




Firefighter Fatality Investigation

**Firefighter Stanley Wilson
Dallas Fire-Rescue Department**

Investigation FFF FY 13-07

Dallas, Texas
May 20, 2013



The subsequent investigation of this incident provides valuable information to the fire service by examining the lessons learned, to prevent future loss of life and property.

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Acknowledgements

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Dallas Fire-Rescue Department
Dallas Police Department
Austin Fire Department
Bureau of Alcohol, Tobacco, Firearms, and Explosives
State Firemen's and Fire Marshals' Association
Texas Commission on Fire Protection
Texas A&M Engineering Extension Service
Texas A&M Forest Service
National Institute for Occupational Safety and Health

The following Austin Fire Department members conducted the review of the operations and tactics, and provided recommendations. We commend these individuals for their commitment to the review of this incident, in the pursuit of firefighter safety for the Texas Fire Service.

Assistant Chief Kenneth Crooks
Battalion Chief Rene Garza
Captain Matt Rush
Lieutenant Brooks Frederick

Executive Summary

On May 20, 2013, City of Dallas Fire-Rescue Department Truck 53 Firefighter Stanley Wilson was fatally injured during firefighting operations at a three-story apartment fire. At approximately 2:51 a.m., Dallas Fire-Rescue Dispatch received a call from an alarm monitoring company advising that the fire alarm system at the Hearthwood North 2 Condominiums had activated. The address is 12363 Abrams Road, inside the city limits of Dallas, Texas. The first fire apparatus to arrive at the condominium complex was Truck 57. Seeing fire in the complex, the captain on Truck 57 requested that Dispatch change the alarm type to a Box Alarm (structure fire). Tenants were rescued and evacuated and a search of the structure was completed. Approximately 45 minutes after the initial response, fire ground operations transitioned to a defensive attack and master streams were flowing.

Firefighter Stanley Wilson responded to the scene on Truck 53 at 4:05 a.m., after the fourth alarm. Truck 53 reported to Command and was assigned to search an adjacent building not yet involved with fire. Upon completion of the assignment, Truck 53 was assigned to conduct a “primary” search of the ground floor of the fire building. During the search, the structure collapsed, trapping Firefighter Wilson under debris and other firefighters at condo entry door areas. The Truck 53 captain announced a Mayday and the Rapid Intervention Team (RIT) was deployed to search and rescue the trapped firefighters. The firefighters trapped in the void spaces at condo entry doors were rescued several minutes later. Firefighter Wilson was recovered from under the collapse debris in the main corridor after an extensive search and debris removal was conducted. Firefighter Wilson died from compression asphyxiation.

This report is intended to honor Firefighter Stanley Wilson by taking the lessons learned from this incident so others may not perish. Firefighter Wilson was a 28-year veteran with Dallas Fire-Rescue.



Firefighter Stanley Wilson
Dallas Fire-Rescue Department

Introduction

On Monday, May 20, 2013, the Texas State Fire Marshal's Office (SFMO) was notified that Firefighter Stanley Wilson with Dallas Fire-Rescue Department (DFRD) died from injuries sustained while conducting fire ground operations at a structure fire.

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 May 20, 2013, with the initial assessment and survey of the involved property, including examination of the fire scene and obtaining witness information. SFMO staff at the scene sent periodic updates to the investigation team members, and an action plan of assignments and objectives for the investigation was established.¹

The Texas State Fire Marshal's Office and Dallas Fire-Rescue led the efforts to investigate the circumstances and factors contributing to the fatality of Firefighter Wilson. Assignments included examination of the fire scene to determine the origin and cause of the fire; examination of the structure and systems, including the gathering of historical information and known conditions of the structure; an evaluation of the structure's fire protection systems; an examination of the personal protective equipment; and a review and examination of the fire ground operations and tactics employed.

The State Fire Marshal's Office notified the Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) and requested assistance from the ATF National Response Team (ATF-NRT) in the examination of the incident.

The State Fire Marshal's Office notified the Texas A&M Forest Service, requesting that it respond and assist in incident management and planning the investigative activity.

