

FIREFIGHTER FATALITY REPORT
144 LIVERPOOL AVENUE
EGG HARBOR CITY, NEW JERSEY
NOVEMBER 1, 1992



March, 1993

STATE OF NEW JERSEY
Jim Florio, Governor

DEPARTMENT OF COMMUNITY AFFAIRS
Stephanie R. Bush, Commissioner

TABLE OF CONTENTS

INTRODUCTION Page 2

SUMMARY Page 3

FIRE DEPARTMENT Page 4

INCIDENT SCENARIO Page 4

FIREFIGHTER CASUALTY SCENARIO Page 4

RECOMMENDATIONS Page 6

 Cardiopulmonary Resuscitation Page 6

 Physical Examinations for Firefighters Page 6

 Firefighter Physical Fitness Page 6

 Emergency Medical Services Support Page 7

 Restraining Devices Page 7

 Critical Incident Stress Debriefing Team Use Page 8

CONCLUSION Page 9

SUMMARY

At 9:46 AM on November 1, 1992 the Egg Harbor City Fire Department responded to a reported single family dwelling fire at 144 Liverpool Avenue. While responding to this incident Firefighter Anthony Carugno, age 45, suffered a cardiac arrest while standing on the back step of Engine F10-4. Basic Life Support (BLS) was initiated and Advanced Life Support (ALS) was on location quickly, but Firefighter Carugno could not be revived. The fire department found a heavily involved structure fire. In addition there were two civilian fatalities, and one civilian who was critically injured and died later of those injuries.

FIRE DEPARTMENT

The Egg Harbor City Fire Department (EHCFD) is an all volunteer force of 33 members. They respond to approximately 120 alarms per year from a single station on Pennsylvania Avenue.

INCIDENT SCENARIO

The Egg Harbor City Fire Department was dispatched to a reported dwelling fire at 144 Liverpool Avenue, Egg Harbor City at 9:46 AM on Sunday, November 1, 1992.

First arriving EHCFD unit, an Assistant Chief, found a heavily involved single family dwelling fire. Units were assigned to fire attack and support functions. Mutual aid from South Egg Harbor was also dispatched on the first alarm for a dwelling fire by department protocol. Egg Harbor City Emergency Medical Services (EHCEMS) and a West Jersey Health Systems Paramedic Unit also were automatically dispatched for a fire standby.

FIREFIGHTER CASUALTY SCENARIO

Firefighter (FF) Carugno, age 45, was riding the tail board of Egg Harbor City Engine F10-4 which was the last apparatus to respond to the incident. He rode on the rear step with a captain and a firefighter. FF Carugno was standing in the middle, with the captain on his left and the other firefighter on his right. Egg Harbor City Fire Department Chief Barry Kienzle reported that it was FF Carugno's usual practice to wear the rear step safety harness. For unknown reasons he did not utilize one on this occasion. Chief Kienzle reported that FF Carugno was a believer in the use of belts and that he often chided members who did not use them.

Captain Frank DiClementi rode the rear step with FF Carugno. The captain stated, in an Egg Harbor City Police Department statement, that FF Carugno was standing next to him appearing normal. He did state that he thought that FF Carugno may have appeared pale when he boarded the engine, but this was hard to determine since FF Carugno was wearing a protective hood. After the apparatus had travelled several blocks, FF Carugno suddenly slumped to a crouching position and was holding his hands to his chest. FF Carugno then rolled off the tail board.

Capt. DiClementi stated that he could not react quickly enough to catch FF Carugno. The Captain rang the buzzer for the apparatus driver to stop. Capt. DiClementi also stated that he told FF Carugno not to move, but wasn't sure that he was conscious at this time.

The driver, FF Paul Rundio, stated that when he heard the buzzer he stopped. He then looked in his right side mirror and could see a firefighter (Carugno) lying on the street. Capt. DiClementi then ran to the cab and told the firefighters there to call for an ambulance. FF Bagnell, riding the officer's seat, radioed for EMS assistance. FF Rundio then backed the engine up closer to the fallen firefighter. Germania Emergency Medical Services (GEMS) was dispatched for an additional ambulance. Paramedics were already enroute to the original incident scene and were redirected to the site of the firefighter casualty.

Atlantic County Fire Marshal Harold Swartz stated that he believed that the apparatus was travelling slowly. The engine was travelling a street with stop signs at each intersection. The casualty occurred approximately 3 blocks from the incident scene.

Chief Kienzle reported that when FF Carugno was turned face up and his face was "blue". Upon the arrival of the Germania EMS' Chief, Cardiopulmonary Resuscitation (CPR) was initiated. BLS and ALS treated the firefighter on scene and then transported him to Mainland Medical Center, where he was pronounced dead in the emergency room.

Detective Sergeant Raymond Peterson reported that he viewed the body. He stated that the only outward signs of trauma were minor contusions to the face. The death certificate, signed by Lyla E. Perez, MD, New Jersey State Medical Examiner's Office, stated that there were no traumatic injuries. An autopsy was performed and the results are pending toxicological testing.

