its operation.

The cooperation of the Shelby County Fire Department made this investigation and report possible. The NFPA appreciates the assistance of Fire Chief Michael Molder, Fire Marshal Melvin Peek, and others at the Shelby County Fire Department.
II. BACKGROUND

The Facility

The facility was a residential complex providing housing, meals, and other services to retired people. The ages of residents ranged from early 60's to late 90's. Approximately 180 residents and six professional managers lived in the complex's 162 apartments. The facility also had 24 staff members that did not reside at the facility. These staff members included eight dietary personnel, seven housekeepers, one maintenance person, and eight health care providers.

The building was an irregularly-shaped, two-story structure with a central core and six wings. (See Figure 1.) Four of the complex's six wings (i.e., A, B, E, and F) contained apartments for self-sufficient, retired people. According to the 1994 edition of NFPA 101® Life Safety Code, criterion, these wings could be classified as "Existing Apartment Buildings." Most of the apartments in these wings had one bedroom; however, a few had two bedrooms. Each apartment had a fully equipped kitchen and a bathroom. (See Figure 2.) An assistance pull cord was provided in all bathrooms. These cords sent signals to alarm panels in the main office and two nurses stations. The living rooms typically had an upholstered couch and chair, lamp tables, window dressings, and wall hangings. The bedrooms had residential-style beds, night stands, and bureaus. Hanging clothes were kept in closets rather than wall-mounted wardrobes.

![Figure 1: Plan of Complex.](image-url)
Facility managers referred to the complex's other two wings (i.e., C and D) as the "extended care" wings. These wings were designated for residents who required and were provided with a higher level of personal care as compared to the other residents. The extended care wings contained 54 one- and two-bedroom apartments; 28 apartments were in Wing C and 26 apartments were in Wing D. The apartments for the residents receiving extended care were identical to the apartments for the residents in the rest of the complex. Although the residents of the extended care wings required a higher level of care, all were apparently capable of independent living and still capable of going to central community areas without assistance.
Nurses and nurses aides were assigned to the extended care wings and provided 24-hour care. Four nursing staff members worked from 7:00 a.m. to 3:00 p.m., three worked from 3 p.m. to 11:00 p.m., and one worked from 11:00 p.m. to 7:00 a.m. Wings C and D each had a nurse’s aide station from which 24-hour staff could work. A registered nurse supervised the residents’ use of medicines, and nurses aides assisted residents with daily activities. The staff did not give medicines to the residents and did not use intravenous equipment as part of the care that they provided. Apparently, none of the care that was being provided would have impaired any resident’s ability to self-evacuate.

Local investigators determined that staff considered all the residents to be ambulatory, but, in an emergency, they required assistance due to their restricted mobility and declining alertness. Based on this information and the care that was being provided, the extended care wings, Wings C and D, appeared to most closely resemble an “Existing, Large Board and Care Facility” according to the 1994 edition of the Life Safety Code. Local fire and building officials (i.e., authorities having jurisdiction) classified the entire complex as an unassisted living facility, an occupancy classification that was not regulated by the State of Tennessee.

Building Construction

The entire building was of wood-frame construction and would be classified as Type V (000) construction in accordance to NFPA 220, Standard on Types of Building Construction, 1995 edition. (See Photo 1.) Exterior bearing walls were constructed with 2 x 4-in. studs, a combustible sheathing, brick veneer, and a gypsum wall board interior surface. The gable-style roof was covered with asphalt/fiberglass shingles

1 The Life Safety Code contains requirements for both new and existing buildings. The requirements for existing board and care facilities were used during this code analysis because the Shelby County facility was not new at the time of the fire.

2 A Type III (200) structure will have a 2-hour fire rating for the exterior bearing walls (first digit); a 0-hour fire rating for structural frame or columns and girders supporting loads for more than one story (second digit); and a 0-hour fire rating for the floor construction (third digit).
and was supported by prefabricated wood trusses. Gypsum wall board was nailed directly to the bottom chord of the trusses and served as the ceiling for the second floor apartments. The floor for the second story of the building was plywood covered by gypsum concrete. Interior walls were framed with 2 x 4-in. studs and were covered with painted gypsum wall board. The gypsum wall board on walls separating apartments was continuous through the attic and extended up to the underside of the roof sheathing materials in most areas. The gypsum wall board on walls separating apartments from the corridor also was continuous through the attic. However, this gypsum wall board stopped approximately 1-in. to 2-in. (25.4-mm to 50.8-mm) below the ridge board, leaving a small communicating gap between the wall board and the ridge board.

The original building permit was issued on July 26, 1983. Several construction phases occurred with the last wing being completed and its final occupancy certificate being issued on January 16, 1986. The fire occurred in a section that was constructed in approximately 1983.

**Fire Protection Features**

Automatic sprinklers were installed in the central community building, but were not installed in the wings containing the apartments. Fire extinguishers and emergency lighting units were installed throughout the complex.

Masonry walls with parapets serving as fire separations were constructed at regular intervals between groups of apartments. On the wing of fire origin, 14 apartments (seven on each floor) were located between the fire walls. The corridor openings in these fire walls were protected by 1 1/2 hour fire resistance rated, self-closing fire doors that were held open by magnetic hold-open devices. Corridor walls were constructed of two layers of 5/8-in. (16-mm) gypsum wall board. The layer exposed to the corridor was Type X gypsum wall board, which had a higher resistance to fire as compared to standard gypsum wall board. Doors separating the apartments and corridor had a 20-minute fire resistance rating and were equipped with self-closing devices.

The building had two separate fire detection systems. One system included single-station smoke detectors that were installed in each apartment’s living room. When activated, the smoke detector would sound an alarm only in the apartment and also would send an alarm signal to annunciator panels located in the main office and at the two nurse’s stations. The second smoke detector system included detectors in the corridors. Manual pull stations also were provided in the corridors. The activation of a corridor smoke detector or a manual pull station initiated a building-wide fire alarm, sent signals to the three above-mentioned annunciator panels, and released magnetic hold-open devices for cross-corridor fire doors at the fire walls. No provision for automatic fire department notification was provided on either system.
Staff/Occupant Training

All new employees were required to be trained regarding the facility's fire and disaster plan, location of fire extinguishers, use of manual pull stations, and evacuation routes. In addition, employees were required to attend fire training as scheduled. The information regarding the frequency of the required fire training was not provided.