The Texas State Fire Marshal has agreements with the major metropolitan fire departments in Texas to provide assistance in the investigation of firefighter fatalities in departments of Texas' major cities. Departments assign members to assist the SFMO in the investigation of the incident, and the evaluation of the fire ground operations and tactics to assist in developing recommendations. The major metropolitan fire departments rotate annually and

¹National Response Framework, Second Edition (See Appendix 3)

Dallas Fire-Rescue was the assisting department for fiscal year 2013. The procedure provides for requesting assistance from the previous year's assigned department whenever the firefighter loss is with the currently assigned fire department. Since Dallas Fire-Rescue Department experienced the firefighter loss, the previous year's assigned department was requested to assist, and so the SFMO requested assistance from the Austin Fire Department (AFD). AFD assigned Assistant Chief Ken Crooks, Battalion Chief Rene Garza, Captain Matt Rush, and Lieutenant Brooks Frederick to assist. AFD responded to the scene on May 20, 2013. Chief Crooks was assigned as the group supervisor for the operations and tactics evaluation team.

The Texas Commission on Fire Protection (TCFP) regulates personal protection equipment (PPE) in the state and assisted in the evaluation of the PPE. TCFP compliance officers Robert Manley and Lamar Ford were assigned and responded to evaluate the personal protection equipment.

The National Institute for Occupational Safety and Health (NIOSH) Fire Fighter Fatality Investigation and Prevention Program was notified. NIOSH responded to the scene with a team to conduct an independent investigation.

Building Structure and Systems

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 Dallas has adopted the 2006 edition of the International Fire Code (IFC). Where differences may exist among locally adopted codes, ordinances and previously approved conditions, the City of Dallas retains jurisdiction of code enforcement under their adopted codes.

The fire incident was located at the Hearthwood North Condominiums, 12363 Abrams Road. The property was a multi-family residential complex.

According to Dallas Fire-Rescue authorities, the complex had a history of fires and alarm activations, including one other multiple-alarm fire.



Pre-fire photo of property, 2012 (Google Earth)



Building Structure and Systems

The Hearthwood Condominiums consisted of a complex of eight, three-story residential buildings, classified as an R-1 residential building according to the Dallas Fire Inspections Division. All residential buildings on the property were said to be constructed of the same materials and by the same methods during the period of June 1978 through March 1979.

Because unsafe conditions prevented internal examination of Building 5 at the time of investigation, exemplar buildings in the same complex were examined to obtain information for construction and fire safety features that would be representative of Building 5.

Building 5 was identified as the building of fire origin. The building was a three-story residential building containing 24 living units of wood-frame construction with exterior wall materials consisting of brick veneer, stucco and fiberboard. The main roof structure was flat with an asphalt overlay. A mansard-style roof structure wrapped the building at the third-floor level with a standing seam metal roof covering. The supporting structural members consisted of pre-engineered roof trusses and floor joists using metal gusset plate connectors. The building was constructed on a concrete slab foundation.



View of corridor in exemplar structure

Each living unit door discharged to an interior corridor. Interior finish of the corridor consisted of gypsum wall board and a suspended acoustical tile ceiling. The structural members were unprotected wood framing above the ceiling membrane.

The central corridor on each floor provided access to an exit stair enclosure on the north end of the building. The south end of the corridor led to an area to access a stairwell to the ground floor and the exits to the breezeways to Building 4 and Building 6.

The building had a fire alarm system with off-premises monitoring. The fire alarm system had automatic smoke detection in the corridors and manual pull boxes located at each stairway exit door. Fire alarm notification appliances consisted of a single alarm bell centrally located in the corridor.

The interior exit corridor on each floor had emergency lighting units, portable fire extinguishers and illuminated exit signs.



View of the south end of Building 5 showing the lobby area, exit doors, and breezeways

Each condo living space was all electric; the only gas to the building supplied the water heater boilers.

The building had a gravity trash chute serving the second and third floors and terminating in a collection room on the ground floor. The chute was protected with an internal sprinkler system, and a heat-actuated chute cut-off door in the ground floor room equipped with 165 degree thermal links.

Dallas Code Review

Information contained below, and any references to code history, were provided through documents provided by the Dallas Fire-Rescue Department Inspections Division.

Construction permits issued by the Dallas Building Department for the Hearthwood Condominiums are dated between June 1978 and March 1979. The adopted codes at the time of building construction were the 1976 Dallas Building Code and the 1976 Dallas Fire Code.

