

STATE FIRE MARSHAL'S OFFICE

Firefighter Fatality Investigation



Volunteer Firefighter James McMorries

Howardwick Volunteer Fire Department

Date of Incident: March 12, 2006

Date of Death: April 9, 2006

Texas Department of Insurance
Austin, Texas

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Summary

On April 9, 2006, Howardwick Volunteer Fire Department Fire Fighter James McMorries, age 62, died as result of injuries sustained when he was ejected when the fire truck he was driving overturned. He was not wearing a seat belt. Howardwick VFD Capt. Jeff Cook and Firefighter Joseph Garcia were seriously injured in the same incident.

The incident occurred on March 12, 2006 during wild land fire fighting operations that originated in Donley County and continued into Gray County.

Firefighter James McMorries joined the fire department in January 2006 after a wild fire came close to his residence in Howardwick earlier that month. He is survived by his wife and children.

Introduction

The State Fire Marshal's office began a preliminary firefighter field fatality investigation on May 16, 2006. This investigation was conducted under the authority of Texas Government Code, Section 417.0075. This statute requires SFMO to investigate the circumstances surrounding the death of the firefighter, including the cause and origin of the fire, the condition of the structure, and the suppression operation, to determine factors that may have contributed to the death of the firefighter. The State Fire Marshal is required to coordinate the investigative efforts of local government officials and may enlist established fire service organizations and private entities to assist in the investigation.

Involvement and notification to other entities during this preliminary field investigation was limited to fire department personnel.

Origin and Cause Investigation



Area of Origin

Deputy State Fire Marshal Kelly Vandygriff conducted an origin and cause investigation on March 24, 2006. Vandygriff concluded that the fire originated on property owned by Dan Steed of Groom, Texas approximately six miles east of the city of Groom and one mile south of Interstate 40 in Donley County. Vandygriff concluded the fire was the result of electrical wires touching causing arcing in forty to fifty mph winds.

Fire Ground Operations

The following sequence of events was developed from known times of events based on fire department run records, Donley County Sheriff Office logs and communication with fire department personnel.



View of smoke obscuring visibility on IH 40 from DPS dash camera

On Sunday, March 12, 2006 at approximately 1107 hours, Donley County Sheriff's Office received a 911 call from a cell phone reporting a fire approximately one-half mile south of Interstate 40 near mile marker 120. The Howardwick Volunteer Fire Department was paged at 1118 hours by the Donley County Sheriff's Office. The fire was fanned by forty to sixty mile per hour winds and crossed Interstate Highway 40 near mile marker 123. The smoke and dust from the fire obscured visibility on IH-40 causing a multi-vehicle crash that resulted in four fatalities.

Howardwick VFD Unit #417, a modified 1000 gallon brush truck driven by James McMorries responded to the area of Interstate 40 and assisted in fighting the grass fire along the highway. Volunteer Firefighter Milton Brown was riding the bumper manning the bumper nozzle. At approximately 1430 hours Brown was relieved by Captain Jeff Cook. Firefighter Joseph Garcia joined them later in the day. All involved Firefighters were members of the Howardwick VFD.

Fire ground operations included driving the tanker along the roadway and in the median to extinguish areas of grass fire. Howardwick VFD was working alongside other departments from the area including Clarendon, McLean, and Groom. A water refill and command center was set up at the rest area on the south side of Interstate 40 at mile marker 129.

McMorries continued to drive the apparatus with Capt. Jeff Cook manning the bumper nozzle. Joseph Garcia relieved Cook approximately 1800 hours and Cook rode in the passenger compartment.

At approximately 1900 hours, after refilling at the rest area, Unit #417 was creeping east along the westbound shoulder in the soft sand between the paved shoulder and the drop-off into a ravine. The wind shifted and fire began approaching the truck. Garcia, riding the front bumper, motioned to McMorries to back up. As the truck reversed, the driver's side rear wheels lost traction in the sand and the truck loaded with water turned over and rolled down the side of the ravine.



View of the location of the roll over

Clarendon Volunteer Fire Department was in the area near the bottom of the ravine fighting the grass fire from the “black,” the area of the grass fire that was already burned. Clarendon Firefighters were the first responders on the scene after the rollover.

