

NEW JERSEY DIVISION OF FIRE SAFETY

Firefighter Fatality and Serious Injury Report Series

Firefighter Dies During a Fire In His Own Residence

**Burlington Township, New Jersey
February 9, 2006**

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**STATE OF NEW JERSEY
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INTRODUCTION

The investigation of this incident was conducted by the New Jersey Division of Fire Safety / Office of the State Fire Marshal in conjunction with the New Jersey Department of Labor. This report was prepared in accordance with N.J.S.A. 52:27D – 25d, Duties of the Division. The purpose of these firefighter casualty investigations is to report the causes of serious firefighter injuries or deaths and identify those measures which may be required to prevent the future occurrence of deaths and serious injuries under similar circumstances. In some cases new information may be developed, or old lessons reinforced, in an effort to prevent similar events in the future.

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EXECUTIVE SUMMARY

On the early morning of February 9, 2006, a fire occurred in the home of Edward Marbet, a volunteer firefighter (FF) with the Burlington Township Fire Department (BTFD). Ironically since the fire occurred in his own home, Marbet was not equipped with his personal protective equipment that he would typically utilize when responding to fires in other citizen's homes.

FF Marbet attempted to extinguish the fire using a coffee pot and a large dispenser-type water bottle. He then attempted to push the couch down the stairs to remove it; however, it got lodged on the landing behind the closed front door. The smoldering couch fire was provided with an adequate oxygen supply, due to an open sliding door and window(s), and erupted into open flame. This blocked FF Marbet's egress, causing him to retreat to the 2nd floor dining room, where he broke out a window possibly in an attempt to exit the home. However, he succumbed to the products of combustion prior to exiting.

In order to minimize the risk of similar incidents, the New Jersey Division of Fire Safety identified key issues that must be addressed and remedies that should be implemented within all departments.

1. FACTOR:

Rather than exiting his home, FF Marbet attempted to extinguish the fire and without personal protective equipment, succumbed to the fire.

REMEDY:

Firefighting is extremely hazardous even when properly equipped with personal protective equipment including self contained breathing apparatus. Without this equipment a fire is likely to be deadly; as in this case. Firefighters are trained that it is impossible to survive for more than a few minutes and sometimes less without the benefit of proper protective gear. This fact is reinforced through the experiences most firefighters have with civilian fatalities during their firefighting careers. Although it is difficult to leave one's own burning home and possessions during a fire, firefighters must practice what they preach: Get out and stay out. A firefighter might experience more intense feelings of futility than the average person during a fire in their own home, but they must realize that they are just as vulnerable to the effects of fire when not properly equipped.

2. FACTOR:

FF Marbet made a call to 9-1-1 to report the fire from inside the residence but did not provide a location of the home or details about the emergency. This left the 9-1-1 operator unsure of what type of emergency was occurring until a neighbor called 9-1-1 two minutes later and provided

additional information. Consequently, the dispatch of the fire department was delayed by approximately three minutes.

REMEDY:

One of the primary lessons taught by firefighters who are involved with public fire education is to call 9-1-1 from a neighbor's home after you are out of your home and to provide as many details as possible to the 9-1-1 dispatch center so firefighters can quickly respond to your emergency. Additionally, remaining in the burning house increases the time you are exposed to the toxic products of combustion and increases the likelihood that you will be killed by the fire.

INVESTIGATION

Pursuant to New Jersey Incident Management System regulations, to provide for uniform identification of locations and operational forces within an incident scene, the scene is divided geographically into smaller parts which are designated as divisions. Specific areas of the incident scene are to be designated as follows:

- *Sides of incident scenes shall be identified as letters of the alphabet beginning with the letter "A."*
- *The side of the incident scene that bears the postal address of the location shall be designated as Division "A" by the Incident Commander. Where the incident scene has no postal address, the Incident Commander shall select any side to designate Division "A"*
- *Continuing in a clockwise rotation, the side adjacent to the Division "A" side shall be designated as Division "B."*
- *Continuing in a clockwise rotation, the side adjacent to the Division "B" side shall be designated as Division "C."*
- *Continuing in a clockwise rotation, the side adjacent to the Division "C" side shall be designated as Division "D."*
- *Floor levels shall be designated as Division "Basement" or "0"; "1"(ground level – not necessarily street level); "2", "3", and so on.*

During the early morning hours of February 9, 2006, a fire occurred in the home of Edward Marbet, a volunteer firefighter (FF) with the Burlington Township Fire Department (BTFD). Interviews of family members and emergency responders provided the following details surrounding this incident.