The facility's fire safety policies stated that fire drills were to "be held routinely to ensure against malfunction of fire alarm bells and doors, and to familiarize employees and residents of proper evacuation techniques." The term "routinely" was not defined. The facility had a printed form on which the results of the fire drills were to be recorded. However, no copies of the completed fire drill forms were available during NFPA data-gathering activities. Fire department records documented that the last fire drill involving fire department personnel was performed at 10:30 a.m. on September 28, 1995. The details and results of that drill were not recorded. Fire drills attended by fire department personnel were not conducted on a regular basis.

Other written policies existed that addressed staff and resident fire safety activities. The written materials for staff included fire evacuation procedures, a fire emergency plan, departmental responses, instructions on how to conduct a fire drill, instructions on how to hold and assist residents during evacuation, location of utility shutoffs, fire extinguisher procedures, and evacuation routes. The written materials for residents included general fire safety rules and fire drill procedures.

Local investigators confirmed that the nurse's aides were trained in fire safety activities by the facility's registered nurses. However, no training records were available. Therefore, determining the type and frequency of in-house fire safety training for staff and residents that actually occurred was not possible.

Occupant Status

The fire occurred in a second-floor apartment at the west end of Wing C - one of the "extended care" wings. The apartment of fire origin, Apartment 233, was occupied by one resident at the time of the fire. This apartment shared a common corridor with six other one-bedroom apartments. Five of these apartments had one occupant at the time of the fire. Apartment 231, next to the apartment of fire origin, had two occupants. Therefore, a total of eight residents had to use the common corridor as their means for exit access.
THE FIRE

Occupant Response

On Thursday, February 8, 1996, the Wing C aide who was scheduled to work the 11:00 p.m. to 7:00 a.m. shift had not reported to work on time. At approximately 11:45 p.m., the aide working the 3:00 p.m. to 11:00 p.m. shift was at the after-hours entrance in Wing D waiting to meet the aide who was late. While at this entrance, the aide heard the building-wide fire alarm system operate.

The aide ran back to her wing and found the door to Apartment 233 in the open position. She entered that apartment to find fire climbing up the curtains next to a couch in the apartment’s living room. The resident was on the couch and close to the flames. The aide felt that she could not reach the resident so she left the apartment. She could not recall any actions that she performed after realizing she could not rescue the resident.

The operating, complex-wide alarm also alerted a manager and his wife who were living in an apartment equipped with a horn and strobe. They went to the main office to determine the location of the fire and then responded to the apartment of fire origin. The manager and his wife were joined by the Wing C nurse’s aide who first detected the fire and who was now in the common area. Upon entering Wing C, they found that the door to Apartment 233 was now in the closed position and that smoke was seeping out the cracks around the door. They opened the door and found the apartment’s resident still laying on the burning couch. The manager removed the resident from his apartment and brought him to another area of the building.

Neither the manager, his wife, nor the nurse’s aide closed the door to the apartment of fire origin after rescuing the resident. The closer on this door, a spring-loaded hinge, failed to close the door and allowed smoke to spread into the corridor. One other resident on the wing was evacuated by an unidentified staff member. The smoke created severe conditions in the corridor, preventing the manager from re-entering the wing to evacuate other residents who were still in their rooms.

The doors to Apartments 232 and 234 were chocked open, allowing smoke in the corridor to spread into these apartments. For indeterminable reasons, the resident in each of these apartments did not evacuate or attempt to go to their respective exterior balconies despite the building fire alarm system and presence of smoke in their apartments.

Fire Department Notification and Response

Atapproximately 11:48 p.m., a member of this facility’s staff called the Memphis Fire Department to report the fire. The Memphis Fire Department transferred the call to the dispatch center for the Shelby County Fire Department, because the
facility was in that department’s jurisdiction. The Shelby County Fire Department dispatched two engine companies, one medical squad and a battalion officer. While these units were en route to the scene, an ambulance responding to another call radioed that fire could be seen above the roof line in the rear of the complex. Based upon that information and knowledge of the occupancy at the address, the battalion officer requested mutual-aid assistance of a telesquirt pumper from the Germantown Fire Department and a full assignment (i.e., two engines, one truck, and one battalion chief) from the Memphis Fire Department.

The first engine, medical squad, and battalion officer arrived on the scene at approximately 11:52 p.m. Very few people were outside of the building, and heavy fire was showing on the exterior of a second story apartment. In addition to the fire coming from the apartment of fire origin, the fire involved combustible materials on the patio outside of the apartment directly below the second floor balcony. While fire fighters were advancing their 1 3/4-in. (44.5-mm) pre-connect hose line up to the second floor for an interior fire attack, the battalion officer directed a deck gun for a quick knock down of the fire on the exterior of the building. After the deck gun was shut down, fire fighters advanced a second 1 3/4-in. (44.5-mm) pre-connect hose line to the first floor patio to extinguish small spot fires in that area.

Fire fighters entered the second floor corridor and attacked the fire in the apartment of fire origin. After knocking down much of the fire, they discovered the fire in that apartment was being fed by a ruptured natural gas line. When the gas was shut off, fire fighters were able to extinguish all remaining fire in the apartment completely.

At about the time the fire in the apartment was being extinguished, fire fighters from Germantown and Memphis had arrived. These fire fighters became involved in search and rescue activities.

**Casualties and Damage**

Four residents died as a result of this fire. *(See Figure 3 on next page.)* One of the victims was from Apartment 233, the apartment of fire origin. He sustained third-degree burns over 20 percent of his body and died four days later. Two more victims were from Apartments 232 and 234; the two apartments that had doors chocked open. The residents in these apartments did not leave their apartments, and both died of smoke inhalation. The resident in Apartment 232 was found in the bedroom, and the resident in Apartment 234 was found in the bathroom. The fourth victim was rescued from Apartment 230 which had a closed door. This individual died 27 days after the fire; she suffered a heart failure that was complicated by respiratory problems as a result of smoke inhalation.
Six other people were transported to local hospitals. Four were residents rescued from Wing C. These survivors were treated for smoke-related injuries and released. The manager was treated for burns and released, and a resident in an unaffected portion of the building who suffered cardiac distress from the excitement was treated at the hospital and was released.