Building Structure and Systems

No building structure or systems examination was necessary.

Apparatus



Location of Unit #417 after roll over

The apparatus was obtained by Howardwick VFD in 1980 from the Federal Excess Personal Property (FEPP) program administered by the Texas Forest Service. The AM General Corporation six-by-six, 2 ½ ton flatbed truck was modified for use as a 1000 gallon brush truck. The modification included the addition of the non-baffled 1000 gallon water tank, pump assembly, bumper rack, and all associated piping. Modifications were made by the Howardwick Volunteer Fire Department.

Personal Protective Equipment Evaluation

McMorries was wearing his bunker coat while operating the truck. Information obtained from Howardwick VFD Asst. Chief Brian Burney indicates that Cook and Garcia were wearing full bunker gear with helmet and Nomex hood. Captain Cook believed his helmet probably saved his life by protecting his head. Cook also believed that he was not burned because he was wearing his personal protective equipment. Asst. Chief Burney states that Garcia would have sustained more serious burn injuries if he had not been wearing his full personal protective equipment.

Medical Background of Firefighter

Information regarding the medical background of the deceased is not available.

Training and Personnel Records Evaluation

James McMorries became a volunteer firefighter with the Howardwick VFD in January 2006. Information provided by Asst. Chief Brian Burney, Howardwick V.F.D. indicated Firefighter McMorries was not a certified firefighter through any state or national entity. Asst. Chief Burney stated that McMorries had experience as a truck driver and held a commercial drivers license issued by the State of Texas. Additionally, Asst. Chief Burney stated that McMorries received in-house training and testing on his ability to operate the apparatus.

Investigation Into the Firefighter Fatality

As Unit #417 was moving east, the wind shifted and fire moved up the side of the ravine and was approaching the truck. Garcia, riding the front bumper, motioned to McMorries and he began to back up. As the truck was shifted to reverse the driver's side rear wheels slid toward the edge of the ravine. Passenger Cook stated that he felt the tires slide and then drop off the edge of the improved shoulder. The rear of the truck continued to drop off the edge causing the weight to shift and the truck to overturn. The truck rolled over one time before coming to rest on its wheels.

Garcia attempted to jump from the bumper but was struck by the bumper guardrail as it rolled into the fire area. He sustained second degree burns to his right hand and fractured a leg in two places.

Capt. Cook was ejected from the passenger seat and landed nearly 30 yards down the side of the ravine fracturing his neck in three places, puncturing his left lung and breaking 4 ribs on his left side.

McMorries was ejected from the driver's seat and sustained critical head, back, rib, and spinal injuries and later suffered two strokes.

CPR was immediately administered to McMorries by Howardwick VFD Volunteer Kenny Bridges, a registered nurse. Licensed vocational nurses Chandra Holman and Rhonda Howell of the Clarendon VFD Auxiliary responded and assisted in performing CPR and stabilizing the injured firefighters.

Clarendon EMS was dispatched at 1902 hours arriving at 1922 hours. Lifestar air ambulance was dispatched to the scene at 1910 hours arriving at approximately 1945 hours.

McMorries remained unconscious in Intensive Care at Northwest Texas Hospital in Amarillo for four weeks before succumbing to the injuries.

Findings and Recommendations

The following recommendations are based upon nationally recognized consensus standards for the fire service. All fire departments should be aware of the content of the standards and should develop programs based on them to increase the level of safety for fire department personnel.

Finding #1 - Firefighter McMorries was not wearing his safety belt while operating the apparatus as required by the Texas Transportation Code or wearing his full protective equipment while operating in a fire area.

Recommendation: Firefighters should adhere to state traffic regulations and nationally recognized standards regarding the use of vehicle safety belts.

Texas Transportation Code § 545.413 (Safety Belt Use Required); NFPA 1500, Standard on Fire Department Occupational Safety and Health Programs, Chapter 6.3.1, 6.3.2

Finding #2 – Firefighter McMorries drove the tanker into an area where the vehicle was exposed to an unnecessary level of risk. Further, when faced with being overrun by the wild fire, McMorries was not able to extricate the vehicle safely.

