

# TEXAS STATE FIRE MARSHAL'S OFFICE

A DIVISION OF THE TEXAS DEPARTMENT OF INSURANCE

## Firefighter Fatality Investigation



Investigation FFF FY 13-03

Lt. Eric Wallace  
Lt. Gregory Pickard

Bryan Fire Department

Bryan, Texas  
February 15, 2013

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## **Acknowledgements**

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The Texas State Fire Marshal wishes to thank the following entities for their cooperation and assistance in the investigation of this incident and the preparation of this report:

Bryan Fire Department

Bryan Police Department

Bureau of Alcohol, Tobacco, Firearms, and Explosives

College Station Fire Department

Georgetown Fire Department

Grapevine Fire Department

Texas Commission on Fire Protection

Firenze Engineering

National Institute for Occupational Safety and Health

## Executive Summary

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On February 15, 2013, the Bryan Fire Department responded to the report of a structure fire at the Knights of Columbus Hall located in Bryan, Texas. During interior operations, Lt. Eric Wallace became separated from his crew and radioed for help. Lt. Gregory Pickard, along with Firefighter Ricky Mantey and Firefighter Mitchell Moran, who were assigned to the Rapid Intervention Team, attempted the rescue of Lt. Wallace. The fire progressed to flashover conditions and enveloped the firefighters, causing fatal injuries to Lt. Wallace and Lt. Pickard and near fatal injuries to Firefighter Mantey and Firefighter Moran.

Autopsy examinations conducted at separate facilities revealed Lt. Wallace died from conflagration injuries (sustained from a structure fire) and Lt. Pickard died from thermal injuries and smoke inhalation.

The investigation of this incident provides valuable information to the fire service by examining the lessons learned, to prevent future loss of life and property. This report is intended to honor the sacrifice made by these firefighters while protecting their community, so others may not perish.

Lt. Pickard was a 32-year veteran of the Bryan Fire Department. Lt. Wallace was a 12-year veteran of the Bryan Fire Department.



Lt. Gregory Pickard



Lt. Eric Wallace

# Introduction

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On February 16, 2013, the State Fire Marshal's Office was notified of a Bryan Fire Department firefighter fatality and multiple firefighter injuries.

The SFMO commenced the firefighter fatality investigation under the authority of Texas Government Code § 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.*

The investigation began on February 16, 2013, with a response to the scene for an initial assessment to determine the equipment and number of personnel needed to investigate the incident. The goal of the investigation was to identify contributing factors leading to the fatalities and provide information to the fire service to prevent future firefighter injuries and deaths.

The SFMO requested assistance from the Texas Fire Chiefs Association to provide personnel to review the operations and tactics utilized by the Bryan Fire Department in the response to the fire. Fire Chief Steve Bass of the Grapevine Fire Department and Battalion Chief Ray Cummings of the Georgetown Fire Department responded to the request for assistance.

The Texas Commission on Fire Protection (TCFP) assisted in the evaluation of the personal protective equipment used by the Bryan Fire Department, to determine whether there were any contributing factors to the injuries sustained by the firefighters.

The Firefighter Fatality Investigation team included SFMO fire investigators and Life Safety Code inspectors: Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) fire investigators: and an electrical engineer. The Bryan Fire Department and Bryan Police Department assisted throughout the investigation. The Bryan Police Department provided scene security.

The investigation of the incident scene continued for four days after the fire. All agencies operated under a unified command structure as recommended in the National Incident Management System (NIMS).

The National Institute for Occupational Safety and Health (NIOSH) Fire Fighter Fatality Investigation and Prevention Program was notified. NIOSH responded, to conduct an independent investigation of the incident to determine contributing factors in the firefighters' deaths. The goal of the NIOSH investigation was to provide information to the fire service nationally, to prevent firefighter injuries and deaths.

# Bryan Fire Department

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The Bryan Fire Department has a roster of 110 personnel operating at five fire stations. The department provides service to a 43 square mile area that has a population of approximately 78,000 people. The department averages 8,000 to 9,000 calls per year.

The Bryan Fire Department has one battalion chief and staffs five engine companies, one truck company, four advanced life support ambulances, and one Emergency Medical Services (EMS) supervisor per shift. A rescue company is staffed as needed by the ladder company.

The department has specialty trained personnel, including crews for technical rescue for confined space, trench rescue, high-angle rescue, water rescue, building collapse, and wilderness search and rescue.

The City of Bryan has a Class 2 rating from the Insurance Services Organization<sup>1</sup> (ISO). Class 1 represents exemplary fire protection, and Class 10 indicates that the area's fire-suppression program does not meet ISO's minimum criteria.

To become a member of the fire department, applicants must pass a written test, a fitness assessment and physical proficiency exam, a background investigation, an oral interview, a physical exam, drug screening, and the Behavioral Personnel Assessment Device Test. Candidates must have a TCFP Basic Fire Fighter certification, an Emergency Medical Technician–Basic certification, have completed high school or have a GED, have a valid driver's license and be able to meet the physical requirements of the position.

Bryan Fire Department firefighters undergo annual medical evaluations and respiratory fit testing, and the department provides a physical fitness and health and wellness program. The physical condition of all firefighters is tested every six months using a job performance standard test to evaluate the firefighter's ability to perform tasks on the fireground such as raising ladders, carrying and deploying a hose line, carrying equipment and, completing an obstacle course. Firefighters have an annual assessment of overall fitness and well-being conducted by the local university's exercise science lab.

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<sup>1</sup> ISO provides a variety of information to government agencies at all levels — federal, state, and local — to help identify and mitigate risk. ISO analyzes the relevant data using the Fire Suppression Rating Schedule (FSRS). <http://www.isogov.com/about/>.

The evaluation includes a physical exam with blood work, review of medical history, lung function test, cardiac stress, and medical fitness evaluation.

The Bryan Fire Department provides a comprehensive training program for the members. New members must complete the department's Basic Structural Tactical Initiative (BSTI) training. Each department member must complete semi-annual Job Performance Standard Testing. Members must maintain TCFP certifications and complete the required hours of continuing education (CE) courses for the certificate type. TCFP requires the completion of a minimum 18 hours CE per year plus 2 hours annually for each discipline (certification) with some exceptions, like the Hazmat and Wildland CE requirements. [http://www.tcfp.texas.gov/certification/individual\\_renewals.asp#required\\_hours](http://www.tcfp.texas.gov/certification/individual_renewals.asp#required_hours)

All members are required to complete annual rapid intervention operations training.

Monthly training is scheduled as follows:

First week is department -level fire training.

Second week is EMS training.

Third week is company-level training.

Fourth week is specialty training programs, or re-scheduled training.

The Bryan Fire Department has a training field with a five- story tower for fire training, including aerial operations, hose line operations, and apparatus training.

Lt. Pickard was a 32-year veteran of the department and had completed all the certifications required by the department and the State of Texas. Lt. Pickard held a Firefighter Advanced certificate. Lt. Pickard completed 37 hours of continuing education between November 1, 2011, and October 31, 2012.

Lt. Wallace was a 12-year veteran of the department and had completed all the certifications required by the fire department and the State of Texas. Lt. Wallace held a Firefighter Advanced certificate and a Hazardous Materials Technician certificate. Lt. Wallace completed 41.5 hours of continuing education between November 1, 2011, and October 31, 2012.

## **Building Structure and Systems**

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*The State Fire Marshal's Office references the 2012 edition of the National Fire Protection Association (NFPA) 101, Life Safety Code, as the basis for life safety evaluation of the fire incident building specific to this investigation. The City of Bryan has adopted the 2009 edition of the International Fire Code (IFC). Where differences may exist among locally adopted codes, ordinances and previously approved conditions, the City of Bryan retains jurisdiction of code enforcement under its adopted codes.*

The most recent fire safety inspection of the Knights of Columbus building was conducted on June 2, 2005, by the Bryan Fire Department Fire Marshal's Office. No violations were noted.

The Bryan Fire Department does not have an established frequency of conducting inspections for commercial property. Schools receive annual inspections. Healthcare facilities, jails and other state licensed occupancies receive inspections as requested or as required by the specific rules and regulations for the licensing agency.

Inspections are generally initiated when there is a change of occupancy use, a change of the name of the business, or a reported new utility service connection.

### ***Knights of Columbus Building History***

The incident building's physical location was 1500 Groesbeck Street, located within the incorporated city limits of Bryan, Texas, Brazos County. According to Brazos County Appraisal District records, the legal property description is listed as Zeno Phillips, block 17, lot 34. The Bryan Columbus Club Council is listed as having 100 percent ownership.