Apartment 233, the apartment of fire origin, sustained the majority of the fire damage during this incident. (See Photos 2 and 3, next page.) The fire destroyed the living room and the exterior balcony. In addition, it caused heavy damage in the attic above the living room on the grade-level patio below Apartment 233’s exterior balcony. Even though the living room was destroyed, the fire did not spread into the bedroom in the apartment.

Smoke from Apartment 233 filled the second floor exit-access corridor and Apartments 232 and 234. In addition, some smoke seeped into all other second floor rooms on Wing C and into the attic space above Apartment 234.
Photo 2:
Exterior fire damage to apartment 233.

Credit: NPFA

Photo 3:
Fire damage in the entranceway to apartment 233.

Credit: Shelby County Fire Department
IV. Analysis

Fire Cause and Growth

Local fire investigators determined that the resident of Apartment 233 was a pipe smoker. They also determined that the fire was most probably started by improper disposal of smoking materials which ignited the contents of a waste basket in the apartment’s living room. The growing fire eventually ignited the couch on which the resident was lying and spread to other combustible materials in the room of fire origin.

The fire in Apartment 233 broke out a window leading to the apartment’s exterior balcony. The fire venting out this window ignited plastic furniture and the wood structural members of the apartment’s exterior balcony. Burning debris fell down, landing on furnishings and other combustible materials on the patio directly below. A secondary fire was started at this location and it spread to the combustible exterior finish materials on the wall facing the patio. (See Photo 4.)

The fire venting out of the second-floor window also damaged an enclosure on the exterior balcony. That enclosure contained the apartment’s gas-fired furnace. The fire damaged the furnace, causing a natural gas leak. The leaking gas intensified the fire which burned through the balcony’s 1/2-in. (13-mm) plywood ceiling that was nailed directly to the bottom chord of the wood roof trusses. Fire entering the combustible concealed space above the ceiling completely consumed that portion of the roof truss extending over the balcony while the portion above the living room’s gypsum wall board ceiling remained intact except for a small area directly above the point of fire origin - the waste basket.

Photo 4:
Fire damage to patio below the exterior balcony for Apartment 233.

Credit: Shelby County Fire Department
Even though the living room in Apartment 233 was damaged heavily by the fire, the other rooms in the apartment primarily sustained heat and smoke damage. The difference in damage between rooms was attributed to most of the fire venting out the window by the balcony and to the walls in the apartment remaining intact.

**Fire Protection Provisions**

Smoke from the fire activated the single-station smoke detector in Apartment 233 and a smoke detector in the corridor. This smoke detector initiated a complex-wide alarm. The operating alarms alerted the aide waiting at the Wing D entrance.

Automatic-closing fire doors in the fire walls at each end of the corridor operated and restricted most of the smoke to the corridor directly outside the apartment of fire origin. (See Photo 5.) The gypsum wall board restricted the fire in the apartment and in the attic from spreading to adjacent areas. As a result, direct fire damage was limited to the apartment of fire origin, the attic above that apartment, and the corridor areas immediately outside the apartment.

**Code Analysis**

The 1994 edition of the NFPA 101, *Life Safety Code*, and the 1992 edition of NFPA 1, *Fire Prevention Code*, were used as the basis for the comparison of the Shelby County board and care facility with current NFPA codes. It was recognized, however, that these codes were not part of the legal requirements for this facility. The following discussion is not intended to be a complete description of all parts of the code that could be applied to this facility. The discussion does, however, highlight *Life
Safety Code and Fire Prevention Code requirements that have particular relevance to this fire. Section VII contains the full text of all code sections cited in this section.

Occupancy Classification
The fire occurred in the extended care wing at the Shelby County facility. For the purposes of this analysis, the extended care wing will be classified as an “existing large board and care facility,” and the requirements of Section 3, Chapter 23, of the Life Safety Code will be used for this review. The complete code text of the relevant sections and paragraphs have been provided at the end of this report.

Requirements Based on Evacuation Capability
The Life Safety Code classifies resident evacuation capability as “prompt,” “slow,” or “impractical.” To apply the requirements of Section 101:23-3 (existing large board and care facility), the evacuation capability of board and care facility residents must be determined. Appendix section 101:A-23-1.3 provides a discussion addressing situations when little is known about the occupants’ evacuation capability. It states, in short, that the authority having jurisdiction should classify the resident’s evacuation capability as “impractical” unless the following conditions are met:

(a) all residents are able to travel to centralized dining facilities without continuous staff assistance, and

(b) there is continuous staffing whenever there are residents in the facility.

If these conditions exist, then the residents’ evacuation capability could be considered to be “slow” (evacuation drill times above three minutes but not more than 13 minutes).

The staff described residents as being ambulatory, but needing some assistance during emergencies. This description and the fact that residents were living in apartment-style living units implied that the residents probably had some level of capability and could likely travel to the centralized dining facility without continuous staff assistance. Since staff were assigned to the extended care wing around the clock, both of the conditions discussed in the Life Safety Code appendix section existed. Thus, the residents at the Shelby County facility could be considered as having a “slow” evacuation capability.

Minimum Construction Requirements
Paragraph 101:23-3.1.3.3 allows a two-story, unsprinklered board and care facility to be fully sheathed. The Life Safety Code defines “fully sheathed” as interior surfaces being covered with lath and plaster or materials providing a 15-minute ther-
mal barrier (see paragraph 101:23-3.1.3.1). Interior walls and ceilings were covered with gypsum wall board that would provide, at least, a 15-minute thermal barrier. Since the apartments' walls and ceilings were covered with gypsum wall board and the corridor walls had a double layer of gypsum wall board, the building appeared to satisfy this Life Safety Code requirement.

