

STATE FIRE MARSHAL'S OFFICE

Firefighter Line of Duty Death Investigations



ANNUAL REPORT FY 2004

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Firefighter Line of Duty Death Investigation FY04 Annual Report

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**TEXAS DEPARTMENT OF INSURANCE
STATE FIRE MARSHAL'S OFFICE
AUSTIN, TEXAS**

**Firefighter Line of Duty Death Investigation
FY04 Annual Report**

Executive Summary

During state fiscal year 2004, the State Fire Marshal's Office (SFMO) conducted three firefighter line-of-duty death investigations. These investigations were conducted under the authority of Texas Government Code Chapter 417.0075.

The SFMO utilizes expertise provided by various Texas fire service associations and fire-related state agencies in the investigation process, including the

- State Firemen's & Fire Marshals' Association of Texas;
- Texas State Association of Fire Fighters;
- Texas Fire Marshal's Association;
- Texas Fire Chief's Association;
- Texas Commission on Fire Protection;
- Texas Forest Service; and
- Texas Engineering Extension Service, Emergency Services Training Institute, Texas A&M University System.

The FY04 firefighter line-of-duty deaths resulted from a variety of causes and circumstances. The causes of these three deaths continue to mirror the national firefighter death statistics as reported by the U.S. Fire Administration (USFA). Heart attacks were noted in a recently released USFA report as the leading cause of death among firefighters across the nation.

The following table provides a snapshot of each FY04 Texas firefighter line-of-duty death incident. A full copy of the summary from each investigation report is included as an appendix to this document.

Firefighter Name	Date of Death	Incident Description
Ricardo Gonzales	November 5, 2003	Heart Attack
Kevin Kulow	April 4, 2004	Fire Related, Final Report Pending
Gary Fox	July 9, 2004	Heart Attack, Final Report Pending

Texas LODD Investigation Authority

Effective September 1, 2001, provisions of House Bill 1450 amended Chapter 417, Texas Government Code, by adding Section 417.0075 requiring the State Fire Marshal's Office (SFMO) to conduct an investigation if a firefighter dies in the line of duty in connection with a fire-fighting incident in this state.

The statute requires the SFMO to investigate the circumstances surrounding the death of the firefighter to determine the factors that may have contributed to the death. These factors include:

- The cause and origin of the fire;
- The condition of the structure; and
- The suppression operation.

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.

Texas LODD Investigation Program Impact

Since the inception of this program in September 2001, the State Fire Marshal's Office has conducted 16 firefighter line-of-duty death investigations. Assessment of these investigations has revealed usable information that has led to revision of operational procedures and a strengthening of firefighter safety awareness within the Texas fire service.

While we believe that individual firefighter line-of-duty death investigation reports are helpful to the affected fire departments, it is the more global information drawn from this experience that will enable the fire service to implement safety measures that benefit all Texas firefighters.

Fortunately, the State Fire Marshal's Office has the support of many organizations in communicating fire service safety messages. Professional organizations are critical communication partners. Likewise, state and federal agencies have a significant role in communicating safety information and public policies affecting firefighter safety. The following information illustrates firefighter safety policies and initiatives resulting from analysis of the investigation reports.

- The State Fire Marshal's Office continued its policy of encouraging members of the LODD Advisory Committee to ensure that "lessons

learned” were taken back to their respective organizations and “optimally integrated” as appropriate. These efforts include direct contact with the affected fire department, improvements to training plans, firefighter certification requirements, equipment design, standards/policy development, and professional organization outreach.

In early October 2004, the Texas Forest Service placed line-of-duty death benefit information on its Internet Web site, along with instructions to contact the SFMO should a firefighter line-of-duty death occur.

- The State Fire Marshal implemented an online survey on its Internet Web site that seeks fire service input. This survey evaluates the impact of line-of-duty-death reports on the Texas Fire Service since the inception of this program. Ninety percent of responding fire departments found the information “useful,” while 60 percent reported that they had implemented recommendations found in the individual firefighter line-of-duty death investigation reports.