According to DFRD, existing fire protection features for the building were approved for continued use based on the previously adopted codes in effect at the time of construction approval. Conditions that require an upgrade to current codes depend on the alteration of square footage, stories in height, or a change of occupancy use.

Building 5 was equipped with a fire alarm system, but it was not considered a required system based on the occupancy classification at the time of construction. In accordance with the 1976 Dallas Fire Code, Section 16-13.401A(c) (1), an R-1 occupancy four stories or less is exempt from a required fire alarm system.

At the time of the fire investigation, it was reported that dwelling units were equipped with hardwired smoke alarms in the hallways outside of the sleeping rooms. The Dallas Fire Code only required single-station, battery-operated smoke alarms at the time of construction.

In 2011, permits were taken out for a fire alarm system upgrade to buildings 4, 5 and 6. At the time of the fire, the system was still being installed and not yet in service. Work was to include a new fire alarm control panel, notification devices, smoke detection and manual pull boxes.



The fire alarm control panel in Building 5 was monitored by an off-premise monitoring firm

The Licensing Investigation Division of the State Fire Marshal's Office reported that the fire protection firm that last serviced the systems indicated the fire alarm and sprinkler system in Building 5 was in compliance and no deficiencies were noted.

Dallas Fire-Rescue Department Inspections report RFS13-00055410 indicates a complex-wide inspection was conducted on May 6, 2013. The report indicates multiple deficiencies in Building 5 including, but not limited to, the following:

- (1) Inoperable exit signs.
- (2) Improper storage of flammable and combustible materials.
- (3) Inoperable self-closing devices on fire-rated trash chute loading doors and fire-rated exit stairway doors.
- (4) No documentation of annual service and maintenance for trash chute components.
- (5) Painting of fire alarm components, smoke detectors outside elevators, and other life safety components.

A letter of intent dated May 9, 2013, to comply with the inspection findings, was provided to the Dallas Fire-Rescue Department Inspections Division from property representatives.

Examination of exemplar buildings by the investigation team revealed the following findings:

- (1) Inoperable self-closing devices were present on stairway exit doors, or doors would not close and latch because of damage to the door leaf.
- (2) Self-closers were removed from trash service room access doors.
- (3) Inoperable self-closing devices on trash chute loading doors prevented doors from closing and latching in the frame assembly.
- (4) Fire-resistance ratings were not confirmed on fire doors because paint coverage obscured the UL label, or the labels were missing from the doors.

Trash Chute Details and Fire Protection Features

The trash chute installation and associated fire protection features would have been approved by the Dallas Building Department, in accordance with the adopted Dallas Building Code in effect at the time of construction approval, which was reported to be the 1976 edition.

The trash chute was constructed of a light gauge metal tube approximately 24 inches in diameter, and the chute's perimeter was not contained within an enclosed shaft. The chute extended vertically from the ground floor collection room into the building's attic space.

The chute terminated and vented through an eight-inch pipe into the attic space of the building above the third-floor ceiling. It could not be confirmed whether the Dallas Building Code in effect at the time of construction approval would have permitted the trash chute to terminate in the attic space.

Current code standards require a trash chute to terminate a minimum of three feet above the roof line of a structure (see Exhibit A.1).

The trash chute service room was accessed from the corridor on each floor level by a fire-rated door assembly. The trash chute loading doors on each level were provided with an Underwriters Laboratories (UL) labeled 1-1/2 hour fire rated assembly. Codes at the time of construction approval required trash chutes in R-1 occupancies to terminate in rooms separated from the remainder of the building by a one-hour fire-rated construction.