RECOMMENDATIONS

Cardiopulmonary Resuscitation

The Bureau of Fire Safety recommends that Cardiopulmonary Resuscitation (CPR) certification training should be given to all firefighters, career and volunteer. The ability to immediately initiate CPR could be vital in reviving a civilian or firefighter at an incident scene, in training, during normal station duties, *etc.* The first few minutes are critical for providing CPR and if all firefighters are certified in it's application there would be an increased chance of survival for any victims that may be encountered.

With the protection from infectious diseases of members who provide EMS treatment being critical, fire departments should also issue each CPR trained member a CPR pocket mask with one way valve and appropriate gloves, or have them immediately available for use on apparatus.

Fire departments should also consider the purchase of minimum emergency medical services equipment to allow trained personnel to handle incidents while awaiting the arrival of EMS.

Physical Examinations for Firefighters

The Bureau of Fire Safety also recommends that firefighters should be given physical examinations upon entry and periodically thereafter. Information for firefighter physical qualifications can be found in NFPA Standard 1582-1992, *Standard on Medical Requirements for Firefighters.*

Firefighter Physical Fitness

The Bureau of Fire Safety recommends that fire departments encourage firefighter physical fitness. NFPA 1500-1992, *Fire Department Occupational Safety and Health Program*, suggests that fire departments "establish and provide a physical

fitness program to enable members to develop and maintain an appropriate level of fitness to safely perform their assigned functions."¹

Emergency Medical Services Support

In this instance the Egg Harbor City Fire Department had the Egg Harbor City Emergency Medical Services dispatched for a fire standby, therefore a basic life support ambulance was already on location when the firefighter casualty occurred.

The Bureau recognizes the heavy work load that New Jersey's Emergency Medical Service carries, but recommends that EMS units be dispatched on all working structure fires as a precautionary measure.

The automatic dispatch of an Advanced Life Support Unit (paramedics) to an incident with a report of persons trapped is also recommended. Egg Harbor City Fire Department had this protocol in place.

Restraining Devices

In this incident the medical reports indicated that the restraining of the firefighter would not have altered the outcome. If the situation had been non-life threatening, but caused the firefighter to lose balance or grip, then the restraining device would keep the firefighter from falling off the apparatus.

The Public Employees Occupational Safety and Health Regulations adopted by the New Jersey Department of Labor on January 4, 1993 (N.J.A.C. 12:100-10 *et seq.*) require all fire apparatus to have restraining devices by January 4, 1998. It also requires all apparatus purchased or remanufactured after January 4, 1993 to meet the appropriate NFPA apparatus standard (*e.g., NFPA 1901-1991 Pumper Fire Apparatus, NFPA 1902-1991 Initial Fire Attack Apparatus, etc.*). This means that on all new or refurbished apparatus the members must be seated and belted in enclosed cabs. NFPA 1500-1992 states:

¹*National Fire Protection Association Standard 1500, Fire Department Occupational Safety and Health Program, 1992 edition, National Fire Protection Association, Quincy, MA*

All persons riding on fire apparatus shall be seated in approved riding positions and shall be secured to the vehicle by seat belts at anytime the vehicle is in motion...Riding on tailsteps, sidesteps, running boards, or in any other exposed position shall be specifically prohibited.²

The Bureau strongly recommends that all members riding fire apparatus be restrained. This will keep firefighters from being ejected from the apparatus in an accident. The Bureau also strongly recommends that firefighters not ride in exposed positions on fire apparatus. If this is not possible, then members riding in exposed positions should be restrained. A restraining device will keep a member from falling from any exposed riding positions should some medical emergency, injury or other situation occur.

Critical Incident Stress Debriefing Team Use

The use of the Critical Incident Stress Debriefing (CISD) Team in this instance was very helpful to the firefighters involved. The Bureau of Fire Safety recommends the notification and use of CISD teams when the CISD trigger events are found to be present. Such significant events may include³:

- line of duty death of a co-worker
- mass casualty incidents
- death of a child
- death occurring after prolonged rescue efforts
- when a victim reminds an emergency worker of a loved one
- during highly dangerous or highly visible events
- when the emergency worker influences death or injury
- co-worker suicides
- any other unspecified highly traumatic event

Further information on critical incident stress debriefing is available from the CISD Network of New Jersey at (201) 592-3528. The statewide emergency contact number for activation of a CISD team is (609) 395-3600.

²National Fire Protection Association Standard 1500. Fire Department Occupational Safety and Health Program, 1992 Edition. National Fire Protection Association, Quincy, MA.

³Trigger events information from Critical Incident Stress Debriefing Network of New Jersey.

CONCLUSION

The Egg Harbor City Fire Department exhibited a great degree of professionalism and skill in handling a working dwelling fire, concurrent with the loss of two civilians, a critically injured civilian and also what was then thought only to be a serious casualty to a member of their department. Chief Kienzle and his firefighters made an excellent stop of the dwelling fire and provided appropriate Emergency Medical Services to the civilians and their firefighter.