**Automatic Sprinkler Protection**

The *Life Safety Code* does not require sprinklers in existing large board and care facilities. However, automatic sprinklers may be required depending on the type of construction and the total height of the facility used for this type of occupancy. For example, automatic sprinklers would not have been required in the facility because it was an existing fully sheathed, two-story building.

Though not required by the *Life Safety Code*, an automatic sprinkler system in the Shelby County board and care facility could have altered the outcome of this incident by controlling and possibly extinguishing the fire early in the sequence of events. An operating sprinkler system would have reduced the production of smoke by keeping the fire small or extinguishing the fire providing staff and residents with more time to respond.

**Exits**

Every resident had access to at least two exits satisfying the requirements of NFPA 101, paragraph 101:23-3.2.4.

**Means of Egress Arrangement**

The apartments on the extended care wing had an exit access corridor that was approximately 100-ft. long and had exits located at each end. Since residents leaving their apartments on this wing had a choice of two exits as soon as they entered the corridor, there were no common paths of travel in the corridor. Similarly, there were no dead ends with this corridor layout.

**Travel Distance**

The one bedroom apartments such as the one in which the fire occurred were approximately 26-ft. (7.9-m) deep and 24-ft. (7.3-m) wide so travel distance within the apartment did not exceed the 75-ft. (22.9-m) maximum as stipulated in paragraph 101:23-3.2.6.1. Since the corridor was approximately 100-ft. (30 m) long and exits were at each end, travel distance from the corridor door of all apartments in the extended care wing did not exceed the maximum distance of 100-ft. (30-m) as permitted by paragraph 101:23-3.2.6.2.
Fire Alarm

The building was equipped with a fire alarm system that was inter-connected to both the corridor smoke detectors and the manual pull stations. This system met the requirement of paragraph 101:23-3.3.4.1. The operating fire alarm system played an important role in this scenario, because it alerted the building managerial staff. In response to the alarm, the manager and his wife went to the apartment of fire origin and rescued the occupant.

Smoke Detection

Paragraph 101:23-3.3.4.5 requires that each sleeping room be provided with an approved, single-station smoke detector powered from the building’s electrical system. Single-station smoke detectors had not been installed in the sleeping rooms. However, a single-station smoke detector had been installed in the living room of the apartment of fire origin. Since the smoke detector and the sleeping resident were in the same room in this scenario, the smoke detector in the living room was able to provide early warning to the resident. However, the resident did not respond to the operating alarm.

Paragraph 101:23-3.3.4.6 requires that all living areas and corridors be provided with smoke detectors and that all required smoke detectors be arranged to initiate an alarm that is audible in all sleeping areas. The building had been equipped with system smoke detectors in the corridors, and the alarm system to which they were attached produced an audible alarm signal that alerted the managers in their apartment. No information was available regarding the sound level or frequency that the operating fire alarm system provided inside the resident apartments.

Fire Extinguishment Equipment

The Life Safety Code would not have required the Shelby County board and care facility to be sprinklered because it was a two-story fully sheathed facility [Paragraph 101:23-3.1.3.3(a)]. In the event that sprinklers are provided, Paragraph 101:23-3.3.5.1 requires that the system be installed in accordance to other NFPA requirement and that an operation of the sprinkler system activate the fire alarm system. Though not required by the Life Safety Code, an automatic sprinkler system would have suppressed or controlled the fire in Apartment 233, significantly reducing the potential for life loss and property damage.

Doors

Paragraph 101:23-3.3.6.6 requires that doors in walls that separate sleeping rooms from corridors be automatic closing. In this facility, all of the doors between the apartments and the corridors had been equipped with self-closing devices. However, the devices on some doors, such as the one on the apartment of fire origin, had been deactivated and other apartment doors were held open with wooden chocks.
(See Photos 6 and 7, next page.) This set-up was a significant deviation from Life Safety Code requirements, because the open doors allowed smoke to spread throughout the wing of fire origin. Three fatalities were the result of smoke spreading from the apartment of fire origin.

NFPA has documented many other fires at other board and care facility fires during which open doors have contributed to the loss of life. Those fires include the March 21, 1996 fire in Mississauga, ON; the March 17, 1996 fire in Laurinburg, NC; the December 1, 1994 fire in Broward County, FL; and the June 2, 1992 fire in Detroit, MI. (See Section VI. Abstracts.)

**Emergency Plan/Resident Training/Fire Exit Drills**

The Life Safety Code anticipates that residents in a board and care facility will be able to take action during fire emergencies. As a result, fire safety requirements are tailored to the ability or lack of ability of residents and staff. To ensure that the actions that they will take are appropriate, the Life Safety Code contains requirements for an emergency plan (Paragraph 101:31-7.1), resident training (Paragraph 101:31-7.2), and fire exit drills (Paragraph 101:31-7.3). The Chapter 31 requirements are repeated in Chapter 13 of NFPA 1, Fire Prevention Code, 1992 edition, emphasizing the importance of these requirements. NFPA 1 provides linkage between NFPA codes and standards and also recognizes the importance of having occupants being able to respond properly during emergencies.

No information is available regarding how often staff members were trained with respect to their fire safety duties and responsibilities and how often residents received fire safety training. However, the actual level of the response (or lack of response) of some staff and residents revealed that a high level of proficiency had not been attained by the training and drills performed before the fire.

Residents in the area of fire origin had a period of time in which they could have reacted to the operating alarms. The managers who rescued one of the victims reported that they had sufficient time to respond to the operating building-wide alarms and to remove the resident in the room of fire origin. These reports revealed that conditions in the apartment of fire origin remained tenable for a period of time after the building-wide alarms operated. More importantly, the ability of staff and managers to enter the room of fire origin revealed that lethal levels of combustion products were in neither the corridor nor the apartment of fire origin at the time that the alarms operated and for a period of time afterwards. Since the corridor was not untenable immediately, residents would have had an opportunity to evacuate with or without the assistance of the staff assigned to the wing. Additionally, residents had an opportunity to move to the exterior balcony of their respective apartments. Despite these opportunities, three residents who were in their apartments sustained smoke injuries that ultimately were fatal.