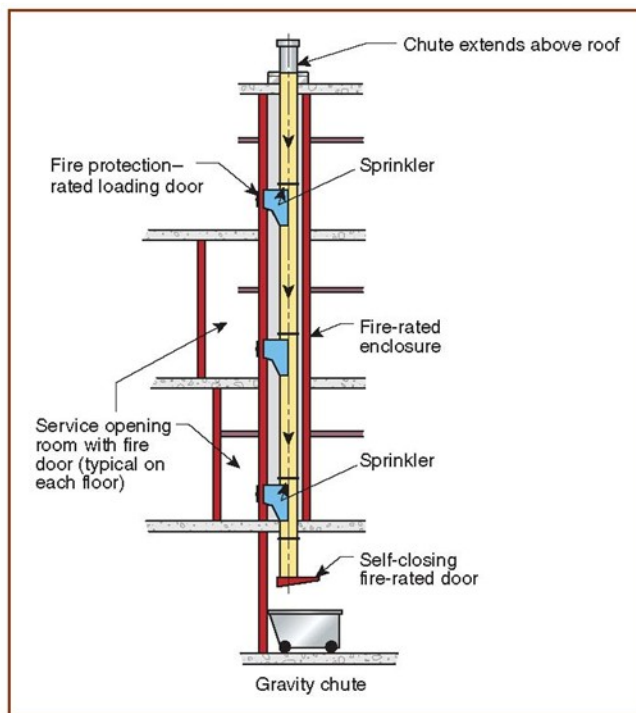


Exhibit A.1 Typical gravity rubbish chute (current codes)



*Bldg. 6 trash chute vented into the attic space.
Bldg. 5 reported to be similar. (ATF Photo)*

A trash chute cut-off door was provided at the chute opening in the ground floor trash collection room that was operated by a 165 °F fusible link and spring loaded closer.

The interior wall finish in the exemplar ground floor trash chute service rooms was a cement board material. It could not be confirmed whether this material and method of installation meets an approved fire resistance rating.

According to the current Dallas Building Code, fire sprinklers shall be installed in ground floor trash chute terminal rooms. Examination of exemplar buildings revealed that trash chute terminal rooms were not protected with fire sprinklers. The trash chute was protected with two internal fire sprinklers, with a thermal rating of 165 °F, located on levels two and three of the chute. The fire sprinklers were supplied from the domestic water system.



Valves that controlled water supply to the trash chute sprinklers were not electronically supervised through the fire alarm system, nor were the valves secured by other means to prevent closure by unauthorized personnel. Investigation of the building's water supply system determined that shutting off the domestic water supply to the building would effectively cut off water supply to the sprinkler system serving the trash chute.

NFPA 82, Standard on Waste and Incinerator and Linen Handling Systems and Equipment (2009), Chapter 5, requires protection of gravity waste chutes by sprinkler systems, and references *NFPA 13, Standard for the Installation of Sprinkler Systems*. Chapter 8 and Annex 8.16 indicate that where electrical supervision is not provided, locks or seals should be provided on all valves and should be of a type acceptable to the authority having jurisdiction. The standard method of locking or sealing valves to prevent, so far as possible, their unnecessary closing is a satisfactory alternative to valve supervision. The authority having jurisdiction should be consulted regarding details for specific cases. Where water is shut off to the sprinkler systems, a guard or other qualified person should be placed on duty and required to continuously patrol the affected sections of the premises until such time as protection is restored.

Dallas Fire-Rescue representatives provided the following information:

- The City of Dallas had adopted its own fire code in 1976.
- The 1976 Fire Code did not require either a fire alarm system or a fire protection sprinkler system.
- The 1976 Building Code was a prescriptive code, which means that it would require fire protection features based on building type and occupancy.
- The 1976 Fire Code was a maintenance code, which means that if the building code required a fire prevention feature, the fire code regulated how to maintain the feature.
- The building department was responsible for performing the building inspections and approvals for new construction when the building was built.
- The trash chute installation methods and fire protection features within the chute would have been in accordance with the building code in effect at the time of construction.
- The Dallas Building Department could have approved the trash chute as installed.
- According to the City of Dallas Fire Prevention Office, a fire alarm system was not required for these buildings; it is believed that the fire alarm system was added as supplemental protection.
- The 1976 Dallas Fire Code did not require hardwired 110v standalone smoke alarms in the living units.
- The 1976 Dallas Fire Code required that the building owner provide standalone battery operated smoke alarms as part of a retroactivity clause.