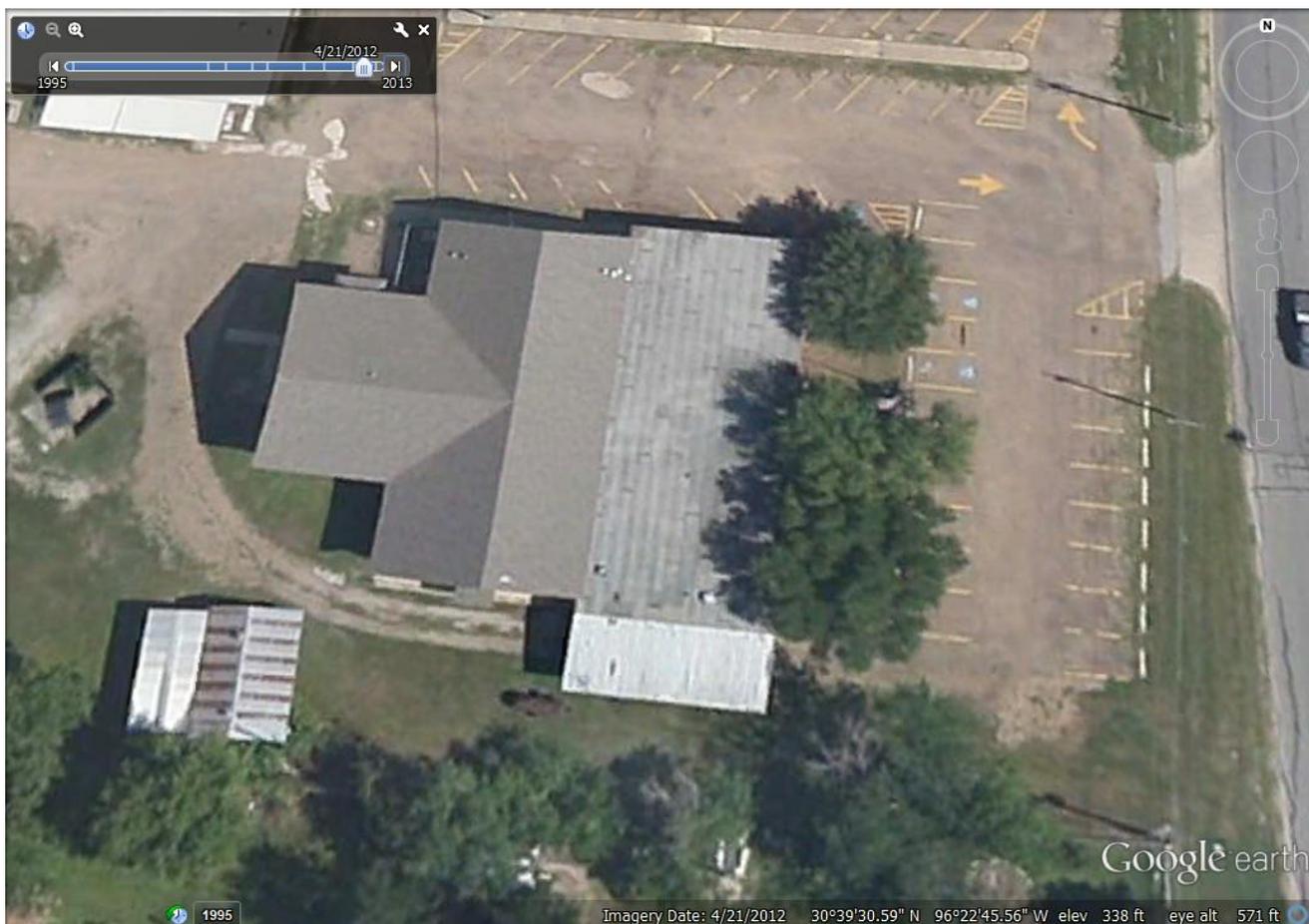
The building was utilized for meetings of the fraternal service organization known as the Knights of Columbus. The building was also used as a bingo hall, and was available for rent and use by the community for other social events.

According to Brazos County Appraisal District records, the building was originally constructed in 1945. Information obtained from Knights of Columbus management staff indicated that an addition was built onto the original structure sometime during the 1950s.

### ***Construction Features***

The building's construction was classified as Type V-000 wood frame construction, as defined by *NFPA 220, Standard on Types of Building Construction*.

The incident building was a single-story structure of wood frame construction with exterior wall materials consisting of a partial brick veneer on three sides and cement-board siding that was applied over an existing layer of slate-type material. The roof structure consisted of a flat-deck roof over a portion of the building, covered with an asphalt/fiberglass roll-roofing material; and a gable pitched roof covered with asphalt composition shingles. The building had two different foundations. The newer portion of the building had a reinforced concrete slab foundation, and the original portion's foundation consisted of a pier and beam type sub-floor structure with a crawl space below. The building contained no windows on the outside walls and the only openings provided were that of the required exit doors. The building is estimated to have had a floor area of approximately 7400 square feet.



***Pre-fire photo of the Knights of Columbus Assembly Hall. (Photo from Google Earth)***

### ***Interior Finish and Contents***

The interior facing wall finish consisted of ¼ inch common wood paneling applied over a layer of ½ inch gypsum wallboard or 1 inch X 7 inch wood slats that were attached to the stud walls. The ceiling consisted of a suspended acoustical-tile membrane installed below an existing wood bead-board ceiling. Mechanical duct work for the heating and air-conditioning system was installed in the space above the suspended ceiling.

The interior floor finish consisted of hardwood plank flooring over the sub-floor section of the building, and a resilient vinyl floor covering applied to the section with the concrete slab foundation.

According to information obtained from witness interviews at the time of investigation, the arrangement of the floor area on the night of the fire consisted of multiple folding tables with plastic tops, and metal frame chairs with plastic seats. In advance preparation for a private function scheduled for the following day, each table was decorated with plastic table cloths and a small assortment of plastic flowers. There was no knowledge of additional amounts of combustibles associated with preparation for the planned event stored in the building.

Fuel packages within the building consisted mainly of the plastic furnishings, which are classified by the *Life Safety Code* as ordinary hazard materials; that is, materials that are likely to burn with moderate rapidity or produce a considerable volume of smoke when ignited.

### ***Building Service***

Utilities for the building included natural gas service and electrical service provided by a public utility. The building's heating unit and commercial cooking appliances for the kitchen were equipped for natural gas service.

### ***Life Safety Features***

The building was classified as an existing assembly occupancy, based on the use of the structure, as defined by *NFPA 101, Life Safety Code*. The following is a summary of *Life Safety Code* provisions based on the occupancy classification.

Existing fire safety features for the building were limited to portable fire extinguishers, battery operated emergency lighting units, and internally illuminated exit signs. There were no fire protection systems installed in the building.

### ***Means of Egress***

The configuration of the floor area was estimated to accommodate an occupant load of approximately 425 people, based on occupant load factors for net-use areas of the building that would include arrangement of tables and chairs and a dance floor.

The main floor area had three public exit access doors that provided a collective egress capacity of 170 inches of clear width that would safely accommodate, and exceed, the estimated occupant load for the building.

The double-door leaf assembly located on the B side of the structure was the only exit door provided with panic-type exit hardware. *Life Safety Code* provisions require that panic-type exit hardware be installed on all exit doors equipped with a lock or latch in assembly occupancies with an occupant load of 100 or more.

The building was provided with emergency lighting units and internally illuminated exit signs to illuminate and mark the path of exit travel. The building contained no windows.

