

Retail Store Fire Investigation
Chesapeake, VA
March 18, 1996
SUMMARY

At approximately 11:30 a.m. on Monday, March 18, 1996, fire fighters in Chesapeake, VA, responded to a fire in an auto parts store. No fire was visible from the exterior of the building when the fire fighters arrived. Two fire fighters entered the building and located a small fire at the rear of the store. The fire fighters extinguished the fire and began checking for fire extension. Approximately 20 minutes after their arrival, the roof of the building collapsed and the two fire fighters were trapped inside. The fire fighters both died of burns, with smoke inhalation being a contributory factor.



The building involved was approximately 12 years old. Two of the building's exterior bearing walls were constructed with unprotected steel frames and two were constructed with masonry block. Lightweight wood trusses with a clear span of 50 ft (15.2 m) supported the store's roof. Because the facility was an auto parts store, it contained a wide variety of combustible and noncombustible materials, flammable auto paints (liquid and aerosol), and other flammable and combustible liquids. Most packaging materials and some shelving materials were also combustible.

The fire occurred when a utility worker damaged the electrical service drop conductors on the outside of the store. Electrical arcing inside the store ignited fires that quickly involved the wood trusses supporting the roof and ignited a fire in the area of an electric hot water heater. Though some of the fire was visible to anyone in the occupied area of the building, much of the fire was hidden in the concealed space above the

store's ceiling, and the fire was able to spread in that area.

The fire fighters who died in this fire probably did not know that the building was constructed with lightweight wood roof trusses. Approximately seven minutes after they had arrived on the scene, the crew inside the building radioed their battalion chief to report that they had found the fire. They asked for a second crew to come into the building and requested a pike pole. Approximately 13 minutes after this transmission, the roof collapsed, intensifying the fire and trapping the fire fighters inside the building. The trapped fire fighters radioed for assistance but, for an undetermined reason, the incident commander did not understand the transmission. Two other chief officers who were responding to the scene did hear the transmission and relayed the information to the on-scene commander. By the time the on-scene commander realized that fire fighters were possibly trapped inside the building, the fire had become too intense to attempt rescue operations.

On the basis of the NFPA's investigation and analysis of this fire, the following factors contributed significantly to the loss of the two Chesapeake fire fighters:

- The presence of lightweight wood roof trusses.
- Fire officers and fire fighters unaware that the roof of the Chesapeake auto parts store was constructed with lightweight wood trusses.
- The lack of a fire attack strategy that could minimize the risk to fire fighters while suppressing a fire involving lightweight wood trusses.
- The lack of automatic sprinklers.



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