

TEXAS STATE FIRE MARSHAL'S OFFICE

Firefighter Fatality Investigation



Investigation Number FY 12-04

Firefighter William Richard Danes

Brazos County Precinct 3 Volunteer Fire Department
May 17, 2012

Texas Department of Insurance
Austin, Texas

TABLE OF CONTENTS

Executive Summary	3
Introduction	4
Firefighter Fatality Investigation	5
Medical Background of Firefighter	8
Findings and Recommendations	9
State Fire Marshal Alert	12

Executive Summary

On May 17, 2012, 69-year-old William Richard Danes, an active member of the Brazos County Precinct 3 Volunteer Fire Department (BCVFD), was participating in a training exercise at the Texas Engineering Extension Services (TEEX) Brayton Fire Training Field in College Station, Texas, along with several other members of his department. During the training evolution of climbing a 24-foot ladder to the second level of a training structure, Firefighter Danes advised the instructor that he felt dizzy and returned to the ground where he collapsed. Fire department members immediately evaluated Firefighter Danes' condition and initiated cardiopulmonary resuscitation. The fire field medic responded, transported Danes in the medic vehicle to the emergency medical services (EMS) station on the fire field, and continued resuscitation efforts. College Station Fire Department EMS arrived at the field medic station, assumed patient care, and transported Danes to the College Station Medical Center, where he died at 9:33 p.m.

This report is intended to honor Firefighter William Richard Danes by providing information of lessons learned through the examination of this tragic loss to prevent future injuries or deaths. Mr. Danes joined the department in October 2011 and was an active member of the Citizens Fire and Police Academies. Mr. Danes also volunteered with the TEEX Urban Search & Rescue training division in "Disaster City" at the Brayton Fire Training Field.



William Richard Danes

Introduction

On May 17, 2012, the Texas State Fire Marshal's Office (SFMO) received notification from the Brazos County Precinct 3 Volunteer Fire Department (BCVFD) Emergency Medical Services administrator of the death of Firefighter William Richard Danes during a training exercise. Deputy State Fire Marshal Christopher Beasley was assigned to conduct the firefighter fatality investigation. Deputy Beasley responded to College Station on May 18, 2012, and began the investigation.

The State Fire Marshal's Office commenced the firefighter fatality investigation under the authority of Texas Government Code Section 417.0075.

- (a) *In this section, the term "firefighter" includes an individual who performs fire suppression duties for a governmental entity or volunteer fire department.*
- (b) *If a firefighter dies in the line of duty or if the firefighter's death occurs in connection with an on-duty incident in this state, the state fire marshal shall investigate the circumstances surrounding the death of the firefighter, including any factors that may have contributed to the death of the firefighter.*
- (c) *In conducting an investigation under this section, the state fire marshal has the same powers as those granted to the state fire marshal under Section 417.007. The state fire marshal will coordinate the investigative efforts of local government officials and may enlist established fire service organizations and private entities to assist in the investigation.*
- (d) *The state fire marshal will release a report concerning an investigation conducted under this section on completion of the investigation.*
- (e) *Not later than October 31 of each year, the state fire marshal will deliver to the commissioner a detailed report about the findings of each investigation conducted under this section in the preceding year.*
- (f) *Information gathered in an investigation conducted under this section is subject to Section 552.108.*
- (g) *The authority granted to the state fire marshal under this section will not limit in any way the authority of the county or municipal fire marshal to conduct the county or municipal fire marshal's own investigation into the death of a firefighter within the county or municipal fire marshal's jurisdiction.*

Firefighter Fatality Investigation

In the early evening of May 17, 2012, volunteer firefighter William Richard Danes was performing a training evolution on the grounds of the Brayton Fire Training Field in College Station, Texas, with 14 other members of his department. The training involved climbing a 24-foot ground ladder to reach a second-story window of the training prop known as the “tree house,” entering the structure, and returning to the ground via an attic ladder already set inside the structure. No other hazards were introduced for this training exercise. Firefighter Danes was wearing a full complement of personal protective equipment (PPE) including a self-contained breathing apparatus (SCBA). The exercise did not require use of the breathing air and Firefighter Danes was not wearing the face piece. Firefighter Danes was also carrying an axe.



Training location

The field exercise commenced at approximately 8:00 p.m. after a classroom briefing. The weather during the field exercise was described as mild at 82°F with humidity at 47 percent¹. Danes told the instructors that his back hurt because of a bladder infection and training instructors asked whether he wanted to opt out of the exercise. Danes declined and continued with the training evolution.

Firefighter Danes did not perform any extreme physical exertion prior to the ladder training but did assist in carrying the 24-foot extension ladder to the training structure before starting his evolution. According to witnesses, Danes ascended the ladder approximately three-quarters of the extended distance, stopped, and told the supervising instructor that he felt dizzy and lightheaded. The instructor told him to come down the ladder, at which point Danes handed the axe he was carrying to the instructor. Danes descended to the base of the ladder under his own power. When Danes reached the ground, he stood briefly, and collapsed. Department members grabbed him to prevent him from falling to the ground. Department members immediately evaluated his condition, removed his bunker gear and SCBA, and initiated CPR. The instructor contacted the field medic by radio to request a response to the training site, and then called 911 with his cell phone for a College Station Fire Department EMS response.