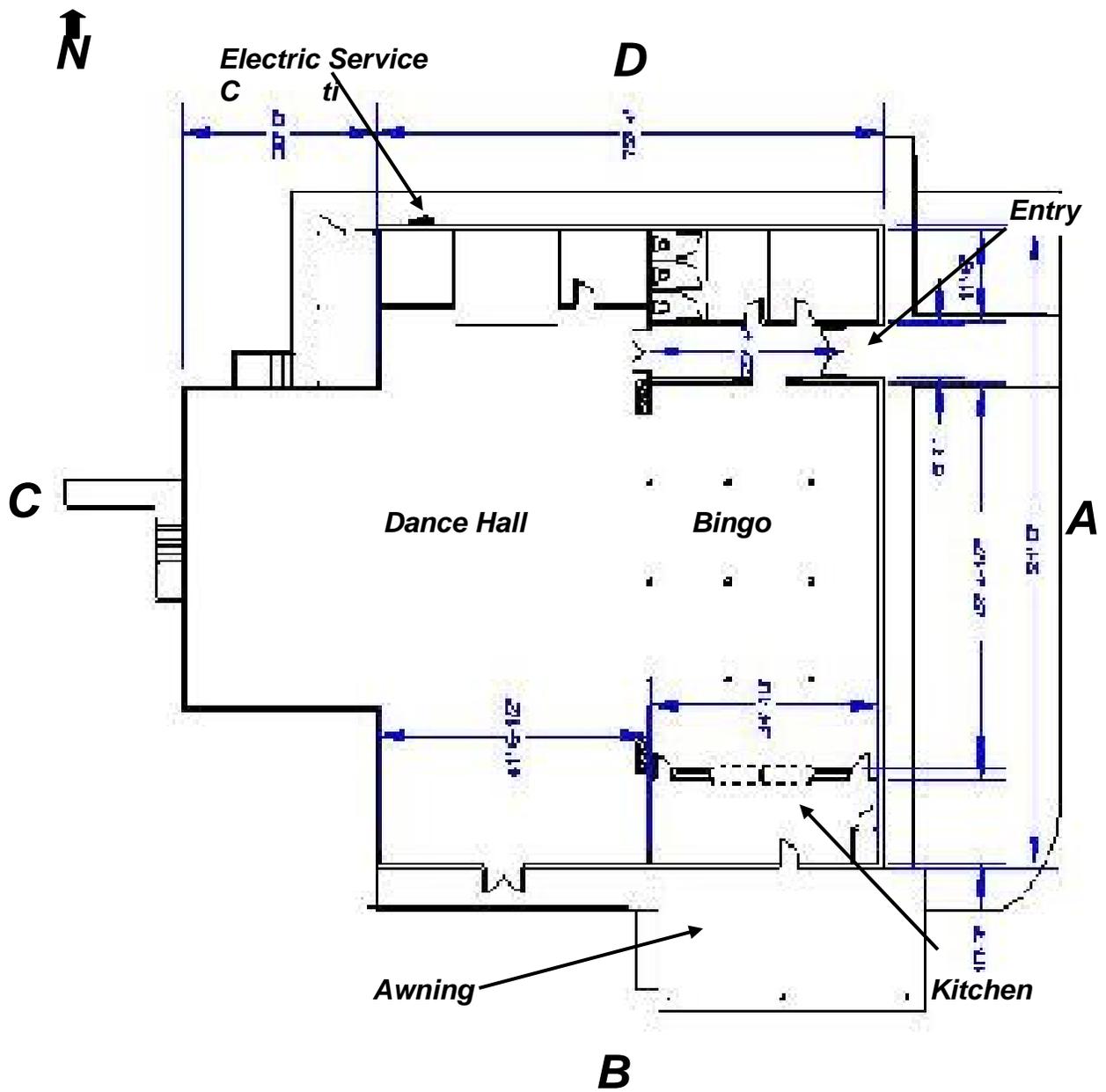
### ***Fire Protection Systems***

The building was not equipped with a fire alarm system. *Life Safety Code* provisions require existing assembly occupancies to be equipped with a fire alarm system where the occupant load of the building exceeds 300, unless adequate alternative provisions are provided for promptly alerting occupants in the building.

The building was not equipped with a fire sprinkler system. *Life Safety Code* provisions require existing assembly occupancies to be equipped with a fire sprinkler system where the occupant load exceeds 100 when utilized as a dance hall venue, or for other events that may include standing room only arrangements.

### ***Kitchen Fire Protection System***

The kitchen vent hood was not equipped with a fixed fire extinguishing system. *Life Safety Code* provisions require that cooking equipment be protected with a UL300-compliant fixed fire extinguishing system when preparing food that produces grease-laden vapors. The kitchen was equipped with commercial cooking appliances under a vent hood that exhausted through the south exterior wall. Appliances included a deep-fat fryer and gas range.



*Knights of Columbus Hall floor plan.*

## Fire Investigation

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On February 15, 2013, at approximately 11:19 p.m., the Brazos County 911 received a call reporting a fire at the Knights of Columbus Hall at 1500 Groesbeck Street, Bryan, Brazos County, Texas. Bryan Fire Department responded and requested mutual aid from the College Station Fire Department. Flames were observed above the roof of the structure near the southeast corner when the Bryan Fire Department arrived at 11:24 p.m.

Light smoke was showing inside the east-side front doors as firefighters entered the building. The firefighters moved from the east front door toward the south wall and discovered fire overhead. The firefighters' SCBAs became low on air and they left the nozzle and followed the hose line toward the entry door. A firefighter was reported down at 11:44 p.m. and by 11:46 p.m. a third evacuation tone sounded.



***Aerial view from above the NE corner of the building. (Photo by State Fire Marshal's Office)***

The SFMO, Bryan Fire Marshal's Office, and ATF conducted an examination of the fire scene using a systematic approach: inspecting the physical evidence, considering witness observations, studying

fire scene video and photographs, using arc mapping, and employing the scientific method of formulating and discarding hypotheses.

The area of origin was determined to be the northwest corner of the kitchen between the west wall and the west side of the movable beer keg cooler (kegger). Employee interviews revealed that the kegger was moved during events at the meeting hall and the kegger wheels would run over the top of a fan cord several times a month.



**Area of Origin. (Photo by State Fire Marshal's Office)**

The cause of the fire was determined to be the result of heating and shorting within the insulation of a damaged power cord for a pedestal fan. The fan was located at the doorway leading into the kitchen from the bingo room. The power cord had been altered by a splice to add length to the power cord beyond the manufacturer's production specifications. The degradation of the strands within the insulation would lead to shorting and heat generation. The cause of this fire was determined to be accidental.



***Area of Origin. (Photo by State Fire Marshal's Office)***

## Fireground Operations and Tactics

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*The following information was provided by the SFMO investigation teams. The following sequence of events was developed from radio transmissions and firefighter witness statements. Those events with known times are identified. Events without known times are approximated in the sequence of the events based on firefighter statements regarding their actions or observations.*

*Weather<sup>2</sup> at incident time was overcast, 46° F with winds from the north-northwest at 5 to 10 mph.*

On February 15, 2013, at 11:19 p.m., the Brazos County 911 received a cellular telephone call reporting a fire at the Knights of Columbus Hall at 1500 Groesbeck Street, Bryan, Texas. The caller indicated that flames were coming from the building, that there were no cars in the parking lot and that he did not know if anyone was inside. Bryan Fire and Police departments were dispatched.

**23:19** Engine 1 (E1), Engine 2 (E2), Engine 5 (E5), Truck 1 (T1), Medic 2 (M2), Battalion Chief 1 (BC1), EMS Supervisor (EMS1), and a PD officer were dispatched. After units checked en route, information received from callers was relayed to responding companies.

**23:24** E1 arrived first and reported that fire was showing and they were going into an offensive mode. E1 Equipment Operator (EO1) positioned the apparatus in the front (east side) parking lot on the Alpha (A) of the structure and then pulled a red 1¾ inch pre-connect cross lay. The EO1 pulled a second 1¾ inch pre-connected yellow speed lay from the rear of the engine and placed it near the front door. The E1 Lieutenant, Eric Wallace (L1), passed command to the incoming officer and conducted a 360 degree walk-around assessment of the building. The E1 Firefighter (FF1) removed the positive-pressure ventilation (PPV) fan from E1 and set it near the front door. FF1 directed the PPV toward the north, away from the door opening, started it, and left it at idle speed.

M2 and EMS1, respectively, arrived. EMS1 was assigned as Incident Safety Officer (ISO). After shutting off utilities on the D side and performing a partial walk-around, the ISO remained at the C side or CD corner of building.

T1 and BC1 arrived and T1 reported “assisting E1” and BC1 reported a “single story commercial building fire showing from the roof on Bravo-Charlie (BC) corner.” BC1 established command as the IC and advised in “offensive mode.”

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<sup>2</sup> Weather Underground [www.wunderground.com](http://www.wunderground.com)

All arriving firefighters and officers interviewed reported that visible fire was through the roof and described the flames as “lazy” above the AB corner and a little toward the center, not the BC corner as reported initially by BC1. Some members also reported seeing fire from a high window on the B side. No one reported that the fire should not be attacked offensively.

**23:26** Command requested a ladder truck from College Station and an admin page. L1 and FF1 entered the structure from the front door on A side with the 200-foot red 1 ¾ inch line. IC acknowledged the entry.

