FACE INVESTIGATION

SUBJECT: 22 year old female firefighter trainee dies at the training academy after a 28 foot fall from a cat ladder during her second day of training

SUMMARY:

A 22 year old female white firefighter trainee fell 28 feet from a cat ladder to concrete the second day of her initial training. The victim was climbing the cat ladder on a training tower in full turnout gear (jumpsuit, firehood, socks, boots, turnout coat and pants, helmet, gloves, and a spanner belt around her waist from which hung a fire axe) late in the afternoon near the end of a full day of training. No water was being used in the training, therefore all surfaces were dry. It was partly cloudy, humid and 67 degrees at the time of the incident. The police report indicates that witnesses saw the victim put her arms around the ladder, then fall backward off the ladder, head and shoulder hitting concrete first. No fall protection devices were used for this training as is standard procedure (the spanner belt mentioned above is a tool, it is not used to secure a firefighter to equipment or structures). No one heard the victim say anything prior to or during the fall. The victim was not carrying anything during the climb. The fall occurred at about 3:40 PM and caused traumatic head and neck injuries. First aide was supplied immediately by Fire Department personnel at the scene. The victim was taken to an area hospital where she was pronounced dead at 5:45 PM. The Wisconsin FACE director concluded that, in order to prevent similar occurrences, the employer should:

! For training purposes, consider using a flexible cable system on fixed ladders. Such a system consists of a tensioned steel cable with a safety sleeve that runs the entire length of the climbing area. The worker connects to the sleeve prior to climbs.

! Review present heat exhaustion and/or dehydration policy for trainees to determine if any changes are needed.

INTRODUCTION:

On September 1, 1992, a 22 year old female firefighter trainee fell 28 feet during a training exercise. The Wisconsin FACE investigator was notified by the Department of Industry Labor and Human Relations on September 15, 1992. A visit was made to the site on January 14, 1993 where two of the trainee instructors present at the time of the incident were interviewed. Photographs were taken and additional photographs were obtained from the police department. Reports were obtained from the police department and the coroner's office. A death certificate was obtained.

The training academy has been operating for 70 years, 20 years in the present location. Training and safety are integrated into the recruit training and there have been no other fatalities in recruit training during 70 years of operation. There are 1,119 persons employed and 35 are recruits in training. The training instructors function as safety officers and report in a military style chain of command. There is written, classroom and on the job training provided to recruits. Records of training are maintained, competence

is measured, safety issues are discussed prior to each training event. A pre-employment physical was required. The trainee was following standard operating procedures at the time of the fall.

INVESTIGATION:

36 recruits were in their second day of on the job fire fighter training when the incident occurred. The training site involved a training tower 6 stories high with a fixed ladder attached. This outer ladder lead to the first floor, second floor, third floor, fourth floor and fifth floor landings. A recruit would climb the ladder to the first floor level, climb over the railing onto the first floor landing then proceed down a fire escape and get in line to climb again, this time to the second landing etc., until all 5 floors had been accessed. The victim was on her way to the fourth floor when the fall occurred. No fall protection was used and this is standard operating procedure. Full turn out gear was worn as stated earlier.

Recruits had been doing climbing exercises all during the day. All recruits, including the victim had climbed an 85 foot and a 110 foot aerial ladder successfully prior to the cat ladder exercise. In the afternoon the group had been split into 2 groups, with 1 group (including the victim) climbing the cat ladder while the other group remained on the ground. According to witness statements, the victim had trouble getting off at the third floor and onto the third floor landing and complained that her hands were tired. The instructor corrected her method of climbing and when her turn came, she climbed the ladder to a point between the third and fourth floors. She stopped and put her arms around the ladder, she then let go of the ladder fell back with her feet leaving the ladder last and fell to the ground on her face and shoulder. The fall occurred at 3:40 and the instructors provided immediate first aide and called for a Med unit and emergency transport to a trauma center. The victim was admitted to the trauma center at 4:30 PM and was pronounced dead at 5:45 PM.

CAUSE OF DEATH: Traumatic head and neck injuries due to, or as a consequence of a fall

RECOMMENDATIONS/DISCUSSION:

Recommendation #1: For training purposes, consider using a flexible cable system on fixed ladders. Such a system consists of a tensioned steel cable with a safety sleeve that runs the entire length of the climbing area. The worker connects to the sleeve prior to climbs both up and down the ladder.

Discussion: For training purposes, this type of device may provide a method of fall protection for recruits who experience unexpected weakness during training maneuvers.

Recommendation #2: Review present heat exhaustion and/or dehydration policy for trainees to determine if any changes are needed.

The weight of turnout gear combined with heat, humidity and exertion may put recruits at risk for exhaustion and dehydration.