Accordingly, the ability (or inability) of residents and staff to act during the actual fire emergency was a major contributing factor to the outcome of this incident. Like open doors, the failure of occupants to respond effectively has been cited as a factor contributing to life loss in the other fires investigated by the NFPA. (See Section VI. Abstracts.)
Photo 6: Smoke damage in apartment 232. This apartment had an open door, and one victim was found in the bedroom.

Credit: Shelby County Fire Department

Photo 7: Smoke damage in apartment 234. This apartment had an open door, and one victim was found in the bathroom.

Credit: Shelby County Fire Department
V. DISCUSSION

The *Life Safety Code* developed requirements with the understanding that residents in a board and care facility will be able to take actions during fire emergencies. This fire safety approach makes the response of staff and residents an integral part of the building’s required fire safety provisions. To ensure that staff and residents can and will take appropriate actions, the *Life Safety Code* contains requirements for an emergency plan, resident training, and fire exit drills.

In the 1994 *Life Safety Code* and in previous editions of the code, the requirements for staff and resident training for this occupancy were contained in Chapter 31, Operating Features. The separation of training and other requirements from the occupancy chapters provided an opportunity for those requirements to be missed or overlooked by users of this document. The NFPA Technical Correlating Committee on Safety to Life recommended that many of the operating feature requirements for the specific occupancies be relocated from Chapter 31 to the respective occupancy chapters. This recommendation was implemented by the Committees on Safety to Life and will be incorporated into the 1997 edition of the *Life Safety Code*. This change to the *Life Safety Code* will help fire department officials, representatives of local and state agencies, and property owners to understand that adequate life safety in board and care facilities does not depend solely on building features and fire protection equipment. Adequate life safety also depends on the training and abilities of staff and residents. Only through a systematic melding and implementation of building design, construction, maintenance and fire protection features with the resident’s and staff’s ability to respond to emergencies can an adequate level of life safety be achieved in board and care facilities.

Fire code enforcers, owners and operators of board and care facilities, and anyone responsible for the safety of residents in such facilities must understand that resident and staff abilities have a direct relationship with the fire protection and life safety provisions in a board and care facility. Therefore, the capabilities of residents must be evaluated and documented in order to ensure that the fire safety provisions associated with the facility are appropriate for the type of resident. Furthermore, the effect that changes in resident evacuation capability will have on the level of life safety provided must be understood so that the appropriate modifications to the overall fire safety plan for the facility can be made.

The Shelby County incident reveals that deficiencies in a building’s fire protection features and ineffective resident and staff actions can have lethal consequences during a fire emergency. The benefit afforded by the building’s gypsum wall board walls, e.g., compartmentation that could prevent fire and smoke spread, was compromised by doors that were left open and would not self close. As a result, smoke was able to spread from the apartment of fire origin and threaten residents in other areas. For reasons that could not be established, the residents failed to react or did not react effectively to operating alarms and to other cues during the early moments of these fires. In addition, one staff person responded with ineffective actions, and the response of two other staff members were affected by deteriorating conditions.
The two staff members were able to rescue one person, but further rescue attempts were thwarted by smoke spreading through an apartment door that they had left open. All of these factors came together allowing this single room fire to cause the deaths of four people in four different apartments.

On the basis of its investigation findings, the NFPA determined that the following factors significantly contributed to the loss of life and property in the Shelby County board and care facility:

- Improperly disposed smoking materials
- Lack of automatic sprinkler protection
- Ineffective responses of some staff members
- Failure of occupants to respond effectively to operating fire alarms
- Room doors that remained open due to the deactivation of door self-closing devices.

The factors cited at the Shelby County facility are not new and have contributed to other multiple-death fires in board and care facilities. Over the years, the NFPA documented that buildings being used as board and care facilities and the occupants of those facilities were presenting unique fire safety challenges. In 1984, the NFPA prepared a memo discussing fire safety in board and care facilities and sent that memo to state fire marshals, state training directors, and provincial fire marshals. The NFPA memo contained the following description of documented board and care facility problems:

An analysis of recent fatal boarding home fires reveals the lack of basic fire protection provisions in these (board and care) buildings, including: inadequate means of egress, combustible interior finishes, unenclosed stairways, lack of automatic detection or sprinkler systems, or lack of emergency training for staff and residents. Many of the facilities were either licensed for an occupancy other than a boarding home (such as a hotel) or were unlicensed, underground “boarding homes.”

The recognition of these problems brought about the development of a new *Life Safety Code* occupancy chapter specifically for board and care facilities. The new chapter was added to the *Life Safety Code* in 1985.

The *Life Safety Code* requirements include evacuation capability as a basic and underlying factor affecting life safety in board and care facilities. The *Life Safety Code* also considers evacuation capability as a function of the ability of residents to self-evacuate, the ability of residents to help each other, and the assistance that staff can provide. As a result of the *Life Safety Code*'s emphasis on resident and staff abilities, it is important for fire department officials, representatives of local and state agencies, and property owners to understand that adequate life safety in board and care facilities does not depend solely on building features and fire protection equipment. In large board and care facilities where residents cannot perform effectively during fire emergencies and their evacuation capability is classified as “impractical”, the *Life Safety Code* requires that health care requirements be applied.
Because of this relationship between residents' abilities and fire protection features, all who are responsible for the well being of board and care facility residents must work together and share information and expertise. Fire and building officials understand local codes and fire protection philosophies. Both state officials and property owners may be able to provide information regarding the residents' physical and mental capabilities. Consideration of this information and strict enforcement of modern fire protection standards such as the Life Safety Code can ensure that residents in the board and care facilities are provided with the minimum level of life safety as described by local codes and regulations.
VI. ABSTRACTS

Laurinburg, North Carolina

March 17, 1996

Approximately 10:00 p.m. on Sunday, March 17, 1996, a fire occurred in a Laurinburg, North Carolina board and care facility and eight residents died. Sparks from a faulty electrical receptacle ignited bedding materials in one of the resident rooms.