Resuscitation efforts continued as the fire field paramedic arrived and Danes was transported in the field medic vehicle to the fire field EMS base station. College Station Fire Department EMS units arrived at the field medic station and College Station Fire Department paramedics continued advanced life support (ALS) protocols. Danes was transported to College Station Medical Center where emergency room staff continued resuscitation efforts until his death at 9:33 p.m.

An autopsy was not conducted. The listed cause of death was Acute Myocardial Infarction.

¹ www.wunderground.com

TIMELINE

May 17, 2012

(Courtesy College Station Fire Department)

Medic 762 Staff: Paramedics L. Nolen, C. Donahoe

Engine 724 Staff: G. Stevener, J. Mack, L. Williams

**** ** *Time approximated to be just prior to CSFD dispatch***
Training Supervisor G. Cross radios for fire field medic response and notifies 911 for CSFD response.

20:55 Medic 762 and engine 724 dispatched

20:56 Medic 762 and engine 724 responding

20:59 Engine 724 on scene

21:01 Medic 762 on scene

- ALS protocols in progress by CSFD paramedics

21:10 Medic 762 transports Danes to College Station Medical Center

21:19 Medic 762 arrives at College Station Medical Center

- Emergency room staff continues emergency medical intervention

21:33 Danes pronounced deceased at hospital

Medical Background of Firefighter

William Richard Danes, age 69, joined the Brazos County Precinct 3 Volunteer Fire Department in October 2011. During his service, no medical conditions or physical injuries requiring medical attention were reported while he was engaged in fire department activities. Danes submitted a voluntary medical declaration to BCVFD administration sharing any medical conditions that might affect his physical performance while participating in fire department activities. Danes was being treated for high blood pressure and diabetes. No other medical conditions were noted.

BCVFD Precinct 3 guidelines state that all new members entering service with the fire department are subject to a medical evaluation and fitness assessment provided through the Texas A&M University Kinesiology Department at the Needam Steed Laboratory on the university campus in College Station. Danes did not go through the medical evaluation and fitness assessment because he did not intend to participate in interior firefighting activities. Danes was not cleared to train in or enter into atmospheres considered immediately dangerous to life and health (IDLH).

Danes was under the care of a family physician for the treatment of high blood pressure and Type II diabetes. According to the physician, Dane's health was above average for his age, and his diabetes and blood pressure were well under control with his prescribed medications. The last reported medical examination was on November 23, 2011, with no adverse results. The physician described Danes' overall health as "very good."

Danes completed a lab visit on May 16, 2012, to submit specimens for blood work. The physician's review of the results is described as excellent, noting that cholesterol levels were well within acceptable benchmarks for his age group.

According to the physician, Dane's medical records did not indicate a history of surgery, or treatment of any cardiac condition other than high blood pressure.

The death certificate indicates the cause of death as Acute Myocardial Infarction.

Findings and Recommendations

The State of Texas has not adopted minimum training standards for volunteer fire departments; however, all fire department personnel should know and understand nationally recognized consensus standards, and all fire departments should create and maintain SOGs and SOPs to ensure effective, efficient, and safe firefighting operations.

Brazos County Precinct 3 Volunteer Fire Department has an established base line physical and stress-test screening program for new members. The BCVFD has adopted and participates in the State Firemen's and Fire Marshals' Association firefighter certification program (<http://www.sffma.org/smarty/index.php?page=certification>) and provides department members opportunities for obtaining training and continuing education classes.

Although there are no contributing findings to report as a result of this investigation, nor is there any indication that the following recommendations could have prevented the death of Firefighter Danes, the State Fire Marshal's Office offers these recommendations to reduce the risk of heart attacks and sudden cardiac arrest among firefighters.

All fire departments should be aware of the content of the following standards and may choose to develop programs based on them to increase the level of safety for fire department personnel.

*All Texas firefighters must complete a "Courage to be Safe" course as adopted by the Texas Commission on Fire Protection and the State Firemen's and Fire Marshals' Association. The National Fallen Firefighters Foundation developed a course that details "**16 Firefighter Life Safety Initiatives**" so Everyone Goes Home® (<http://www.lifesafetyinitiatives.com>).*

*Consider mandatory pre-placement and annual medical evaluations to all firefighters, consistent with **NFPA 1582, Standard on Comprehensive Occupational Medical Program for Fire Departments**, to determine their medical ability to perform duties without presenting a significant risk to the safety and health of themselves or others.*

Consider an annual physical performance evaluation to ensure firefighters are physically capable of performing the essential job tasks of structural fire fighting.