As a result of this survey, one fire department provided the SFMO with specifics of their procedural changes. The volunteer fire department reported that rapid intervention teams (RIT) are established at all working structure fires. Further, this department indicated that RIT team training is a critical component of this process.

- The Texas Commission on Fire Protection, at its July 2003 meeting, established an ad-hoc advisory committee to review the current state of wellness and fitness of the Texas fire service and to recommend any action that the commission should take to address this important aspect of the job. The committee's 14 members include a variety of fire service personnel with knowledge and experience in wellness programs, exercise programs, labor/management relations, municipal budgeting, diet, fitness, and disability law.

The Commission continues to receive information from Texas fire departments and implement responsive programs as appropriate.

- The State Fire Marshal's Office will implement several enhancements to its Internet web site designed to emphasize firefighter health and safety and resources that may help fire departments minimize the risk of firefighter injuries and deaths. Specifically, the SFMO will add Internet links to state and federal agencies that provide grants, grant-writing expertise and surplus equipment to fire departments. The SFMO will also reemphasize its position on firefighter health screening and the importance of maintaining firefighter fitness. The

SFMO will key on the thousands of LODD-related document downloads as a point-of-contact with the fire service. Individuals wishing to download LODD reports will be prompted to complete the informational survey currently online. Survey results will be used to assess actual implementation of firefighter health and safety practices, as well as the importance of the LODD investigation program.

Overview of the Texas Fire Service

The Texas fire service comprises paid, volunteer and combination departments. Recently, the Texas Forest Service, a component of the Texas A&M University System, published results of a survey of 1,852 fire departments. The survey revealed:

- Of the 1,852 departments, 82 percent were volunteer, 6 percent were fully paid and 12 percent reported being a combination of paid and volunteer firefighters.
- 61,176 firefighters were identified, with 68 percent being volunteers and 32 percent being paid. Of the volunteers, approximately 72 percent reported being “active.”

National Firefighter Death Composite

The United States Fire Administration (USFA) released *Firefighter Fatalities in United States in 2003* in October 2004. This report provides an in-depth analysis of 111 on-duty deaths that occurred in the United States during 2003.

In the publication, USFA reports that:

- 46 percent of nationally reported 2003 firefighter on-duty deaths were due to “stress or overexertion” with heart attack being the attributed cause of death. This is the highest reported percentage in five years.
- 31 percent of the 2003 deaths were the result of vehicle collisions, including firefighters that were struck by, or fell from, vehicles.
- 10 percent of the 2003 deaths were attributed to structural collapse during fire attacks.
- The remaining deaths were attributed to other fire and non-fire related events.

National LODD Summit

The National Fallen Firefighters Foundation hosted the first national firefighter line-of-duty death prevention summit in March 2004. Attendees at the summit promulgated a listing of 16 initiatives that, when implemented, will substantially reduce the number of LODDs. These are:

- Define and advocate the need for cultural change within the fire service relating to safety, incorporating leadership, management, supervision, accountability and personal responsibility.
- Enhance the personal and organizational accountability for health and safety throughout the fire service.
- Focus greater attention on the integration of risk management with incident management at all levels, including strategic, technical, and planning responsibilities.
- Empower all firefighters to stop unsafe practices.
- Develop and implement national standards for training, qualifications, and certification (including regular recertification) that are equally applicable to all firefighters, based on the duties they are expected to perform.
- Develop and implement national medical and physical fitness standards that are equally applicable to all firefighters, based on the duties they are expected to perform.
- Create a national research agenda and data collection system that relates to the initiatives.
- Utilize available technology wherever it can produce higher levels of health and safety.
- Thoroughly investigate all firefighter fatalities, injuries, and near misses.
- Ensure that grant programs support implementation of safe practices and/or mandate safe practices as an eligibility requirement.
- Develop and champion national standards for emergency response policies and procedures.
- Develop and champion national protocols for response to violent incidents.