FF Marbet lived with his fiancée, Rebecca Sternotti and his father, Charles Marbet in the single-family residence located at 25 Walnut Drive in Burlington Township. This home is best described as a 2-story, wood-framed split-level home, in which upon entering the home, one must immediately ascend or descend the interior "split" stairway to enter the living areas. Aside from this main egress door located in the center of the Division A side, all other egress doors were on the lower level; one was a sliding glass door out the Division C side, the other was a door leading out through the attached garage.

At the time of the fire, Ms. Sternotti was asleep in a second floor bedroom when she was awakened by FF Marbet yelling and a smoke detector sounding; Charles Marbet was in a bathroom in the lower level of the home upon hearing this commotion and smelling smoke. Upon exiting the bedroom, Ms. Sternotti reported seeing a minor smoke condition, with FF Marbet yelling and attempting to extinguish a smoldering fire on a couch in the living room located at the end of the hallway. She stated that he was initially swatting at it with something, possibly papers, when he saw her and told her to get some water. She went to the kitchen sink and filled a coffee pot with water and handed it to FF Marbet, but she did not see if he dumped it on the fire. They both continued yelling to Charles Marbet, telling him to get out of the house.

While attempting to extinguish the fire, FF Marbet told Ms. Sternotti to take the family dog and get out of the house; he also called 9-1-1 from within the home at 5:41 AM. A recording of this phone call revealed that FF Marbet dropped the phone, leaving the operator only hearing the sounds of some type of alarm

sounding and yelling in the background prior to the phone getting disconnected after a few seconds. The 9-1-1 dispatch center was able to determine the address through their computer aided dispatch system, but they were not completely certain of the type of emergency. During this time, Ms. Sternotti exited the home with the dog via the main front door, which closed behind her. FF Marbet remained inside the home, yelling for her to open the front door, which despite her attempts, she could not, as the door was either stuck or locked. She began yelling outside, alerting neighbors to the fire. One neighbor reported seeing small flames in the windows and running over to assist by breaking a window and yelling inside. They had not known that Charles Marbet had already exited the home via the rear sliding glass door, (which was left open after exiting) as he remained in the rear yard for some time.

Ms. Sternotti stated she could still hear commotion from inside the structure; she heard something fall down the stairs and hit the door. Charles Marbet reported hearing a window breaking on the 2nd floor rear area. Soon after, a “whooshing” sound was heard and the front doorway area of the home was engulfed in flames.

At 5:43 AM a neighbor called 9-1-1 and specified that there was a fire at the home. The Burlington Township Fire Department (BTFD) was dispatched to the fire with reported entrapment of an occupant at 5:44 AM. It was not initially known by the fire department that this was the home of one of their members. Police officers were first to arrive. They attempted to enter the structure, but could not due to the fire and smoke conditions. The first BTFD officer on scene was Fire Director Anthony Correia at 5:47 AM, three minutes after the initial fire department dispatch. He observed smoke venting from a 2nd floor window and heavy fire conditions at the front door area. He was approached by a frantic Ms. Sternotti, who confirmed a trapped occupant. BTFD apparatus and additional FFs arrived soon thereafter, deploying a hoseline to quickly knock-down the fire at the front door. They encountered a large piece of furniture burning inside the doorway, which was removed to the front lawn so that they could enter and search the home. Crews proceeded to the 2nd floor of the residence for search and rescue operations. They soon located the body of FF Edward Marbet, which was found under the aforementioned broken-out window on the 2nd floor. BTFD personnel soon identified the victim as FF Edward Marbet.