Both residents in that room escaped from the room, but only one safely evacuated the building. The other was overcome by smoke and died in the corridor. Approximately 18 other residents were on the wing of fire origin. Seven of these residents died in their respective rooms, and the other 11 residents self-evacuated. The doors to rooms in which residents died were in the open position. Staff, reportedly, were unable to enter the wing of fire origin due to severe conditions.

The following factors contributed to the loss of life in this facility:

- Lack of automatic sprinkler protection
- Ineffective responses of staff members
- Failure of occupants to respond effectively to operating fire alarms
- Room doors that remained open due to the lack of door self-closing devices

Mississauga, Ontario

March 21, 1995

On Tuesday, March 21, 1995, at approximately 7:40 p.m., a fire occurred in a one story board and care facility in Mississauga, Ontario. The fire resulted in eight fatalities and 12 injuries. Three people died at the time of the fire and one died five days later. The remaining four fatalities, determined to be related to the fire, occurred over a span of eight months.

The 70 occupants ranged in age from 60 to 101 years old. Many of the occupants had some degree of mental or physical impairment that could have impeded their ability for self rescue. Of the 70 occupants, 20 people used wheelchairs, 17 used canes or walkers, and 15 suffered from varying degrees of mental impairment.

The building was a one story structure that was partially sprinklered in the basement area only. The residents’ rooms were equipped with heat detectors, as were the hallways, which were connected to an alarm system. The alarm system was connected to an alarm-monitoring company.
The fire was determined by the Ontario Fire Marshal’s office to have been caused by smoking materials which ignited clothing in a closet in one of the rooms. The room was occupied by two people at the time of the fire, which occurred at 7:39 p.m. One of the occupants of the room called the fire department via 911 and reported the fire. She then was able to escape from the room via an exterior window. The other occupant, who was confined to a wheelchair, was not able to escape.

Six of the other fatalities were found in their rooms. One other victim, who was confined to a wheelchair, was found in the hallway, having become overcome by smoke while attempting to escape.

Smoke was able to spread to the other rooms through the void space above the rooms. The corridor walls and the walls between the individual units did extend above the ceiling to the underside of the roof diaphragm. However, smoke was able to penetrate into this void space via unprotected openings in the ceiling in the room of origin and then into the other areas through unsealed penetrations in the various walls.

In addition to the void space, smoke also penetrated into the rooms through the corridor doors to the individual units. In several of the rooms, the occupants died from smoke inhalation even though the door to their rooms were closed.

The following are considered significant factors that contributed to the outcome of this incident:

- The lack of sprinkler protection (except for the basement)
- The failure to close the door to the room of fire origin following detection of the fire
- The combustible room contents
- The lack of staff training and fire drills.

This fire is the second to have occurred in a Mississauga facility housing elderly people and with a serious loss of life. In 1980, another fire in a nursing home killed 25 occupants. There are a number of common factors between the two fires, which include lack of an automatic sprinkler system and failure to close the door to the room of origin.
Broward County, Florida

December 1, 1994

At approximately 3:45 a.m. on Thursday, December 1, 1994, an accidental fire occurred in a board and care facility in Broward County, Florida, which resulted in the deaths of six residents.

The building was a one story, single-family dwelling that had been modified for use as a board and care facility. The modifications included the construction of several bedrooms, the installation of a building-wide fire alarm system and single-station smoke detectors, and the installation of at least one exit door in every bedroom. These doors provided direct access to the building’s exterior. Local fire officials were unable to secure detailed information regarding the capabilities of occupants; as a result, fire officials considered the occupants to have “slow” evacuation capabilities.

The fire, which started in a resident’s bedroom, caused heavy damage in the room of origin and in an adjacent dining area. Smoke filled all the rooms throughout the building. A staff person and eight residents were able to self-evacuate, six residents had to be rescued, and four residents died in the building. Two of the rescued residents later died, one before being transported to the hospital and the other in the hospital.

The 1994 Life Safety Code anticipates various levels of resident performance and requires more stringent fire protection equipment as the abilities of the residents decrease. The facility involved in this fire had many code-required fire protection provisions for residents with moderate abilities. Therefore, the ability (or inability) of residents to perform during the actual fire emergency was a major contributing factor affecting the survival of residents.

The effect that staff and resident capabilities had on the outcome of this incident is an important lesson for fire department officials, representatives of local and state agencies, and property owners who have responsibility for life safety in board and care facilities. They must understand that adequate life safety does not depend solely on building features and fire protection equipment. The abilities of both staff and residents are integral factors that must be considered while striving for even a minimal level of life safety in a board and care facility.
Detroit, Michigan

June 2, 1992

At approximately 2:15 a.m., on Tuesday, June 2, 1992, a fire occurred at an adult foster care facility in Detroit, Michigan, and it resulted in the deaths of ten occupants. The building involved in this fire was originally a three story, two-family dwelling. However, in the early 1970s it was renovated for use as an adult foster care facility. At the time of the fire, sixteen predominantly elderly individuals lived in the facility, and some of these residents were mentally or physically handicapped. In addition to the residents, one night supervisor was in the facility.

Local investigators believe that the probable cause of the fire was smoking materials discarded in a wastebasket in a first floor kitchen. Once ignited, the fire spread to the combustible interior finish materials in that room, and then the growing fire ignited combustible finish materials in other first floor rooms. Open stairways and other unprotected vertical openings allowed the combustion products to spread rapidly throughout the building. Untenable conditions developed in the building before most of the residents could evacuate safely.

The factors that significantly contributed to the loss of life were:

- The lack of an automatic fire sprinkler system
- The presence of combustible interior finish throughout the structure
- The lack of fire safety and evacuation training for staff and residents
- The presence of open stairways and other unprotected vertical openings
- The lack of a second exit for the second floor.
Since 1972, NFPA has prepared 24 reports or journal articles as a result of NFPA investigations of other board and care facility fires. The following is a list of those reports and articles:

**NFPA Fire Investigation Reports**

- Cincinnati, Ohio, December 12, 1983.
- Pleasant Beach, New Jersey, February 3, 1981.