- Provide firefighters and their families with access to counseling and psychological support.
- Provide public education with more resources and champion it as a critical fire and life safety program.
- Strengthen advocacy for the enforcement of codes and installation of home fire sprinklers.
- Make safety be a primary consideration in the design of apparatus and equipment.

LODD Investigation Report Distribution

Upon release, LODD investigation reports are sent to the affected fire departments and placed on the agency's Internet Web site for access by the fire service, media and the public. National interest has resulted, and the reports have been downloaded numerous times. The number of Internet downloads from program inception through the end of 2004 is as follows:

Placed on Internet	Number of Downloads	Firefighter and Department Name
July 2002	3,397	Jay Jahnke, Houston Fire Department
September 2002	928	Vincent Davis, Dallas Fire-Rescue
October 2002	1,003	David Butler, Spring Branch Volunteer Fire Department
October 2002	816	Kevin Baker, Mid-North Volunteer Fire Department
October 2002	738	Roger Dunn, Clute Volunteer Fire Department
November 2002	835	Travis Wiens, Wichita Falls West Volunteer Fire Dept.
September 2003	368	Michael DePauw, Dallas Fire-Rescue
September 2003	378	Shawn Espinoza, Ranger Volunteer Fire Department
September 2003	403	Gary Staley, Porter Volunteer Fire Department
September 2003	647	James Taylor, Bonham Fire Department
September 2003	340	Stephen McGregor, Baird Volunteer Fire Department
September 2003	529	Lance Mathew, Labelle-Fannett Volunteer Fire Department
October 2004	23	Wayne Clarke, Dallas Fire-Rescue
September 2004	116	Ricardo Gonzales, Beaumont Fire Department
Pending		Kevin Kulow, Houston Fire Department
Pending		Gary Fox, Bluegrove Volunteer Fire Department

In addition, the LODD information brochure was downloaded 2,539 times and the FY 2003 Annual SFMO LODD Investigation Report was downloaded 1404 times.

LODD Investigation Protocol

Upon notification of a firefighter LODD, the SFMO:

- Dispatches the closest Deputy State Fire Marshal to provide immediate assistance, gather preliminary information and to secure the scene.
- Designates an SFMO Deputy State Fire Marshal as the Incident Team Leader (ITL), who is responsible for coordinating the investigative efforts of the SFMO with local fire and law enforcement agencies. Additional SFMO personnel may be sent to assist, depending on the nature of the investigation.
- Requests additional assistance from the Fire Origin and Cause Determination, Building Structures and Systems, Equipment Evaluation, and Fire Ground Operations Sectors, as appropriate.
- Notifies Texas Department of Insurance executive staff and Public Information Office, as well as state, federal, and national fire service organizations and agencies.

When the SFMO Incident Team Leader (ITL) arrives at the scene of an LODD, the ITL meets with local fire and law enforcement officials to determine what investigative efforts are underway. The ITL coordinates the deployment of SFMO personnel. Additional resources may be requested from local, state, and federal agencies. The LODD ITL is responsible for coordination and preparation of the final LODD report.

SFMO and local investigators conduct a fire scene investigation to determine the origin and cause of the fire. LODD incidents involving wild fires may require assistance from Texas Forest Service investigators. If the fire is determined to have been caused by intentional or negligent action, SFMO investigators coordinate any criminal investigation with local law enforcement. An origin/cause determination report is prepared for the ITL.

SFMO inspectors and local fire and building inspectors may conduct an examination of the condition of the building where the LODD occurred. The building is examined for compliance with state and local fire codes and for conditions that may have led to rapid fire or smoke spread or the entrapment of the deceased firefighter. If the building was equipped with any automatic fire protection systems such as fire sprinklers or fire alarms, these systems are examined to determine if they performed properly during the fire. A report is prepared for the ITL.

The Fire Ground Operations Sector assists the SFMO in evaluating the tactics used in fighting the fire, utilization of personnel and equipment, performance of protective equipment, and fire scene communications. The Texas Commission on Fire Protection may be requested to conduct an examination of firefighter personal protective equipment for compliance with national standards and adopted state rules. The National Institute for Occupational Safety and Health conducts free testing and evaluation of firefighting breathing apparatuses and components. Reports from these groups are prepared for the ITL.