L1 and FF1 turned the PPV fan toward the entry door and entered into a hallway with light smoke and good visibility. They turned left into the “bingo room” and began to advance the line. Conditions in the bingo room were hazy with 10-foot visibility. The smoke layer was within 2 feet from the floor level and there was no noticeable heat. They crawled 25 feet into the room, where visibility was reduced to about 2 feet, heat was getting more noticeable, and they saw flames overhead. They attacked the flames overhead by penciling the ceiling and extinguished the flames (blacked out).

T1 conducted a walk-around of the structure and forced open and then closed each door with the exception of the double doors to the dance hall on the B side. They came to a second door on the B side under the awning near the AB corner. The door opened inward into the kitchen. The kitchen was fully involved and flames began to immediately vent out of the open doorway. This fire condition was not reported to Command. The door was left in the open position and T1 went to the A side door and entered the structure.

**23:28** E2 arrived, followed by E5 11 seconds later. The E2 Lieutenant (L2) conducted a walk-around while the EO2 began setting up water supply from a hydrant across the street north of the parking lot.

E5 Lieutenant and FF5 conducted a 360-degree assessment of the building and then E5 became the Rapid Intervention Team (RIT) positioned on the A side.

All dispatched companies were now on location.



***View from the NE near BC1 location at 23:29. (Photo by Bryan PD Officer)  
E1 is inside and one PPV is at the doorway. Flames are visible above the AB corner.***

**23:30** Command reported "a lot of fire on the AB roof."

23:31

After entering the building, T1 turned left into the bingo room and began a left-hand search pattern, intending to meet up with L1 and FF1. After going approximately 25 feet along the inside of the A side wall, one member of T1 lost the seal on the SCBA face piece, forcing the crew to exit.



**23:31: T1 entry and E2 at the entry door. E1 has red line inside. (Photo by Bryan PD Officer)**



**23:31: Flames showing above the AB corner toward the center of the structure.**

**(Photo by Bryan PD)**

**23:31:41** L1 and FF1 became unable to pull more hose and radioed Command for more hose.

**23:33:21** All three T1 members exited the building and two re-entered following the red hose line to meet E1. They met the E1 crew soon after entering and L1 told them to pull hose. T1 pulled at least 50 additional feet of hose into the room.

E2 entered with a crew of two and a second 1¾ inch hose line. E2 turned left into the bingo room and contacted Lt. Wallace face to face. Wallace stated that he had “found some fire, hit it, and blacked it

out. Now they could not see it (fire) and were looking for it.” L2 pulled his line back out to the hallway and entered the dance hall through the next door. E2 saw significant fire above their heads in the dance hall and attacked the fire.

**23:33** The dispatch center announced the 10-minute notification to Command. Command confirmed the 10-minute notification.

**23:34** Command advised E1 of “fire through the roof on the AB corner.”



***23:35: View from the NE showing the fire above the roof. E2 to E1 supply hose line is established. (Photo by Bryan PD)***

**23:36** Command directed the ISO to remain at the CD corner to maintain size up.

**23:37** L2 asked Command if they were making any progress. Command replied “I think so, I think so, it looks like the fire is diminishing.”

T1 crew, now low on air, exited the building as E1 proceeded farther into the room. T1 reported heavy black smoke conditions and heat but did not see fire during their time in the room.

**23:38** Command again advised that “it looks like improvement, not a lot of visible fire just a lot of smoke.”

**23:39** L2 reported to Command that there were heavy heat conditions in the dance hall; “hard to tell where the fire is; everything is above us; I think we’re making progress.”  
Command replied that “I think you are, the only fire is on the AB roof line. We’re going to stack some fans.”

After meeting with E2 and T1 in the bingo room, L1 and FF1 continued to advance into the room. They again saw fire above them, as well as fire rolling up a wall and over their heads. When the firefighter attacked the fire, the fire blacked out, the visibility immediately turned to zero and the conditions became extremely hot. FF1 checked the air gauges and determined that Lt. Wallace had one-quarter tank of air remaining, with FF1 showing amber, having a little more than one quarter. Lt. Wallace told FF1 that they needed to get out. The firefighter turned on the hose line and began crawling down the line toward the door. FF1 reported that he felt Lt. Wallace behind him touching his boot or leg as they crawled on the hose line.

**23:40** L1 called Command, reporting “I have a low air alarm, separated from my firefighter. I’m on the hose, on the red hose. I need some air.”

Hearing this radio call, FF1 realized he was no longer in contact with Lt. Wallace. FF1 stopped his exit and told Command that he was on the red hose line, couldn’t find his lieutenant, and that he had been right in front of him. FF1 shouted to Lt. Wallace and shined his flashlight toward him. FF1 did not hear an air alarm or a PASS alert and did not see Lt. Wallace. FF1 had a low air alarm sounding, had not made contact with L1, and Command was ordering an evacuation of the building. FF1 came to a looped area of the hose line while exiting but was able to continue when his flashlight illuminated the hose line. A short distance from the front door he met the re-entering T1 who directed him to the exit.

- 23:41** When hearing and confirming the distress call from L1, Command directed Dispatch to activate the emergency evacuation alert tones and announced on the radio for all units to evacuate the building.
- 23:42** A second alarm was requested. Dispatch misunderstood the request and instead sounded the emergency tones a second time. A second alarm fire response was delayed six minutes before the mistake was discovered in the dispatch center.
- 23:43** Safety reported heavy flames through the roof toward the C side. At about this same time Safety opened the C-side door and then the D-side door to look inside; in both instances he saw only heavy smoke and no fire. He left both doors open to aid ventilation and to provide a means of egress should it be needed.

BC1 stated during interviews that at about the same time that Lt. Wallace radioed his distress call, fireground radio communications disintegrated significantly. BC1 stated that numerous times, while attempting to transmit on his radio, there was silence or sounds indicating no transmission. Emergency button activation was reset by dispatch several times during the incident. Command resorted to face-to-face communication until another radio channel was utilized. The situation with the radios was inconsistently reported and was not noticed by most of the personnel interviewed.

Command spoke face-to-face with Lt. Pickard (RIT) informing them that Lt. Wallace was out of air and directed them to “go get him.” The RIT crew of three immediately entered the structure.

- 23:44** A second distress call was transmitted by Lt. Wallace to Command. He again reported that “Low alarm is off. Please give me air. I’m still on the red hose line.”

Command: “Follow the red hose line out. Follow the red hose line out.”

L1: “Negative Command, I can’t do it. I have stuff fall on the hose line and I’m disoriented on it. Please send help.”

Command: “Follow the red hose line out. Follow the red hose line out.”

There were no more radio transmissions by Lt. Wallace.



***23:44: RIT outside entry door before entering for rescue.  
(Photo by Bryan PD Officer)***

E2 was told by Command in another face-to-face conversation that Lt. Wallace was lost and to re-enter the building and get water on the fire. When E2 re-entered, they saw no fire in the bingo room so they went back to the dance hall where they again found heavy fire. They began flowing water into this area.

After a few minutes, L2 returned to the door into the bingo room and discovered the room fully involved in fire “from ceiling to floor” and could clearly make out the three RIT team members dragging Lt. Wallace toward the door while engulfed in the flames. L2 quickly got his firefighter and the hose line from the dance hall to the bingo room doorway and began to flow water into the bingo

room in an effort to cover the rescue operation. At about this same time, T1 and E4 re-entered the building.

**23:46** Command asked Engine 5 (RIT) for a status report and requested an evacuation tone from dispatch. There was no response from E5.

**23:47** Command ordered evacuation of the building and asked for a status report from RIT. There was no response from RIT.

**23:50** T1, E2, and E4 crews removed the RIT victims to the outside where they were transported to local hospitals. The ISO returned to A side and assumed the role of EMS1 as injured firefighters were exiting the building. No subsequent ISO was appointed.

**00:08** L1 was removed from the building.

Advanced life support efforts were initiated at the scene and the firefighters were transported to St. Joseph Regional Health Care Center. In spite of the life support efforts that continued at the emergency room, Lt. Wallace died from the injuries sustained in the structure fire. An autopsy conducted by the Travis County Medical Examiner's Office concluded that Lt. Wallace died as a result of conflagration<sup>3</sup> injuries.

Advanced life support measures were initiated at the scene to care for Lt. Gregory Pickard and he was transported to the St. Joseph Regional Health Care Center. Lt. Pickard was flown to the University of Texas Medical Branch Blocker Burn Center in Galveston, Texas. In spite of all life support efforts, Lt. Pickard died from the injuries sustained in the structure fire. An autopsy conducted by the Galveston County Medical Examiner's Office concluded that Lt. Pickard died as a result of thermal injuries and smoke inhalation.