Contributing factors:

- The fully loaded cargo tank trailer exceeded the maximum gross weight listed on the data plate by at least 3500 pounds.
- The ground next to the roadway was newly graded and did not provide a stable base for a truck of this size and weight.
- There were no baffles in the water tank to control water movement and subsequent weight shifts.

The overloaded vehicle with inadequate water tank baffles presented an extreme challenge to the driver to maintain control.

Recommendation: All fire departments should consider safety and health as primary concerns in the specification, design, construction, acquisition, operation, maintenance, inspection, and repair of all fire department apparatus. Fire departments should utilize the resources discussed in this report to evaluate their water tender (tanker) policies.

NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, Chapter 6.1.1, Quincy, MA: National Fire Protection Association.

Finding #3 – The Howardwick Volunteer Fire Department did not implement measures to prevent the Federal Excess Personal Property (FEPP) program vehicle from being loaded over the maximum permissible gross weight when it was converted to firefighting use.

Recommendation: Any fire department acquiring a vehicle, chassis, or trailer not originally designed as firefighting apparatus should proceed with caution when converting equipment for use in firefighting. Fire departments should take into account factors such as the weight of tank water and equipment, center of gravity, load distribution, capacity of the drivetrain, tires, steering, and braking systems during fire apparatus construction.

Recommendation: All fire departments acquiring vehicles, chassis, or trailers should refer to all available manuals or documentation prior to commencing conversion or modification operations. Water tanks should be clearly marked with the tank capacity and full gross weight. Fire departments should install positive physical safeguards, such as overflow vents, to prevent vehicles from exceeding maximum permissible gross weight when fully loaded.



Texas Transportation Code § 622.952 Fire Department Vehicle (maximum weight may not exceed manufacturer's gross vehicle weight capacity); USFA/FEMA [2003]. Safe operation of fire tankers. Emmitsburg, MD: U.S. Fire Administration, Publication No. FA 248; NIOSH [2001]. NIOSH Hazard ID: Fire Fighter Deaths from Tanker Truck Rollovers. Cincinnati, OH: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2002-111.

Note: While not a finding related to the death of Firefighter McMorries, the State Fire Marshal's Office noted that another firefighter, riding on an extended bumper platform, was seriously injured in the incident. The State Fire Marshal's Office identified this activity as a factor leading to a firefighter fatality in a previous Firefighter Fatality Investigation report, (Firefighter Wiens, Wichita West VFD, 2002, <http://www.tdi.state.tx.us/reports/fire/documents/fmloddwuens.pdf>)

In the instructional handbook "Fundamentals of Wildland Fire Fighting," the International Fire Service Training Association (IFSTA) makes the following statement in a brightly colored "safety alert" box: **"WARNING: Exterior riding positions for pump-and-roll operations are extremely dangerous and this practice should be discontinued by those agencies still operating in this manner. Many firefighters have been seriously injured or killed when riding in these positions when the vehicle was involved in a collision or rollover accident."**

The IFSTA manual goes on to state, "Firefighter safety must always be the top tactical priority. Any operational advantage gained by having firefighters ride on the outside of a moving apparatus **does not** outweigh the potential danger to which they are exposed. The only safe positions for firefighters during pump-and-roll operations are in an area in or behind the cab while wearing a restraint

system OR walking beside the apparatus in view of the driver as the vehicle drives slowly.”

NFPA 1906, *Standard for Wildland Fire Apparatus* states: “A sign shall be located on the vehicle at the rear step areas and at any cross walkways to warn personnel that riding in or on these areas while the vehicle is in motion is prohibited.”

The Texas A&M University School of Engineering and the Indiana and Michigan Departments of Natural Resources collaborated to develop a low-cost remote control nozzle system for wildland firefighting with the specific intent of eliminating the need for firefighters to ride in exposed positions on moving vehicles. Plans are available at the following web site:

<http://www.roscommonequipmentcenter.com/projects/rec58u.pdf>

International Fire Service Training Association, Fundamentals of Wildland Fire Fighting, Third Edition. Stillwater OK: Oklahoma State University Fire Protection Publications; NFPA 1906, Standard for Wildland Fire Apparatus, Chapter 8.6.4, Quincy, MA: 2006 National Fire Protection Association.