As the on-scene investigation into the LODD concludes, the ITL meets with all investigative sectors to ensure consensus is reached regarding the origin and cause of the fire and the cause of the LODD. Additional investigation may be required before a final determination is made. The ITL coordinates any off-site or continuing investigative activities with local authorities.

When all aspects of the LODD investigation have been completed, the ITL prepares a draft report of the LODD investigation using a standard narrative format. Upon completion of the draft report, it is distributed to the task force entities that participated in the investigation for review and comment. A final review session is conducted with all participants before submission to the State Fire Marshal for final approval. The report is made available to the fire department of the deceased firefighter and released to the public. An electronic version is posted on the Texas Department of Insurance/State Fire Marshal's Office Internet Web site.

Recommendations

Based on the conditions found during LODD investigations, the SFMO makes the following general recommendations. Incident-specific recommendations are incorporated into each LODD report.

Medical Screening/Firefighter Fitness

- Fire departments should make every reasonable effort to screen firefighters for heart disease in an effort to reduce the number of heart attack deaths.
- Fire departments must encourage applicants to be forthright in disclosing medical conditions that may endanger their lives or the lives of other firefighters or civilians.

If an applicant indicates a medical condition that poses a significant risk of injury or death, the department may choose to assign the applicant to non-emergency duties that would not subject the applicant to undue stress or physical exertion. Medical screening may be required to make a final

decision allowing applicants to undergo firefighting training and assignment as active firefighters.

- Active firefighters and applicants that will operate fire apparatus should undergo periodic medical screening to detect conditions that could cause them to become incapacitated and lose control of the vehicle.

NFPA 1582, Standard on Comprehensive Occupational Medical Program for Fire Departments

The U.S. Department of Homeland Security (DHS), through its U.S. Fire Administration and Office of Domestic Preparedness, offers grant funding to fire departments for wellness/fitness programs. This funding, a component of the Assistance to Firefighters Grant Program, emphasizes periodic health screenings, entry physical examinations, and an immunization program. Grants may be used for the procurement of medical services to ensure that the firefighting personnel are physically able to carry out their duties.

Further information regarding the Assistance to Firefighters Grant Program can be found on DHS' Internet web site at <http://www.firegrantsupport.com/>.

Firefighting Strategy and Tactics

- Pre-Fire Planning

A pre-fire planning program should be implemented to enhance tactical decision-making on the fire ground. The use of pre-fire plans will enable responding personnel to determine the most accessible water supply and geographical building layout, including means of access, potential exposure problems, occupancy hazards, proper positioning for defensive operations, etc.

NFPA 1620, Recommended Practice for Pre-Incident Planning

- Incident Management System

Officers assigned the responsibility for a specific tactical level management component at an incident should directly supervise and account for the companies and/or crews operating in their specific area of responsibility.

NFPA 1561, Standard on Emergency Services Incident Management System

The Incident Management System should be utilized at all emergency incidents. The adoption of the Incident Management System is recommended

to ensure the effective use of common terminology during large-scale and mutual aid incidents. Command must provide strong and clear direction for the incident.

NFPA 1201, Standard for Providing Emergency Services to the Public

- Personnel Accountability

A Safety or Accountability Officer should be assigned to ensure that accountability is accomplished.

NFPA 1521, Standard for Fire Department Safety Officer

Company unity must be maintained to facilitate accountability. All supervisors shall maintain a constant awareness of the position and function of all personnel assigned to operate under their supervision. This awareness shall serve as the basic means of accountability that shall be required for operational safety.

NFPA 1561, Standard on Emergency Services Incident Management System

The incident commander should initiate an accountability and inventory worksheet at the beginning of operations and should maintain that system throughout operations.

NFPA 1500, Personal Accountability During Emergency

- Rapid Intervention Teams

The incident commander should evaluate the situation and the risks to operating crews and should provide one or more rapid intervention teams commensurate with the needs of the situation.

