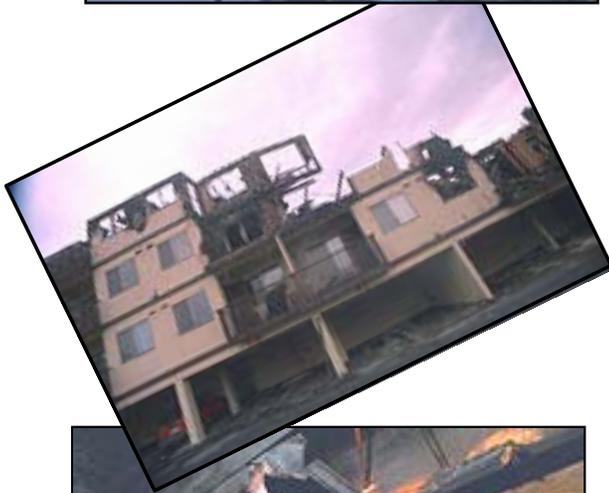


Fire Investigation Summary

Apartment Building Fire

**Bremerton, Washington
November 13, 1997**



A fire in an apartment complex killed four elderly residents. The four-story structure was unsprinklered and only had smoke detectors that sounded within the individual units. The delay in the fire being detected, as well as the door to the apartment of origin being left open, allowed the fire to grow and spread rapidly.



National Fire Protection Association
Fire Investigations Department

On November 13, 1997, at approximately 6:00 a.m., a fire occurred in an occupied, four-story apartment complex in Bremerton, Washington. Four residents died in this fire, and twelve were injured.

The complex was comprised of 142 units, of which approximately 130 units were occupied at the time of the fire. The main portion of the complex was a U-shaped building. The ground floor, which contained storage areas, laundries, parking areas, and utility rooms, was made of noncombustible construction. The upper three

floors contained the apartment units and were constructed of wood studs covered with fire-rated gypsum wallboard on each side. However, the exterior face of the walls was covered with 5/8-in. thick plywood that was not fire-rated. A two-story building occupied the open portion of the U and was built in a similar style as the main portion of the complex.

The roof structure was comprised of wood trusses that were made up of 2-in. x 4-in. and 2-in. x 6-in. members. It was covered with plywood sheathing, which in turn was covered with asphalt shingles. Within the void space in the U-shaped portion of the building were four fire separations. However, on the sole remaining fire separation, it was noted that there were openings in the wall that had not been closed up when the separations were built.

The facility was not equipped with an automatic fire sprinkler system. Six occupant-use hose stations were located on each of the three upper stories.

The complex lacked a facility wide fire alarm system. There were single-station smoke detectors within the individual units. These smoke detectors sounded only within the unit.

According to investigators for the Bremerton Fire Department and the Bureau of Alcohol, Tobacco and Firearms, a fire occurred in an occupied apartment on the third level of the building in the southwest corner at

approximately 6:00 a.m. The occupant of the apartment unit was not present at the time of the fire, which allowed the fire to grow undetected until the single-station smoke detector activated.

The apartment complex manager was delivering newspapers to various units when he heard the sound of the smoke detector. He entered the unit to investigate and reported that smoke had filled the unit to within a foot of the floor. He could see a body of fire in the unit's front bedroom.



The manager then exited the unit, leaving the door open, and began banging on doors in the vicinity of the fire apartment to notify other occupants of the fire.

The first unit to arrive traveled from a fire station that was located approximately 1/4 mile (0.4 km) to the north. The unit had just returned from a call, and at the time of

the alarm both members of the engine company were outside the station refueling the apparatus and were wearing their protective clothing. They responded immediately and reported that they could see a column of smoke coming from the apartment complex as they left the station. (This company had just returned from a call and had passed by the fire building moments earlier without observing any problems.)

Upon arrival, the officer reported that no fire was showing from the "outboard" side of the building. However, when he entered the courtyard, he observed smoke and fire emanating from the open door of the fire apartment and extending both laterally and vertically. The fire was being fueled by the combustible wood finish on the walls, as well as by the wood structural supports for the walkways. He immediately attempted to limit the spread of the fire by using an 1-3/4" (45-mm) handline from the ground level, but by this time the fire had spread to the fourth level and was into the roof structure as well.

A television traffic helicopter flew overhead very shortly after the report of the fire and provided video

footage that documented the rapid spread of the fire throughout the main portion of the apartment complex. The fire appeared to have penetrated the combustible void space of the roof structure and to have spread very rapidly.

According to accounts provided by some of the residents, they were unaware of the fire until they were trapped within their units. The woman directly above the fire apartment was awake and lying in bed at the time of the fire. She reported that her window exploded inward upon her and that fire entered her apartment through this window.



As additional fire fighting units arrived, many residents were on their balconies on the outboard side of the building. The immediate focus was on rescuing these residents. One person was in such danger that he lowered a rope from his fourth floor unit and slid down it, severely burning the skin on his hands in the process.

A large defensive fire-fighting operation was mounted, and the fire was declared under control at 7:45 a.m. An effort was made to determine if there were any fatalities, and, based on preliminary accounts, sixteen residents were unaccounted for.

The National Response Team from the Bureau of Alcohol, Tobacco and Firearms was requested to respond to assist in the investigation. During the three-day investigation, it was finally determined that there were four fatalities from the fire, twelve residents were injured, and over 150 residents were displaced. Approximately 117 units were damaged by the fire in varying degrees. The entire complex was declared a loss by the owners and was demolished in January of 1998.

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

- Lack of automatic fire sprinklers
- Combustible exterior wall construction
- The door to the apartment of fire origin being left open after the fire was discovered
- Inadequately protected means of egress
- Lack of proper fire separations in the combustible void space
- Lack of a complex wide fire alarm system incorporating automatic detection

The four people who died in this fire ranged in age from 75 to 91 years. These four people fall into a very high-risk category, according to data collected by the NFPA.

- *People age 65 and over had a fire death rate of 27.6 fire deaths per million population, or roughly **twice** the national average.*
- *People age 75 and over had a fire death rate of 37.9 fire deaths per million population, or **nearly three times** the national average.*
- *People age 85 and over had a rate of 59.4 fire deaths per million, or **more than four times** the national average.*

This incident very tragically demonstrates the speed with which a fire can spread. Despite the fact that the fire department was only one quarter of a mile away and was able to respond very quickly, the fire was able to spread extremely quickly, trapping and killing four elderly residents. Even though this was not a designated "elderly housing" facility, this fire is indicative of the high-risk bracket that this age group occupies. Other recent fires in residential apartments in New York City and St. Louis involving elderly residents further reinforce the need to ensure that the buildings where our elderly live are provided with adequate fire safety and protection to avoid a repetition of the circumstances of this tragic fire.

Written by Chief Fire Investigator Ed Comeau, NFPA Fire Investigations Department.

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The National Fire Protection Association's Fire Investigations Department documents some of the most significant fires and incidents throughout the world. The objective of these investigations is to determine what lessons can be learned from these incidents. This information is then made available to the fire safety community to be used in developing future codes and standards. A complete listing of reports is available, either upon request or can be viewed on our web page.

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