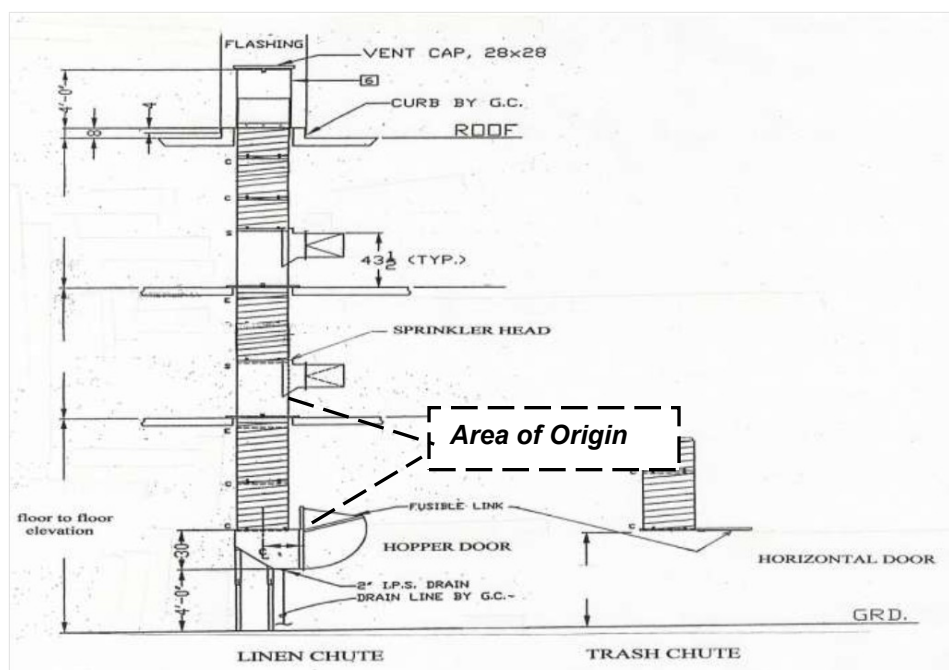
- Dallas inspectors informed us that because of an incident where the Dallas city records are archived, the previous records, including the original plans and approvals, were lost because of water damage.
- With the loss of records, there is no information as to when the fire alarm system was installed or about the design criteria used to plan the fire alarm system.
- The City of Dallas currently has its own fire code, known as the “Dallas Fire Code,” based on the 2006 edition of the International Fire Code (IFC) with adopted amendments.

The investigation revealed that the fire alarm system was working at the time of the incident and that it functioned as designed and installed.

The information gathered by this investigation would indicate the installation of the sprinklers in the trash chute was an approved installation in accordance with the Dallas Building Code that was in effect at the time of construction. This investigation also indicated that as of November 8, 2012, the sprinklers were in operating condition in Building 5, and it also indicated that the sprinklers in buildings 1, 3, 4, 6, 7, 8, and 9 were in operating condition. Because of the damage caused by the incident, the status of the trash chute sprinklers in Building 5 at the time of the incident could not be determined. It can be determined that if the water supply to the building was shut off, this would also shut off the water supply to the trash chute sprinklers. The DFRD did not require notification of a trash chute fire sprinkler shut off at this facility.

Fire Investigation

The fire scene examination was conducted by the State Fire Marshal's Office, Dallas Fire-Rescue, and the National Response Team of the ATF. The conclusions are based upon witness statements, photographs and video taken during the fire, and the fire scene examination. Following the scientific methodology of fire investigation as prescribed by NFPA 921, the area of origin of the fire at Building 5 is centered around the trash chute on the north-west corner of the structure.



Area of origin

The fire originated in the interior tube of the trash chute below the trash chute door to the second floor and above the spring-loaded trap door to the trash collection room. A specific ignition source could not be determined, because of the amount of fire damage to the trash chute tube, the trash dumpster and the surrounding environment.



Area of origin



Condition of trash chute spring-loaded door at first floor in exemplar building

Examination of the trash chute revealed that the entire interior of the tube was cleared of debris, which was the result of an intense fire spreading upward and within the trash chute. Exemplar trash chutes within the complex were found to be heavily greased and coated with residual trash debris at all levels.

At approximately 12:30 a.m., the maintenance man was notified of a water leak in a residence on the third floor of Building 5. The water leak was reported by a second-floor resident as water leaked through from the residence above. The maintenance man attempted to contact the third-floor resident and there was no answer. After several attempts to contact the resident the maintenance man shut off the main water supply to the building. The fire sprinkler system protecting the trash chute was connected to the building main water supply.

The fire alarm system installed in Building 5 was monitored by an off-premise alarm monitoring firm. The monitoring firm received an alarm and called 911 to report the alarm in Building 5.