OSHA HAZWOPER Standard, CFR 1910.134

A Rapid Intervention Team (RIT) replacement team should be assembled when the original RIT is assigned to conduct a rescue effort during a prolonged fire attack.

Consideration should be given to establishing RIT teams for each division/sector actively involved in firefighting or high-risk activities.

- Emergency Scenes On or Adjacent to Roadways

Fire departments should develop, implement, and enforce standard operating procedures (SOPs) regarding emergency operations for highway incidents.

Fire departments should ensure that personnel wear appropriate protective clothing, such as a high-visibility reflective safety vest, while operating at an emergency scene at or adjacent to a roadway.

Fire departments should ensure that fire fighters establish a protected work area before turning their attention to the emergency.

Fire departments should consider limiting or restricting the response of their members in their privately owned vehicles to high-volume, limited access highway incidents.

Fire departments should develop and implement pre-incident plans regarding traffic control for emergency service incidents.

NFPA 1500, Standard on fire Department Occupational Safety and Health Programs

Protective Equipment

- Protective clothing and protective equipment shall be used whenever firefighters are exposed or potentially exposed to hazards. All personnel, including engineers, support personnel, fire prevention, and medics, should be required to wear full protective equipment when operating in or around the fire ground.

NFPA 1500, Standard on fire Department Occupational Safety and Health Programs

- SCBA air cylinders should be maintained at not less than 90 percent full. Full extra cylinders should be kept on emergency response vehicles. Low air cylinders should be segregated from full cylinders until filled.

NFPA 1852, Standard on Selection, Care, and Maintenance of Open-Circuit Self-contained Breathing Apparatus (SCBA)

Buildings and Fire Protection Systems

- Installation of floor-level exit signs and illumination of exit paths may help occupants and firefighters escape when standard exit signs and lights are obscured by smoke.

Fire Department Vehicles

- Fire department vehicles, including ambulances and utility vehicles, should not be loaded beyond the manufacturer's gross vehicle weight rating listed on the label attached to the vehicle. Overloading vehicles may affect handling and could result in excessive braking distance. Weight calculations should include

the maximum number of passengers, their personal equipment, and full water and fuel tanks.

NFPA 1901, Standard for Automotive Fire Apparatus

- All fire department members who drive fire service vehicles should meet the objectives specified in NFPA 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications.* Chapter Two applies to all fire department vehicles, including administrative vehicles and ambulances. Other chapters of NFPA 1002 contain objectives for operators of specialized apparatus such as pumpers, aerial apparatus, etc.
- Drivers and passengers should wear safety belts whenever the vehicle is in motion.

NFPA 1500, Standard on Fire Department Occupational Safety and Health Program and § 545.413 Texas Transportation Code

FY2004 Investigation Summaries

The following summaries were extracted from released individual line-of-duty death investigation reports. The full text of the released individual reports is available on the TDI Internet Web site. The summaries are listed in date order.

District Chief Ricardo Armando Gonzales

Beaumont Fire Department, November 5, 2003

A career District Chief, age 47, died of a suspected heart attack on November 5, 2003, 13 days after developing symptoms of a heart attack while on duty and subsequently undergoing stent insertion in his coronary arteries.

District Chief Ricardo Armando Gonzales, a career member of the Beaumont Fire Department, was on duty on October 24, 2003, and told other department members he was feeling ill. After resting for a short time, Chief Gonzales left the fire station to drive to his home in Jasper, Texas, approximately 66 miles away. Chief Gonzales drove himself directly to his physician's office, was diagnosed as having a heart attack and was admitted to Jasper Memorial Hospital. Chief Gonzales was transferred by ambulance to Saint Elizabeth Hospital in Beaumont, Texas, on October 25. After successful procedures to correct his heart condition, Chief Gonzales was discharged from the hospital on the afternoon of October 29.