Two seriously injured Bryan Fire Department firefighters, Ricky Mantey and Mitchell Moran, were transported to the hospital and flown to the University of Texas Medical Branch Blocker Burn Center in Galveston, Texas. Firefighter Mitchell Moran returned to shift duty on the one-year anniversary of the incident. Firefighter Rickey Mantey continues to make progress in the healing and rehabilitation of injuries.

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<sup>3</sup> **con-fla-gra-tion** noun \,kän-flə-'grā-shən\ : a large destructive fire. "Conflagration." Merriam-Webster.com. Merriam-Webster, n.d. Web. 6 Mar. 2014. <<http://www.merriam-webster.com/dictionary/conflagration>>.



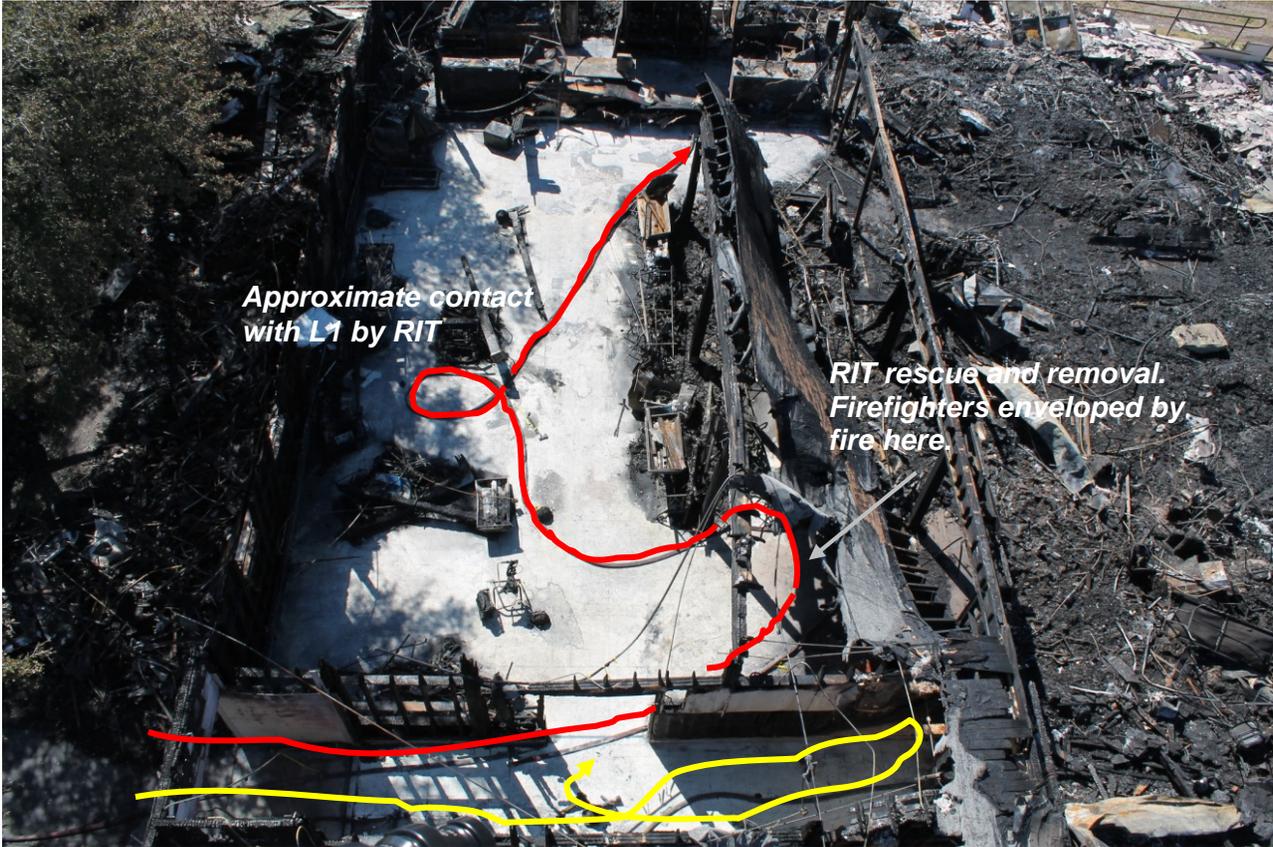
***Entry door view showing the E1 red hose line on left and the E2 yellow hose line on right.  
(Photo by State Fire Marshal's Office)***



***View into the bingo room showing the looped E1 red hose line.  
(Photo by State Fire Marshal's Office)***



**Photo of the looped E1 red hose line in the bingo room. A TIC is melted to the chair in the foreground. (Photo by State Fire Marshal's Office)**



**Outline of E1 red and E2 yellow hose lines. Locations of firefighter contact and rescue. (Photo by State Fire Marshal's Office)**

## **Equipment Evaluation: Personal Protective Equipment**

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*The Texas Commission on Fire Protection (TCFP) conducted an evaluation of the firefighters' personal protective equipment for compliance with TCFP rules and performance during the incident. Examination of the personal protective equipment (PPE) may provide important information related to the incident. The following are excerpts of the TCFP evaluation report.*

Bryan Fire Department is a paid fire department under the jurisdiction of the TCFP. The BFD is required to comply with Texas Government Code Chapter 419 (<http://www.tcfp.texas.gov/manuals/419-2013.pdf>) and Texas Administrative Code Title 37, Part 13 ([http://info.sos.state.tx.us/pls/pub/readtac\\$ext.ViewTAC?tac\\_view=3&ti=37&pt=13](http://info.sos.state.tx.us/pls/pub/readtac$ext.ViewTAC?tac_view=3&ti=37&pt=13)).

The State Fire Marshal's Office contacted the Texas Commission on Fire Protection (TCFP) and requested assistance in the examination of the personal protective equipment of the victims and the Bryan Fire Department. TCFP compliance officers Fred Green and Edward Russell responded to the request.

On Saturday, February 16, 2013, TCFP compliance officers arrived at the Bryan Fire Department and met with the SFMO investigation team and the Bryan Fire Department officials assigned to investigate the incident.

The personal protective equipment (PPE) and self-contained breathing apparatus (SCBA) were examined for damage and for compliance with TCFP requirements.

The review of the provided documentation and the examination of the PPE the victims were wearing established that the equipment was compliant with TCFP requirements, NFPA 1971, and NFPA 1851 at the time of the incident.

The review of the provided documentation and the examination of the PPE the victims were wearing established that the equipment was compliant with TCFP requirements, NFPA 1852, NFPA 1981, NFPA 1982, and NFPA 1989 at the time of the incident.

The fire department documentation referenced in the examination included:

- 1) Personal Protective Equipment advanced inspection records.
- 2) Duty period inspection records for the self-contained breathing apparatus.
- 3) Maintenance records for the self-contained breathing apparatus.
- 4) Self-contained breathing apparatus breathing air quality test result records.

- 5) Self-contained breathing apparatus cylinder hydrostatic testing records.
- 6) Self-contained breathing apparatus test stand maintenance records
- 7) Self-contained breathing apparatus technician certification records.
- 8) Self-contained breathing apparatus cylinder DOT requalification facility certification records.
- 9) Continuing Education Training records.
- 10) TCFP regulated standard operation procedures/standard operation guidelines.

The National Fire Protection Association (NFPA) standards referenced in the examination included:

[NFPA 1561, 2008 Edition](#): Emergency Services Incident Management System

[NFPA 1851, 2008 Edition](#): Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting

[NFPA 1852, 2008 Edition](#): Selection, Care, and Maintenance of Open-Circuit Self-Contained Breathing Apparatus (SCBA)

[NFPA 1971, 2007 Edition](#): Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting

[NFPA 1981, 2007 Edition](#): Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services

[NFPA 1982, 2007 Edition](#): Personal Alert Safety Systems (PASS)

[NFPA 1989, 2008 Edition](#): Breathing Air Quality for Emergency Services Respiratory Protection

TCFP compliance officers assisted the firefighter fatality investigation team by examining the PPE to determine compliance with State of Texas and national standards. Conclusions regarding the performance of the equipment during the fire incident were not provided.