**NFPA Journal and Fire Journal Articles**


* An NFPA Fire Investigation Report is also available.
• “Fires in Two Boarding Facilities Kill 34 Residents,” Fire Journal, July/August 1982.*

• Bell, James R., “Fire In Adult Foster Care Home Kills Five Residents,” Fire Journal, September/October 1981.*


* An NFPA Fire Investigation Report is also available.
VIII. NFPA CODE SECTIONS


**NFPA 1, Fire Prevention Code**

**Chapter 13, Residential Board And Care Occupancies**

**1:13-1 General Requirements.**

**1:13-1.1 Application.** New and existing residential board and care occupancies shall comply with this chapter and the referenced edition of NFPA 101.

**1:13-2 Operating Features.**

**1:13-2.1 Emergency Plan.**

The administration of every residential board and care facility shall have in effect, and available to all supervisory personnel, written copies of a plan for the protection of all persons in the event of fire and for their remaining in place, for their evacuation to areas of refuge and from the building when necessary. The plan shall include special staff actions including fire protection procedures needed to ensure the safety of any resident and shall be amended or revised upon admission to the home of any resident with unusual needs. All employees shall be periodically instructed and kept informed with respect to their duties and responsibilities under the plan. Such instruction shall be reviewed by the staff at least every two months. A copy of the plan shall be readily available at all times within the facility. (101: 31-7.1)

**1:13-2.2 Resident Training.**

All residents participating in the emergency plan shall be trained in the proper actions to be taken in the event of fire. This training shall include actions to be taken if the primary escape route is blocked. If the resident is given rehabilitation or habilitation training, training in fire prevention and actions to be taken in the event of a fire shall be a part of the rehabilitation training program. Residents shall be trained to assist each other in case of fire to the extent their physical and mental abilities permit them to do so without additional personal risk. (101: 31-7.2)

**1:13-2.3 Fire Exit Drills.**

Fire exit drills shall be conducted at least twelve times per year, four times a year on each shift. The drills may be announced in advance to the residents. The drill shall involve the actual evacuation of all residents to an assembly point as specified in the emergency plan and shall provide residents with experience in exiting through
all exits required by this Code. Exits not used in any fire drill shall not be credited in meeting the requirements of this Code for board and care homes.

Exception No. 1: Actual exiting from windows shall not be required to meet the requirements of this section; opening the window and signaling for help shall be an acceptable alternative.

Exception No. 2: If the board and care home has an evacuation capability rating of "Impractical," those residents who cannot meaningfully assist in their own evacuation or who have special health problems need not actively participate in the drill. Section 31-4 of NFPA 101 applies in such instances. (101: 31-7.3)

1:13-2.4 Smoking.

Where smoking is permitted, noncombustible safety-type ashtrays or receptacles shall be provided in convenient locations. (101: 31-7.4.1)


Chapter 1, Administration

101:1-2 Purpose.

101:1-2.1 The purpose of this Code is to provide minimum requirements, with due regard to function, for the design, operation, and maintenance of buildings and structures for safety to life from fire and similar emergencies.

101:1-2.2 As related to fire safety, the objective of this Code is to protect the occupants not intimate with the initial fire development from loss of life and to improve the survivability of those who are intimate with the fire development. The protection methods assume a single fire source.

101:1-2.3 The level of safety is achieved by the combination of prevention, protection, egress, and other features enumerated in the individual occupancy chapters with due regard to the capabilities and reliability of the features involved.

101:1-2.4 The Code endeavors to avoid requirements that might involve unreasonable hardships or unnecessary inconvenience or interference with the normal use and occupancy of a building, but provides minimum requirements for fire safety consistent with the public interest.

101:1-3 Scope.

101:1-3.1 This Code addresses life safety from fire and similar emergencies.

101:1-3.2 The Code addresses those construction, protection, and occupancy features necessary to minimize danger to life from fire, smoke, fumes, or panic.
101:1-3.3 The Code identifies the minimum criteria for the design of egress facilities so as to permit prompt escape of occupants from buildings or, where desirable, into safe areas within buildings.

101:1-3.4 The Code recognizes that life safety is more than a matter of egress and, accordingly, deals with other considerations that are essential to life safety.

101:1-3.5 Where in fixed locations and occupied as buildings, vehicles, vessels, or other mobile structures shall be treated as buildings.

101:1-3.6 The Code does not attempt to address those general fire prevention or building construction features that are normally a function of fire prevention and building codes.

101:1-3.7 The prevention of accidental personal injuries during the course of normal occupancy of buildings, personal injuries incurred by an individual's own negligence, and the preservation of property from loss by fire have not been considered as the basis for any of the provisions of this Code.

Chapter 23, Existing Residential Board and Care Occupancies

Minimum Construction Requirements.

101:23-3.1.3.3 The minimum construction requirement (see 6-2.1), based on the highest story normally used by board and care residents, shall be:

(a) One- or Two-Story Facilities. Any construction type that meets the requirements for 1-hour or greater fire resistance rating, or is Type IV (2HH), or is fully sheathed, or is protected throughout by an approved automatic sprinkler system in accordance with 23-3.3.5.

Exception to (a): One story prompt evacuation capability facilities having 30 or fewer residents shall be permitted to be of any construction.

(b) Three- to Six-Story Facilities. Type I, Type II, or Type III construction that meets the requirements for 1-hour or greater fire resistance rating, Type IV construction that is protected throughout by an approved, automatic sprinkler system in accordance with 23-3.3.5, or any other type of construction that is both sheathed, or is protected throughout by an approved automatic sprinkler system in accordance with 23-3.3.5, other than Type V (000).

Exception to (b): Three- to four-story facilities of Type V (000) construction that are both fully sheathed, or is protected throughout by an approved automatic sprinkler system in accordance with 23-3.3.5.
Exits

101:23-3.2.4 Number of Exits. Not fewer than two exits shall be accessible from every story, including floors below the level of discharge and occupied for public purposes.

101:23-3.2.5 Arrangement of Means of Egress.

101:23-3.2.5.1 Access to all required exits shall be in accordance with Section 5-5.