The fire in the trash chute spread to the upper eight-inch ventilation tube and then into the attic space. The metal spring-loaded door at the bottom of the trash chute did not close as designed, as it may have been blocked by trash debris above. The open trash door served to ventilate the fire, allowing it to grow in intensity. With the trash chute acting as a chimney, the fire traveled into the attic space and ignited the wood roof structure in the attic space.

The fire spread undetected in the attic space until enough smoke developed to initiate the smoke alarm systems in the hallways and various living units on the second and third floors.

The 16 gauge aluminized steel tube of the trash chute became further heated from the bottom to top and acted like a conductive metal object. The thermal radiation from the metal tube heated the wooden support systems within the void spaces and advanced the fire to multiple levels.

The origin was determined to be in the trash chute, which was in the interstitial space (void space/floor truss bay) between the ceiling of the trash collection room on the ground floor and the second floor. The trash debris lodged in the trash chute at the second floor level is believed to have caught fire and spread vertically to the attic space and then spread laterally across the attic space and upper-level residences. A specific ignition source for what started the fire could not be determined.

Based on the fire scene examination and the witness interviews to date, this fire is ruled as **UNDETERMINED** pending development of further information or examinable evidence.



Trash chute with first floor at left and attic vent at right

Fire Ground Operations and Tactics Timeline

The following information is provided by the SFMO investigation teams. The following sequence of events was developed from radio transmissions, photographs, video, firefighter statements and witness information. 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 and/or observations.

Weather at the time of the fire was partly cloudy with winds from the east southeast at 5-10 mph.²

On May 20, 2013, at 02:51, the Dallas Fire-Rescue Dispatch received a call from an alarm monitoring company reporting automated alarm activation at the Hearthwood Condominiums. The condominiums were located at 12363 Abrams Road in north Dallas, Texas.

02:52:40 Truck 57 and Engine 57 were dispatched to an AUTO Alarm at the Abrams Road address. Due to proximity, Engine 57 was replaced with Engine 29 on the incident.

02:58 Truck 57 arrived at the complex and upgraded the incident to a Box Alarm (structure fire) because heavy fire through the roof was visible from the roadway.

02:58 Engine 57, Engine 28, Truck 37, Battalion 4, Battalion 2 and Rescue 57 were dispatched to the incident.

²www.wunderground.com

02:59:36 Truck 57 upgraded the incident to a second alarm because of the amount of fire visible at the north end of Building 5 and multiple civilians requiring rescue. Truck 57 began setting up for rescue operations.

03:00:23 Engine 22, Engine 37, Engine 20, Truck 20, Truck 56, Rescue 19, Engine 19, Truck 19, USAR 19 (Urban Search and Rescue), Battalion 3, Battalion 7, Rescue 29, Unit 806, Unit 829, Unit 896, Unit 685, Unit 684, Unit 782, and Unit 820 were dispatched to the incident.

Truck 57 rescued a civilian from the third-floor balcony of condo #538, near the north end of Building 5 on the west side (Charlie side). A second civilian was seen on another balcony but evacuated the building through the stairwell.

03:05:06 Battalion 4 arrived on scene and assumed Command. Battalion 4 reported fire coming through the roof. The Command Tech on Battalion 4 positioned the command post in the parking lot on the east side of Building 5. This was later established as the Alpha Division.

Crews from Truck 57, Engine 57, Engine 29 and Engine 28 entered the structure with hoselines to complete a primary search and to check for fire extension. Fire involved the north end of the second-floor and third-floor corridors.



Photo of Truck 57 rescuing an occupant from the balcony of unit 534 on the Charlie side

03:09:14 Truck 37 arrived on the Alpha side (East side).

03:10:36 Deputy Chief 806 arrived on scene to the west side of the structure and walked to the east side and assumed command as the Incident Commander.

03:12:41 Battalion 2 arrived at entrance of the property, and walked to the Command Post. Approximately 10 minutes later BC2 was assigned by Command as the ISO (Incident Safety Officer) and to get a schematic of the building. The ISO entered the first floor and then the second floor and advised Command of the building configuration. The ISO then conducted a 360° exterior safety assessment.

Truck 37 rescued one civilian from the balcony of condo 533.

03:13:44 Battalion 3 arrived and provided an on scene size-up to dispatch. BC3 assumed a fire attack position on the third floor. Battalion 3 ultimately assumed Bravo Division Supervisor on the second and third floors with the mission to prevent fire spread to buildings 4 and 6. Battalion 3 later reports the third floor is untenable.