***Lt. Wallace's SCBA face mask with regulator melted. Thermal damage was attributed to flashover exposure and was secondary to running out of air.  
(Photo by State Fire Marshal's Office)***



***Lt. Pickard's SCBA face mask with a hole melted through the lens. The mask was compromised and may have allowed for the inhalation of super-heated gases.  
(Photo by State Fire Marshal's Office)***

## Findings and Recommendations

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*Recommendations are based upon nationally recognized consensus standards and accepted safety practices within the fire service, as well as the Standard Operating Procedures (SOP) of the Bryan Fire Department. All fire department personnel should know and understand nationally recognized consensus standards, and all fire departments should create and maintain SOPs and Standard Operating Guidelines (SOGs) to ensure effective, efficient, and safe firefighting operations. This portion of the document represents the most significant lessons learned and best practice factors determined by the State Fire Marshal's Office Fire Fighter Fatality Investigation T. Recommendations are intended to prevent similar and future firefighter fatalities or injuries.*

The Bryan Fire Department (BFD) is a well-trained, equipped and managed department. All department members interviewed displayed a high degree of organizational and technical knowledge, training, drilling, and discipline. This same discipline was evident in firefighters and officers in their adherence to department Standard Operating Procedures (SOPs) as demonstrated on the fire ground at the Knights of Columbus Hall fire. Their operation appeared efficient and, with few exceptions, was conducted within generally accepted operational principles established within the fire service.

Initial size-up indicated fire showing from the roof area of the Alpha-Bravo (AB) corner of the building. Fire was also present through a window/wall area on the B side near the A corner of the structure. All fire seen at this time was "lazy" in nature. Smoke that could be seen was not pushing from the structure. These conditions did not preclude a prudent initial interior attack to rapidly extinguish the fire to save property and was in keeping with Bryan FD SOP.

Firefighting is not an exact science, and through post-incident analysis of most large emergency incidents, it is not unusual that performance problems are identified. The final analysis of this incident does not suggest that either of the firefighters who lost their lives, or any of the surviving members of the Bryan Fire Department, failed to perform their duties as trained or as expected by their organization. It does delineate findings and recommendations that, when taken as a whole and appropriately applied, can help ensure that a similar result will not occur again.

### ***Finding 1***

Firefighters did not recognize the conditions indicative of two dangerous situations that were present or developing while conducting interior operations:

- 1) Fire was involving concealed spaces above the ceiling.
- 2) Flashover conditions.

The initial entry teams did not utilize available equipment to monitor interior conditions or actively open up areas to determine what situational conditions existed.

The Engine 1 (E1) crew entered the front door and moved toward the B side of the building through the bingo room where fire was seen during arrival and the 360-degree scene assessment. The officer did not take an available thermal imaging camera (TIC) into the structure. They encountered smoke down to about 2 feet above the floor with minimal heat. The nozzle man (FF1) reported that they twice encountered fire above them, darkened the fire, and then moved deeper. Heat was ever increasing and visibility deteriorated as they moved farther into the structure. Water was applied only until the visible fire darkened. No other effort was made to control fire extension in the concealed space above the drop ceiling.

The truck crew entered the bingo room and initially began to move along the A wall toward the B side. They did not take an available TIC into the structure nor did they take tools to pull ceiling. While inside the structure on two separate entries, they did not attempt to pull ceiling to inspect the concealed space.

#### **Recommendation 1a**

Fire crews should be trained to recognize and understand the indications of concealed space fire extension and to take appropriate action. It is critical that crews entering any structure for the purpose of interior fire attack or, as support of such attack, systematically open and inspect concealed spaces as they move into the structure. Fire in concealed spaces poses a significant hazard to firefighters if left unchecked.

#### **Recommendation 1b**

The use of a TIC during initial size-up and entry into the structure could have confirmed that the fire was already burning in the concealed space area overhead. A TIC was available on the respective apparatus for both E1 and T1 but was not used during the size-up or initial entry into the burning building. This information might have influenced the incident commander (IC) or the involved fire officers to use different tactics or abandon the attack altogether. A TIC is also extremely effective in finding one's way in a zero visibility environment and in locating victims within a structure. Failure to utilize them has been identified as a factor in several firefighter fatalities. (E2 and RIT utilized a TIC during the response).

#### **Recommendation 1c**

Training on recognition of developing flashover conditions must be an ongoing process. Firefighters on the interior described classic signs of a hidden fire including rapidly increasing heat without visible fire and rapidly deteriorating smoke conditions. Isolated flames moving through the hot gas layers above the neutral plane (ghosting) were observed. Those indicators were not communicated to the IC

and tactics were not changed. A sufficient water flow to substantially cool the environment is critical. Cooling this environment is more critical than considerations about maintaining thermal balance.

### **References**

**BFD Basic Structural Tactical Initiative, Policy #SOP001**, Offensive Structure Fire, “*First-in Truck: Responsible for ... and providing support operations (pulling ceiling ...).*”

**BFD, Policy #SOP006**, Fire Operational Modes, Offensive Operations: “*When the fire involves concealed spaces, it becomes very important that companies open up and operate fire streams into such areas. Early identification and response to concealed space fires can save the structure.*”

### **NIOSH Firefighter LODD Reports:**

<http://www.cdc.gov/niosh/fire/reports/face200732.html>.

<http://www.cdc.gov/niosh/fire/reports/face200911.html>

<http://www.cdc.gov/niosh/fire/reports/face200509.html>

<http://www.tdi.texas.gov/reports/fire/documents/fmloddhouston09.pdf>

### **Finding 2**

Situation reports and key discoveries were not consistently communicated to Command so that fire location, spread, control progress, and other vital information could be monitored and factored into the decision-making process.

During their movement through the bingo area, E1 twice encountered fire above their heads as well as increasing smoke and heat conditions. T1 saw fire burning through the exterior wall on the B side while performing a 360-degree walk around and encountered heavy fire when they opened the adjacent exterior door to the kitchen. Neither crew reported this information to the IC. This information, combined with reports of heavy fire in the dance hall area reported by E2, could have proven valuable to the IC in determining that the fire was not localized and was not being controlled by employed tactics.

While E5 (RIT) members moved through the bingo area searching for Lt. Wallace, they observed ghosting flames<sup>4</sup> at various levels of the smoky environment. They found Lt. Wallace and began moving him toward the exit. Both of these situations, if reported, would have been very valuable in the decision-making process by the IC and others operating at the scene.

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<sup>4</sup> Sugawa et al; <http://fire.nist.gov/bfrlpubs/fire90/PDF/f90056.pdf>

## **Recommendation 2**

Information relating to fire conditions, the environment encountered, or changes of conditions must be reported to the IC in a timely and consistent manner. Use of a formatted reporting process such as “UCAN” (Unit, Conditions, Actions, Needs) may be helpful but the important point is getting the appropriate information to the IC in a timely manner so that critical decisions can be made utilizing all available situational information. ***Structural Fire Fighting: Initial Response Strategy and Tactics, IFSTA, 1st Edition, pg. 111.***

The acronyms **UCAN** or **LUNAR** refer to several uses including MAYDAY and situation reporting communications.

**CAN:** Conditions, Action (or Air), Needs

**UCAN:** Unit, C A N

**LCAN:** Location, C A N

**LUNAR:** Location, Unit, Name, Air, Resource needs

## **References**

***FireRescue, February 2012 issue, A closer look at LUNAR by Homer Robertson***

***Fire Engineering, May 2011 issue, Reporting Your LCAN by David DeStefano;***

**[http://texasmayday.com/Mayday\\_Training\\_Ideas.html](http://texasmayday.com/Mayday_Training_Ideas.html)**

## ***Finding 3***

There were no indications that the building was occupied. The size of the fire, the location of the fire, and the observed low intensity of fire and smoke when the first companies arrived may have supported the decision to make an offensive interior attack. Continuing risk analysis must be accomplished to limit risk to firefighters.

## **Recommendation 3**

When crews are making an offensive fire attack inside a structure which has no civilian life safety concerns, the IC must maintain a constant awareness of developing fire conditions as well as information received relating to interior conditions. After a pre-determined benchmark (10 minutes as dictated by SOP), the IC must re-evaluate and determine if it is safe to continue interior operations. When progress in controlling the fire is not being achieved, there are no lives to be saved, or in instances where there is conflicting information from interior reports and exterior observations, the IC should begin the removal of firefighters from the building and transition to a defensive mode.

The application of risk management principles, such as those found in the **IAFC Incident Commander's Rules of Engagement for Firefighter Safety**, provides a model for tactical decision making:

- 1) Determine the occupant survival profile.
- 2) Do not risk firefighter lives for lives or property that cannot be saved. Seriously consider a defensive strategy.
- 3) Extend limited risk to protect savable property.
- 4) Extend vigilant and measured risk to protect and rescue savable lives.
- 5) Maintain frequent two-way communications, and keep interior crews informed of changing conditions.
- 6) Obtain frequent progress reports and revise the action plan.
- 7) If after completing the primary search, little or no progress toward fire control has been achieved, seriously consider a defensive strategy.

