

FACE: 9617
DATE: MAY 20, 1996
CAUSE: ROOF COLLAPSE
SUBJECT: Sudden Roof Collapse of a Burning Auto Parts Store
Claims the Lives of Two Fire Fighters--Virginia

On March 18, 1996, two male fire fighters (38-and 32-years-old) died while fighting a fire in an auto parts store. On April 8, 1996, the International Association of Fire Fighters (IAFF) notified the Division of Safety Research (DSR) of the fatalities, and requested technical assistance in investigating the circumstances of the deaths of these two fire fighters. On April 15, 1996, the Chief of Trauma Investigations Section traveled to Virginia to conduct an investigation of this incident. Meetings were conducted with Virginia OSHA personnel, the fire department battalion/fire marshall, fire department investigators, fire fighters involved in the incident, and the IAFF union representative. Copies of photographs of the incident site and the transcription of dispatch tapes were obtained, and a site visit was conducted.

The fire department involved in the incident serves a population of 183,000 in a geographic area of 350 square miles. The fire department is comprised of approximately 320 workers, of whom 258 are fire fighters. The fire department provides all new fire fighters with the basic 13-week training at the fire academy, and requires 2 hours additional on-the-job training per shift. The daily training scheduled is developed by the training officer and is sent to all stations. The required training is designed to cover fire department operation, e.g., ladder training, aerial operations, hose training, breathing apparatus, etc. The written standard operating procedures manual was reviewed and appears to be complete.

The site of the incident (auto parts store - measuring 50 feet by 120 feet) was located in a strip mall which was built in 1984. Most of the stores in the mall were built with masonry walls and steel trusses. However, the auto parts store had wooden 2-by 6-inch trusses that spanned the 50-foot width. The store had three heating-ventilation-air-conditioning (HVAC) units mounted on the roof, with an estimated total weight of 3000 pounds (Figure).

Although several fire companies were involved in this incident as shown in the figure, only those directly involved up to the time of the fatal incident are cited in this report.

- o Fire departments should ensure that fire command always maintains close accountability for all personnel at the fire scene [1-4]
- o Fire departments should ensure at least four fire fighters be on the scene before initiating interior fire fighting operations at a working structural fire [2,5]

- o Fire departments should ensure that standard operating procedures and equipment are adequate and sufficient to support the volume of radio traffic at multiple-responder fire scenes [3]
- o Fire departments should ensure that pre-fire planning and inspections cover all structural building materials/components
- o Municipalities should ensure that all electrical circuits are installed in accordance with the National Electrical Code, and fire departments should include electrical inspection on pre-fire planning and inspection [7].