03:14:10 Battalion 7 arrived on scene and set the Command Post and staging locations.

03:20 – 03:35 *BC 2 assigned Engine 20 to search the 1st floor and BC 4 assigned Engine 37 to complete a primary search of the 2nd floors in Building 5.*



View of the operations at the north end trash chute/
dumpster access doors

- 03:21** Truck 19, Engine 19, and Rescue USAR 19 established the Rapid Intervention Team (RIT) on the Alpha/Delta section of Building 5. RIT was later relocated to the Bravo division. Truck 19 was assigned to set up ladder pipe operations on Delta side (north end).
- 03:28:02** Command assigned Battalion 7 as the Bravo Division Supervisor on the ground floor.
- 03:33:09** Command requested a third alarm.
- 03:33** Engine 39, Engine 55, Engine 56, Truck 39, Unit 825, Unit 784, and Unit 881 were dispatched to the incident.
- 03:38** During interviews, Truck 39 personnel stated they heard radio traffic calling for everyone to evacuate the building in order to transition to a defensive mode.

Engine 39 arrived at staging and reported to Battalion 7. Engine 39 was assigned to check for fire extension in the third-floor breezeway ceiling. They raised a ground ladder to the third-floor breezeway at the south end of Building 5 and began pulling ceiling to check for fire extension.

03:38-03:45 *Transition from offensive to defensive tactics began.*

Battalion 3 failed to answer radio calls and was unaccounted for. Command (Unit 806) assigned the ISO, (Battalion 2), and USAR 19 (RIT) to locate Battalion 3. The ISO located Battalion Chief 3 (BC3) on the second floor and advised him to evacuate the building for defensive operations.

- 03:45** Transition to defensive operations were completed. ISO (BC2) was reassigned by Command (806) to establish cutoff at the breezeway at the south end of Building 5 between Buildings 4 and 6 (Bravo side). No other ISO was assigned immediately.

Truck 20, Truck 56, Engine 20 and Engine 55 pulled ceiling on the second and third floors, placed lines, set ground ladders and directed hoseline streams on the Alpha/Bravo (southeast) corner of Building Five.

03:49 Dispatch received calls regarding embers falling in the residential area north of the fire.

03:50 Truck 57 began flowing water onto the fire with the ladder nozzle on the Charlie side (west side). Dispatch advised Command of embers falling into the residential area north of the fire.

03:51 Engine 55 was assigned by the Bravo Division supervisor to occupy the corridor and breezeway between buildings 4 and 5 (southeast corner of building). E55 crew members pulled ceiling to check for fire extension in the breezeway. Heavy smoke was observed but no fire, and a hoseline from Engine 28 was used to spray water into a third-floor window on the Alpha side of Building 5.

03:56 Truck 37 began flowing water onto the fire with ladder nozzle from the Alpha side.

04:00 BC 3 assigned Engine 56 to pull ceiling and check for fire extension on the second-floor breezeway between buildings 4 and 5. A hoseline was also used to spray water onto Building 5 on the Charlie side.

BC 3 assigned Truck 39 to set ground ladders to the second-floor breezeway at the south end of Building 5 to check for fire extension between buildings 4, 5, and 6.

BC 7 assigned Truck 39 to evacuate Building 6. Several occupants were found and escorted out of the building.

04:03:02 Dispatch assigned Engine 41 to respond to the residential area north of the fire.



Photo of the north end of Charlie divisions at 04:06

04:03:50 Command requested a fourth alarm.

04:04:07 Engine 48, Engine 31, Engine 2, Truck 53, and Unit 802 were dispatched to the incident.

04:05 A portable monitor was set near the Charlie/Delta corner (northwest corner) and began flowing water.

The Incident Commander (IC) began walking the perimeter of the fire building and did not remain at the Command Post.

04:07:30 Truck 41 was dispatched to the fire.

04:09 The apartment units of Building 5 on the second and third floors were involved in fire and the north end, first-floor units were burning.