### **References**

**BFD, Policy #SOP008**, Radio Procedures, Progress Reports: *"Command will be informed by Dispatch when ten (10) minutes have passed since the arrival of the first company on the fire scene. Command will reevaluate the situation and make any changes necessary to ensure the safety of his/her personnel."*

**NFPA 1500 Chapter 8, Paragraph 8.4.2:** *The fire department communications center shall start an incident clock when the first arriving unit is on-scene of a working structure fire or hazardous materials incident, or when other conditions appear to be time-sensitive or dangerous.*

**8.2.4.1\*** *The dispatch center shall notify the incident commander at every 10-minute increment with the time that resources have been on the incident until the fire is knocked down or the incident becomes static.*

**Structural Firefighting Strategies and Tactics, 2<sup>nd</sup> Edition, NFPA** (Kalene and Sanders), **pg. 53:** *Once on scene, the IC will add to what is known through personal observation, communication with fire companies and building personnel, and reconnaissance. Once the on-scene information is processed, the IC must quickly evaluate the action that is taking place and the conditions of the building.*

**NFPA 1143, Annex Section 5.4.2:** *The safety and welfare of personnel are the first and foremost considerations in all incident operations and decisions.*

**IAFC Incident Commander's Rules of Engagement for Firefighter Safety**, Source: 2011, IAFC Safety, Health and Survival Section. All rights reserved.

#### ***Finding 4***

When L1 radioed his first distress call, he indicated that he was lost, low on air, and could not get out of the building, but he did not use the term “**Mayday**.” The IC did not declare a Mayday when Lt. Wallace communicated his situation to Command.

This situation clearly met the definition of a lost or trapped firefighter as specified in the **BFD Policy #SOP023 Lost Firefighter—Command Responsibilities**.

#### ***Recommendations***

All actions dictated by BFD Policy #SOP023 should have been implemented, but certain actions were critical to this incident, including but not limited to:

- 1) *Utilization of the Mayday declaration:* not performed.  
Lt. Wallace gave very clear, concise, and controlled information about his situation, but did not declare a Mayday. “Evacuate the building” was the only direction articulated by IC to the other personnel present via radio communications. Directions were given as a result of the distress call, but there was no general message alerting all on-scene personnel of a lost firefighter. Some members interviewed stated they were unaware that a firefighter was lost until they began to pull the injured men from the building.
- 2) *Emergency Alert Signal:* this action was taken multiple times but was always followed by the order “evacuate the building” rather than announcing the Mayday.
- 3) *Change action plan to a high priority rescue effort and communicate this plan to other staff and Division Officers.*
  - a) The ISO recommended to IC that he shift to Rescue Mode and request a second alarm. However, IC did not announce or direct a change to Rescue Mode on the fireground.
  - b) A second alarm was requested as the SOP requires (although misunderstood by the dispatcher, who sounded a second alert tone instead).
  - c) The Rapid Intervention Team (RIT) was implemented by face-to-face communication but this activation was not communicated to others on the incident scene.
- 4) *Designate a Rescue Division and place a Chief Officer in charge to coordinate the effort:* This action was not taken. As a result, there was no interior command to coordinate or direct the rescue effort, which should include a hose line for protection of the rescue effort and an established coordinated fire suppression operation.
- 5) *Conduct a Personnel Accountability Report (PAR) immediately:* This action was not taken.

Though not required in BFD policy documents, no effort was made to maintain communications with Lt. Wallace or to inform him of efforts being made to assist him after his distress call; only “follow the red hose line out.”

**Recommendation 4a**

Specific procedures for situations involving lost or trapped firefighters must be in place, understood by all members of the department and followed precisely.

**Recommendation 4b**

A Mayday declaration is to be made by anyone who becomes aware of a lost or trapped firefighter. When this declaration is made, it must be communicated by all possible means to all members operating on the fire ground. If radio communications are impaired, then runners and face-to-face communication must be made. All personnel operating at the incident must be aware of the emergency.

**Recommendation 4c**

When a Mayday is declared, operations must be swiftly changed and directed toward the rescue effort. Communication of this change in operations and action plan must go to everyone. A command officer, separate from the IC, should be placed in charge of the rescue effort. This officer should focus solely on coordinating and directing the rescue, protection of rescue crews, and other functions that are necessary to accomplish the rescue. All incident radio communications should be moved from the original channel and placed on a separate channel, leaving only the lost firefighter, rescue team, and rescue commander on the original channel.

**Recommendation 4d**

A protection line should always be put in place to directly cover a lost or trapped firefighter as well as the rescue team attempting to reach and extricate him/her. Other lines are important to keep fire contained to other areas of the building, etc., but direct and close coverage of the rescue effort is critical.

**Recommendation 4e**

Make every effort to remain in radio contact with the lost firefighter. Let him/her know that help is on the way. Efforts to reassure and calm the individual are critical to the emotional, and many times the physical, response of the lost firefighter. Also, frequent communication will assist in assessing the level of consciousness, mental acuity, attention and perhaps physical condition of the firefighter.

#### **Recommendation 4f**

A PAR should be taken immediately upon recognizing that a firefighter is lost or trapped. This will assist in establishing a more accurate accounting of number of firefighters and help in determining other information that can be beneficial in the rescue effort.

#### **References**

***Essentials of Firefighting and Fire Department Operations*** (IFSTA), ***Rapid Intervention Teams*** (FPP)

**BFD Policy #SOP 004 Personnel Accountability**

**BFD Policy #SOP 006 Fire Operational Modes**

**BFD Policy #SOP 009 Emergency Alert Signal**

**BFD Policy #SOP 023 Lost Firefighter—Command Responsibilities**

#### ***Finding 5***

Fire company staffing was less than national standards recommendations. There were no command-level officers present to assist in division command or command support functions. Although supporting command resources (an on-duty battalion chief) were available in the neighboring city of College Station, these resources were not requested, nor were they a routine part of the mutual aid agreement.

#### **Recommendation 5a**

Fire departments should ensure that staffing levels are appropriate to perform critical tasks including staffing the command post with an aide to the IC.

***NFPA Standard 1710*** identifies the minimum resources for an effective firefighting force to perform critical tasks. These tasks include establishing water supply, deploying an initial attack line, ventilating, performing search and rescue, and establishing an RIT.

***NFPA 1710, Chapter 5.2*** recommends that the minimum staffing level for an engine company to perform effective and efficient fire suppression tasks is four.

In addition, a recently released study by the *National Institute for Standards and Technology (NIST)*, ***Report on Residential Fireground Field Experiments (NIST Technical Note 1661)***, concluded that a three-person crew started and completed a primary search and rescue 25 percent faster than a two-person crew and that four or five-person crews started and completed primary search and rescue 6 percent faster than a three-person crew.

### **Recommendation 5b**

Mutual aid should be structured to provide additional resources (including chief officers), and respond to working fires to assist the IC in all aspects of incident management, command and control. Departments should work together closely to ensure and enhance mutual awareness, respect, training and operations to further this desired result.

### **References**

**NFPA [2010]. NFPA 1710: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments.** 2010 ed. Quincy, MA: National Fire Protection Association

**NIST [2010]. Report on Residential Fireground Field Experiments. NIST Technical Note 1661, April 2010.** [http://www.nist.gov/customcf/get\\_pdf.cfm?pub\\_id=904607](http://www.nist.gov/customcf/get_pdf.cfm?pub_id=904607)

### **Finding 6**

The incident safety officer (ISO) was assigned to a fixed position at the rear of the structure. The Bryan Fire Department SOP assigns the ISO to fires, but also states that the ISO may serve as medical officer. While the decision of the ISO to perform medical operations on this incident did not have a direct effect of the outcome of the incident, having the ISO at a fixed location did limit his ability to monitor fire conditions on all sides of the structure.

### **Recommendation 6**

Have a dedicated incident safety officer who can fulfill those duties of an incident safety officer without being distracted from other duties while on an emergency scene. The ISO must have free range to roam an incident scene without being confined to a geographic area. The ISO must be able to make judgment decisions based on viewing all sides of the structure and conditions observed from the exterior as well as the interior. This cannot be accomplished unless the ISO is mobile.