*Ensure that firefighters are cleared for duty by a physician knowledgeable about the physical demands of fire fighting, the personal protective equipment used by firefighters, and the various components of **NFPA 1582, Standard on Comprehensive Occupational Medicine Program for Fire Departments.***

*Fire departments should establish physical performance requirements for firefighters and develop physical fitness programs. **NFPA 1583, Standard on Health-Related Fitness Programs for Fire Fighters,** is an excellent resource.*

Below is a copy of a previous bulletin issued by the State Fire Marshal.

State Fire Marshal Alert:
Heart Attacks Leading Cause of On-Duty Texas Firefighter Deaths

(State Fire Marshal's Office website: <http://www.tdi.texas.gov/fire/fmloddiinvesti.html>)

The State Fire Marshal's Office has investigated more than 30 on-duty fatalities of firefighters in Texas since September 2001. These investigations have revealed some vital facts every Texas fire official needs to know.

Heart attacks or related cardiac problems have caused 12 of the 33 deaths investigated through the end of fiscal year 2011.

Since 1995, heart attacks have been the leading cause of on-duty deaths of Texas firefighters.

Every fire department (paid and volunteer), fire chief, and firefighter must take the initiative in reducing the number of on-duty heart attack deaths.

When it comes to physical fitness and overall health, every little bit of effort counts.

Extensive research has shown that you can improve your overall health, thus preventing disease and premature death, by making small adjustments and improvements in your daily activities, including physical activity, nutrition, and behavior.

Five chronic diseases associated with obesity:

- heart disease
- cancer
- stroke
- chronic obstructive pulmonary disease (e.g., bronchitis, emphysema, asthma)
- diabetes

They account for more than two-thirds of all deaths in the United States. They claim more than 1.7 million American lives each year and hinder daily living for more than one of every 10 Americans. More than 100 million Americans live with chronic disease, and millions of new cases are diagnosed each year.

These chronic diseases are among the most prevalent and deadly health problems facing our nation, but some of them are very preventable. Firefighters and their families can take simple, affordable steps to work physical activity, good nutrition, and behavior changes into their daily routine. You don't have to become a marathon runner or buy a health club membership to improve personal fitness. Your health will improve with modest but regular physical activity and better eating habits.

There are four keys for a healthier America:

- Be Physically Active Every Day.
- Eat a Nutritious Diet.
- Get Preventive Screenings.

- Make Healthy Choices.

The State Fire Marshal's Office also recommends that fire departments and firefighters adopt physical exercise regimens that will best prepare firefighters for the strenuous, often prolonged physical effort involved in fighting fires.

Here are some excellent resources:

Volunteer Fire Service Fitness and Wellness Program: The U. S. Fire Administration (USFA) and the National Volunteer Fire Council (NVFC) have created the Volunteer Fire Service Fitness and Wellness Project, a partnership initiative to reduce loss of life among volunteer firefighters from heart attack and stress. USFA is a part of the Federal Emergency Management Agency. You can find out more at http://www.usfa.dhs.gov/downloads/pdf/publications/fa_321.pdf.

The National Fallen Firefighters Foundation (NFFF) and Pennell Corporation have established a website, www.everyonegoeshome.com, for the nationwide Firefighter Life Safety Initiatives program.

Firefighter Fitness articles by Steven Loy, Ph.D., *Fire Chief* Magazine, April 2001-December 2002. <http://firechief.com/search/results/steven%20loy>

An alert issued by the State Fire Marshal's Office in 2003 remains relevant today as cardiovascular disease continues to plague the Texas fire service as a leading cause of death.

ALERT

HEART ATTACKS: LEADING CAUSE OF ON-DUTY TEXAS FIREFIGHTER DEATHS

- Heart attacks one of the leading causes of on-duty deaths among Texas fire service personnel.
- Of the **line-of-duty deaths** not caused by heart attacks, autopsies revealed two of these three firefighters had early stages of heart disease.
- Four firefighters that died of heart attacks had a history of some form of heart disease.
- Four out of the five heart attack deaths occurred during the performance of emergency duties.
- All five firefighters that died of heart attacks were less than 52 years old.

Every firefighter (paid and volunteer) and every fire officer must take the initiative in reducing the number of on-duty heart attack deaths. The State Fire Marshal recommends the following:

- Fire departments should make every reasonable effort to screen firefighters and fire officers for heart disease in an effort to reduce the number of heart attack deaths.
- Departments must encourage applicants to be forthright in disclosing medical conditions that may endanger their lives or the lives of other firefighters or civilians.
- Periodic medical examinations of firefighters should be conducted as outlined in NFPA 1582, Standard on Medical Requirements for Fire Fighters and Information for Fire Department Physicians.
- Fire departments should establish physical performance requirements for firefighters and fire officers and develop physical fitness programs. NFPA 1583, Standard on Health-Related Fitness Programs for Fire Fighters, is an excellent resource.
- Fire departments should implement SOPs to addresses these fitness issues.

The Annual Line-of-Duty Death Report and individual investigation reports may be viewed at the State Fire Marshal website: <http://www.tdi.texas.gov/fire>

First Responders at Risk

Analysis of recent firefighter line-of-duty deaths revealed that three-fourths of deaths occurred responding to, or within 10 minutes of arrival on, the scene.