Chief Gonzales spent the next week at home convalescing and doing light exercise. He had spoken with several people and relatives and stated he felt much better. On the morning of November 5, Chief Gonzales spoke to his wife at 7:45 AM before she left for work and they made arrangements for him to visit her workplace. When she

called later that morning to make sure he was ready to be picked up, Chief Gonzales failed to answer the telephone.

Chief Gonzales' wife left her workplace for home and arrived at about the same time as did his mother. Chief Gonzales was found unresponsive on the bathroom floor. EMS was called and determined that Chief Gonzales had sustained cardiac and respiratory arrest at some earlier time and no resuscitation attempt was made.

Jasper County Justice of the Peace Freddie Miller estimated the time of death as approximately 9:30 AM. No autopsy was conducted.

District Chief Ricardo Armando Gonzales served in the Beaumont Fire Department for almost 27 years. He is survived by his wife and three adult children.

Probationary Firefighter Kevin Kulow

Houston Fire Department, April 4, 2004

On April 4, 2004 Houston Fire Department Probationary Firefighter Kevin Kulow was a member of a hose crew conducting an initial attack on an arson-caused fire inside a nightclub. The fire suddenly intensified and Firefighter Kulow became separated from the rest of the crew and was trapped in the burning building. Two other members of the hose team sustained burns and respiratory injuries as they exited the building, one seriously.

A roll call of personnel on the fire scene was conducted and Firefighter Kulow was determined to be missing. A rescue attempt was not possible due to the intensity of the fire inside the building. An exterior attack was commenced and Firefighter Kulow's body was located by a search team approximately one hour later. The Harris County Medical Examiner determined that Firefighter Kulow died of internal and external burns.

Investigation of the death of Firefighter Kulow continues at this time.

Chief Gary Don Fox

Bluegrove Volunteer Fire Department, July 9, 2004

A 60-year-old volunteer Fire Chief died of an apparent heart attack, possibly precipitated by heat stress, after fighting a vehicle and field fire.

At 3:28 PM on July 9, 2004, the Bluegrove Volunteer Fire Department (VFD) received a report from a passerby of a burning vehicle in a hay field. Bluegrove VFD Chief Gary Don Fox responded alone to the call in a one-ton brush truck carrying 300 gallons of water. Upon arrival at the fire at 3:39 PM, the burning vehicle, a pickup truck with a round hay bale-carrying attachment, was well-involved and Chief Fox,

assisted by the property owner driving the brush truck, turned his attention to extinguishing the fire in the field of cut hay and round bales. Chief Fox was not wearing any firefighter protective equipment and was dressed in jeans and a long sleeve shirt.

Mutual aid assistance from the Henrietta Fire Department was requested at 3:58 PM - the approximate time that the Bluegrove Volunteer Fire Department brush truck ran out of water. Upon arrival of the Henrietta units, Chief Fox left the scene, complaining that he had become overheated, and returned to the fire station with the Bluegrove VFD brush truck. A Clay County deputy sheriff had spoken with Chief Fox at the fire and described Chief Fox as appearing pale and sweating profusely. Henrietta Fire Department units remained on the scene and extinguished the field and vehicle fire.

Bluegrove firefighters visited with Chief Fox at his home approximately 30 minutes after he returned the brush truck to the fire station. They described him as still appearing sweaty and hot. Chief Fox declined any assistance and said he would wait for his wife's arrival. The firefighters spoke with Chief Fox's wife outside the home when she arrived 10 minutes later. She told them that Chief Fox had called her to come home because he had gotten overheated. After Chief Fox's wife entered the home, she observed Chief Fox slumped on the couch, unresponsive, not breathing, and without a pulse. She called for help from the firefighters outside and called 911. Fox's wife (an Emergency Medical Technician) and the firefighters initiated cardiopulmonary resuscitation until the arrival of the ambulance 15 minutes later. An ambulance took Chief Fox to Clay County Medical Center where he was pronounced dead. The attending emergency room physician stated that Chief Fox had a heart attack which could have been brought on from heat-related illness. No autopsy was ordered.