### **References**

**Fire Department Safety Officer (IFSTA)**

**NFPA Standard 1500, Standard for Fire Department Occupational Health and Safety Program**

**NFPA Standard 1521, Standard for Fire Department Safety Officer**

## **Additional Recommendations**

*The following recommendations may have no direct relationship to the factors contributing to the deaths of Lt. Wallace or Lt. Pickard, however they should be considered to ensure the safety of all personnel on the fire ground.*

### **Recommendation A1**

Fire companies should conduct pre-incident plans throughout their assigned districts. These plans should be routinely updated and must be accessible to responding officers and IC to assist in the decision-making process.

### **References**

***NFPA 1620, Fire Officers Principles and Practice*** (IAFC).

***NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, Essentials of Firefighting and Fire Department Operations*** (IFSTA)

### **Recommendation A2**

The ISO should meet all certification criteria established by the ***NFPA Standard 1521, Standard for Fire Department Safety Officer***, and the Texas Commission on Fire Protection.

### **Recommendation A3**

Fire departments should consider using exit locators such as high-intensity floodlights or flashing strobe lights to guide lost or disoriented firefighters to the exit.

*The following Texas fire chiefs conducted the review of the operations and tactics and provided recommendations. We thank these individuals for their commitment to the review of this incident in the pursuit of firefighter safety.*

*Chief Steve Bass, City of Grapevine, Texas: Group Leader*

*Battalion Chief Ray Cummings, City of Georgetown, Texas*

# Appendix

## Time Line

### Radio Transcript

On February 15, 2013, at **23:19:21**, the Bryan Fire Department Dispatch received a cell phone call reporting a fire at the KC Hall. Information obtained from callers by Dispatch:

- location is at Palasota and Groesbeck.
- was unknown if anyone was inside.
- no cars are in parking lot.
- flames coming from the building.

**At 23:19** Engine 1, Engine 2, Engine 5, Truck 1, Med 2, Battalion 1, EMS 1, and PD officer ZB1 were dispatched to Palasota Drive and Groesbeck Street, Box 131, for a structure fire. After units checked en route, Dispatch relayed that the incident would be at the KC Hall, all callers have been passersby, unknown if any in building, but no cars in the parking lot.

**At 23:24** Engine 1 was on scene and had fire showing, was in offensive mode, Engine 1 Lt. would be passing command.

**At 23:24** Truck 1 on scene assisting Engine 1.

**At 23:24** EMS 1 Report hydrant at Palasota and Groesbeck.

**At 23:24** Battalion 1 on scene reporting a single story commercial building fire showing from the roof on BC corner. Battalion 1 established command and advising in offensive mode.

**At approximately 23:24** Truck 1 requested a "K" tool to the front door from Truck Operator 1.

**At 23:26** Command requested a ladder truck from College Station and requested an additional engine with admin page requesting admin to respond.

**At approximately 23:26** Engine 1 advised Command that a 200-foot hose line had been deployed to the front door. Command acknowledged with Engine 1 in the front door. Truck 1 advised forced door on D side on structure and working on forcing the door on the C side of the structure.

**At 23:27** Medic 2 arrived on scene, setting up stand by.

**At 23:27** Engine 2 arrived on scene, setting up water supply.

**At 23:27** EMS 1 arrived on scene and was setting up Safety on C side.

**At approximately 23:28** Truck 1 advised doors on C and D side forced and remained closed.

**At 23:28** Engine 5 on scene setting up RIT and Command requested to set up for large water flow. E2 advised conducting walk around and grabbing another line.

**At 23:29** Engine 1 advised on the inside making fire attack.

**At approximately 23:30** Command requested Safety and RIT to conduct a walk around.

**At 23:29** Command told Engine 2 to pull a second line.

**At approximately 23:29** Command asked for UCAN report.

**At approximately 23:30** Command reported a lot of fire on the AB roof.

**At 23:31** Lt. from Engine 1 requested a door on the B side to be opened.

**At 23:31** Command requested Truck 1 to open door on B side; T1 advised door is open and would be making entry with a crew of three.

**At 23:31** Engine 1 needed more hose pulled and Engine 2 reported making entry.

**At 23:31** Engine 1 operator advised he was at a half of tank, Command advised Engine 2 to charge the hydrant.

**At 23:32** Safety cut off air handler units and main breaker box.

**At 23:32** College Station FD ladder truck (752) advised they were en route.

**At approximately 23:33:00** College Station Engine (724) advised they were en route.

**At approximately 23:33:00** Engine 2 established water to Engine 1.

**At 23:33** Truck 1 advised he had exited with 3 and would be reentering with 2. The FF was staying outside.

**At 23:33** Dispatch gave a 10 minute notification to Command; Command confirmed.

**At approximately 23:34** Engine 1 Lt. advised Engine 2 Lt. to pull hose.

**At 23:34** Command advised Engine 1 there was fire through the roof on the AB corner.

**At 23:34** Engine 1 advised water supply established.

**At 23:34** Command requested BTU to respond.

**At approximately 23:36** Command assigned Safety to the CD side to "maintain a size up."

**At Approximately 23:36** Truck 1 advised Engine 1 that was all the hose they could pull.

**At approximately 23:37** Engine 2 officer asked Command if they were making any progress, Command replied, "I think so, it looks like the fire is diminishing."

**At 23:38** "Stack a fan in the front door" request was made by Command; Engine 5 LT replied they would take care of the second fan.

**At 23:38** Command advised "looks like improvement, not a lot of visible fire just a lot of smoke, stacking fans."

**At 23:39** L2 advised Engine 2 in second room (dance hall) heavy heat conditions, "everything is above us; I think we're making progress." Command replied, "I think you are, the only fire is on the AB roof line, we're going to stack some fans."

**At 23:40** Engine 1 Lt. contacted Command and advised he had a low air alarm and was separated from his FF and on the red hose, and Engine 1 FF advised he was on the red hose line and low on air.

**At 23:41** Command requested Dispatch to sound the emergency evacuation alert tone and advised all units to evacuate the building. The tone was given and Command repeated, "Evacuate the building."

**At 23:41** Engine 2 advised they were out with two and Command confirmed.

**At 23:42** Safety advised to go into rescue mode, second alarm.

**At approximately 23:42** Truck 1 could hear a FF Pass device sounding.

**At 23:42** a Second Emergency Alert Tone was requested by command. Command gave order to evacuate the building after tone.

**At approximately 23:43** Command advised all units to evacuate the building.

**At 23:43** Safety advised heavy flames through the roof toward the C side.

**At 23:43** request made by Command to set up the CSFD ladder.

**At 23:43** Command advised all units to evacuate the building.

**At approximately 23:44** Command asked L5 if they were accounted for.

**At 23:44** Engine 1 advised low air alarm was off, "I'm still on the red hose line." Command replied "follow the red hose line out." Engine 1 Lt. advised "negative I can't do it, I have stuff fall on the hose line and am disoriented on it. Send help." Command replied "follow the red hose line out."

**At 23:44** Truck 1 heard FF down on red hose line 20 feet away. Command announced for all units to evacuate.

**At 23:45** Truck 1 ordered to exit the building by command.

**At 23:46** Command asked Engine 5 (RIT) for a status report.

**At 23:46** Command asked Dispatch for an evacuation tone.

**At approximately 23:47:00** Command advised all units to evacuate the building and asked for a status report from Engine 5.

**At approximately 23:47:30** Command asked for all units to evacuate the building.

**At 23:48** Engine 4 advised en route.

**At 23:49** Command requested two additional ambulances.

**At approximately 23:50** CSFD 752 advised they were in place and ready to flow water "when you call for it"; Command replied to flow water "as soon as you can."

**At approximately 23:51** Safety advised that one victim was out.

**At 23:51** Command advised Dispatch to launch PHI (helicopter).

**At approximately 23:52** Medic 2 requested additional ambulances, Command informed Dispatch he needed four ambulances.

**At 23:53** Safety advised, "Number 3 out, launch a second PHI."

**At 23:53** Truck 1 radioed, "Need help removing people from the doorway."

**At 23:54** Command notified St Joseph's for multiple burn patients and to land PHI on highway.

**At 23:55** CSFD752 advised Command that roof was beginning to collapse, Command confirmed.

**At 23:55** Engine 4 advised on scene.

**At 23:59** Truck 1 advised he had victim and needed help getting him out.

**At approximately 00:02** Engine 4 advised Command of heavy fire and they heard a pass going off.

**At approximately 00:04** Command called for a third alarm.

**At 00:08**, Safety advised Number 4 at the door.

**At 00:09** Command advised Safety,” When Number 4 is out, get everyone out of the building.”