101:23-3.2.5.2 No common path of travel shall exceed 110-ft. (33.5-m).

Exception: In buildings protected throughout automatic sprinkler systems in accordance with 23-3.3.5, common path of travel shall not exceed 160-ft. (48.8-m).

101:23-3.2.5.3 No dead-end corridor shall exceed 50-ft. (15-m).

Travel Distance

101:23-3.2.6.1 Travel distance from the door within a room, suite, or living unit to a corridor shall not exceed 75-ft. (23-m).

Exception: Travel distance shall not exceed 125-ft. (48-m) in buildings protected throughout by an approved, automatic sprinkler system in accordance with 23-3.3.5.

101:23-3.2.6.2 Travel distance, measured in accordance with Section 5-6, from the corridor door of any room to the nearest exit shall not exceed 100-ft. (30-m).

Exception No. 1: Travel distance to exits shall not exceed 200-ft. (60-m) for exterior ways of exit access arranged in accordance with 5-5.3.

Exception No. 2: Travel distance to exits shall not exceed 200-ft. (60-m) if the exit access and any portion of the building that is tributary to the exit access are protected throughout by approved, automatic sprinkler systems. In addition, the portion of the building in which the 200-ft. (60-m) travel distance is permitted shall be separated from the remainder of the building by construction having a fire resistance rating of not less than 1 hour for buildings not more than three stories in height and 2 hours for buildings more than three stories in height.

Emergency Lighting

101:23-3.2.9 Emergency Lighting. Emergency lighting in accordance with Section 5-9 shall be provided in all buildings with more than 25 rooms.

Exception: Where each sleeping room has direct exit to the outside of the building at ground level, no emergency lighting shall be required.
Detection, Alarm, and Communication Systems.

101:23-3.3.4.1 General. A fire alarm system in accordance with Section 7-7 shall be provided.

Exception: Where each sleeping room has exterior exit access in accordance with 5-5.3 and the building is not more than three stories in height.

Smoke Detectors.

101:23-3.3.4.5 Smoke Detectors. Each sleeping room shall be provided with an approved, single-station smoke detector in accordance with 7-6.2.9 powered from the building electrical system.

Exception No. 1: Existing battery-powered detectors, rather than building electrical service-powered detectors, shall be accepted where, in the opinion of the authority having jurisdiction, the facility has demonstrated testing, maintenance, and battery replacement programs that ensure the reliability of power to the detectors.

Exception No. 2: Facilities having an existing corridor smoke detection system in accordance with Section 7-6 connected to the building fire alarm system.

101:23-3.3.4.6 All living areas as defined in Section 3-2 and corridors shall be provided with smoke detectors in accordance with NFPA 72, National Fire Alarm Code, arranged to initiate an alarm that is audible in all sleeping areas.

Exception No. 1: Detectors shall not be required in common spaces in facilities protected throughout by an approved, automatic sprinkler system in accordance with 23-3.3.5.

Exception No. 2: Unenclosed corridors, passageways, balconies, colonnades, or other arrangements with one or more sides along the long dimension fully or extensively open to the exterior at all times.

Automatic Extinguishment Systems

101:23-3.3.5.1 Automatic Extinguishment Systems. Where an automatic sprinkler system is installed either for total or partial building coverage, the system shall be installed in accordance with Section 7-7 and shall initiate the fire alarm system in accordance with Section 7-6.

Exception No. 1: In buildings not more than four stories in height, a sprinkler system complying with NFPA 13R, Standard for the Installation of Sprinkler Systems in Residential Occupancies Up to and Including Four Stories in Height, shall be permitted.

Exception No. 2: Automatic sprinklers shall not be required in closets not exceeding 24 sq ft (2.2 sq m) and bathrooms not exceeding 55 sq ft (5.1 sq m), provided
such spaces are finished with lath and plaster or material with a 15-minute thermal barrier.

Doors

101:23-3.3.6.6 Doors in walls required by 23-3.3.6.1 and 23-3.3.6.2 shall be self-closing or automatic-closing in accordance with 5-2.1.8. Doors in walls separating sleeping rooms from corridors shall be automatic-closing in accordance with 5-2.1.8.

Exception No. 1: Doors to sleeping rooms that have occupant control locks such that access is normally restricted to the occupants or staff personnel shall be permitted to be self-closing.

Exception No. 2: In buildings protected throughout by an approved, automatic sprinkler system installed in accordance with 23-3.3.5, doors, other than doors to hazardous areas, vertical openings, and exit enclosures, shall not be required to be self-closing or automatic-closing

Chapter 31, Operating Features

Emergency Plan

101:31-7.1 Emergency Plan. The administration of every residential board and care facility shall have, in effect and available to all supervisory personnel, written copies of a plan for protecting all persons in the event of fire, for keeping persons in place, and for evacuating persons to areas of refuge and from the building when necessary. The plan shall include special staff response, including fire protection procedures needed to ensure the safety of any resident, and shall be amended or revised for use upon admission to the home of any resident with unusual needs. All employees shall be periodically instructed and kept informed with respect to their duties and responsibilities under the plan. Such instruction shall be reviewed by the staff at least every two months. A copy of the plan shall be readily available at all times within the facility.

Resident Training

101:31-7.2 Resident Training. All residents participating in the emergency plan shall be trained in the proper actions to be taken in the event of fire. This training shall include actions to be taken if the primary escape route is blocked. If the resident is given rehabilitation or habitation training, training in fire prevention and actions to be taken in the event of a fire shall be a part of the training program. Residents shall be trained to assist each other in case of fire to the extent their physical and mental abilities permit them to do so without additional personal risk.
Fire Exit Drills.

101:31-7.3 Fire Exit Drills. Fire exit drills shall be conducted at least six times per year on a bimonthly basis with a minimum of two drills conducted during the night when residents are sleeping. The drills shall be permitted to be announced in advance to the residents. The drills shall involve the actual evacuation of all residents to an assembly point as specified in the emergency plan and shall provide residents with experience in egressing through all exits and means of escape required by the Code. Exits and means of escape not used in any fire drill shall not be credited in meeting the requirements of this Code for board and care facilities.