ANALYSIS

Fire Origin and Cause Investigation

The fire investigation was performed by members of the BTFD Bureau of Fire Prevention, along with other local, county and state investigators. The investigation revealed that the fire originated in an upholstered couch located along the Division B wall of the 2nd floor living room.

Actions of FF Marbet

Evidence shows that FF Marbet attempted to extinguish the fire using the coffee pot and a large dispenser-type water bottle. Sometime during this period he also called 9-1-1 from inside the home and then dropped the phone. He then attempted to push the couch down the stairs to remove it from the house, however, it got lodged on the landing behind the closed main door. The smoldering couch fire was provided with an adequate oxygen supply, possibly due to the open sliding door and window(s), and erupted into open flame. This blocked FF Marbet's egress, causing him to retreat to the 2nd floor dining room, where he broke out a window possibly in attempt to exit the home. However, he succumbed to the products of combustion prior to exiting.

Casualty Scenario

An autopsy was performed by the Burlington County Medical Examiner's Office. The official cause of death of FF Edward Marbet was listed as smoke inhalation with 2nd and superficial 3rd degree burns. A toxicology report from the NJ State Toxicology Lab noted a carboxyhemoglobin level of 56% in his blood. Serious toxicity is often associated with carboxyhemoglobin levels above 25%.

Carboxyhemoglobin is a compound produced in the blood when carbon monoxide, one of the main products of combustion, binds with the body's hemoglobin and excludes oxygen from being absorbed by the body. The affinity between carbon monoxide and hemoglobin is 240 times stronger than the affinity between hemoglobin and oxygen. This action results in death through asphyxiation.

LESSONS LEARNED

Firefighter Actions without benefit of Personal Protective Equipment

As stated previously in this report, firefighting is extremely hazardous even when properly equipped with personal protective equipment including self contained breathing apparatus.

The training that firefighters receive stresses that it is impossible to survive for more than a few minutes and sometimes less without the benefit of proper protective gear. One of the main components of smoke is carbon monoxide; an odorless colorless gas that even in small concentrations can be deadly over time. The quantities that are produced in a fire in an enclosed structure can be tremendous and can render a person unconscious in seconds and kill a person in minutes. In fact carbon monoxide levels of 12,800 ppm typically results in death in less than three minutes. Additionally, superheated gases that are produced by fires can sear the respiratory tract of victims and thus destroy the lungs.

These facts are reinforced though the experiences most firefighters have with civilian fatalities during their firefighting careers. Although it is difficult to leave one's own burning home and possessions during a fire, firefighters must practice what they preach: Get out and stay out. A firefighter might experience more intense feelings of futility than the average person during a fire in their own home, but they must realize that they are just as vulnerable to the effects of fire when not properly equipped and acting without assistance.

CONCLUSION

This fire resulted in the death of a veteran firefighter, who was ironically killed in his own home after ensuring the evacuation of his family members from the structure.

During the course of this investigation, several factors were determined to have played a key role in the death of FF Marbet, including:

- Attempting to extinguish the fire rather than exit the home.
- Failing to give the 9-1-1 operator any information regarding the fire which delayed the dispatch of the fire department.
- Attempting to remove the couch from the structure which cut-off his means of egress.
- Rapid smoke and fire development of the highly combustible couch cushion foam upon receiving an adequate air supply.

When dealing with fires in their own residences, firefighters may underestimate the potential of the fire, and/or may want to avoid the embarrassment of having to call the fire department. Firefighters must remember that even having the proper training, without the proper tools and equipment, such as when off-duty, they are just as vulnerable as everyday citizens when it comes to the effects of a fire.

REFERENCES

Investigation Report: Burlington Township Fire Prevention Bureau.

Dispatch Tape of 9-1-1 calls – Burlington County Dispatch Center

Essentials of Fire Fighting - Fourth Edition. International Fire Service Training Association (IFSTA). Oklahoma State University, 1998.

N.J.A.C. 5:75 – Fire Department Incident Management System. NJ adoption of NFPA 1561 – Standard on Fire Department Incident Management System, 1995 edition.