- 04:10** The apartment units at the north end of Building 5 collapsed.
- 04:10** A portable monitor nozzle was set on the Charlie side near the Bravo/Charlie (southwest) corner and began flowing water.
- 04:11:31** **Truck 53** arrived to staging, disembarked the unit, and walked to the command post.
- Engine 48 arrived and began laying a five-inch supply line toward the fire but the line did not get connected.
- 04:12** The IC returned to the Command Post.
- 04:17** Engine 31 arrived and was assigned to assist with extinguishment on the third floor of Bravo Division between buildings 5 and 6. (E31 later assisted with debris removal during the search and rescue of missing firefighters).
- 04:20** Truck 19 began flowing water onto the fire at the Alpha/Delta corner (northeast corner).
- 04:20:35** *Command notified Dispatch that the incident had transitioned to a Defensive mode. Three ladder nozzles and two portable monitor nozzles were operating on Building 5.*
- 04:22** *Truck 53 arrived at the command post and was assigned to search and evacuate Building 4. The door was locked to building but was opened by a tenant. T53 ordered the few remaining tenants to evacuate.*
- 04:23** Truck 41 arrived at the staging area and walked to the Command Post.
- 04:31** Battalion Chief 701, an EMS Division Chief, arrived on scene and walked to the command post. Command ordered BC 701 to get geared up (put on PPE). BC 701 returned to his unit, put on PPE and returned to the command post.

- 04:37** T41 Captain arrived at the Command Post and was assigned as the ISO (Incident Safety Officer). T41 Captain did not know who he was relieving and a face-to-face transition was not conducted. (As noted at 03:45, the ISO [BC2] was reassigned by Command to supervise efforts to prevent fire extension to buildings 4 and 6 at the Bravo side). Based on this information there was no Safety Officer assigned on this incident for nearly 60 minutes.
- 04:40** Command assigned the USAR 19 (RIT) Captain to evaluate the structural stability of Building 5 in preparation for conducting a primary search of the first floor.
- 04:40** *T53 completed the search of Building 4 and posted a Dallas PD Officer at the east end door of Building 4 to prevent tenants from re-entering. T53 returned to the command post to receive further assignments.*



This photo at 04:44 shows Truck 37 master stream flowing water while Truck 53 firefighters Espree and Wilson walk toward the Bravo end of Building 5; 701 BC Tomasavic is talking with Truck 37 Captain Watson to cease water flow from T37

04:43 *Command assigned BC 701 and **Truck 53** to search the first floor of Building 5. (Interviews and statements of personnel provide conflicting information regarding the extent of the search ordered by Command).*

04:45 USAR 19 Captain walked to the Charlie side and met with the Charlie Division Supervisor (Battalion 4). BC 4 informed the USAR 19 Captain that a primary search was completed earlier. After meeting with Charlie Division Command, the USAR 19 (RIT) Captain transmitted to Command that a primary search of the first floor was complete.

04:46 The USAR 19 (RIT) Captain walked to the Alpha side and met with Command and advised Command that a primary search of Building 5 had been completed on floors 1 and 3 and approximately two-thirds of floor 2.

04:46 BC 701 spoke with BC 7 about areas that had already been searched and how long ladder pipes had been flowing.

The USAR 19 (RIT) Captain walked to the Bravo Division and spoke to BC7 and BC 701 to advise that a primary search was completed earlier.

BC 701 and Truck 53 crew entered the fire building through the Bravo Division first floor, and the team was broken into two teams. BC 701, Truck 53 Captain (T53A) and one firefighter (T53B) comprised one team and firefighter (T53C) and firefighter (T53D) comprised the other team.

04:48 The balcony of condo 534 collapsed onto the balcony of condo 524.

04:49 Approximate time of collapse of the corridor trapping the firefighters. At the time of the collapse BC 701 stepped out of condo 512 and was struck by falling debris, forcing him back into the doorway of condo 512. Debris fell onto his legs and trapped him at the doorway.

04:50 Truck 53 Captain transmitted a Mayday call by portable radio. In the transmission, the Captain notified Command that he had lost contact with two of his personnel because of a building collapse..

An RIT response through the Bravo side and then the Charlie side was blocked by debris and fire. RIT entered through the Alpha side and began searching for the missing Truck 53 personnel.

Command requested a fifth alarm to address the reported Mayday situation.

04:51 Engine 41, Engine 3, Engine 11 and Unit 800 were dispatched to the incident.

A missing Truck 53 firefighter (T53D) transmitted to Command by portable radio and informed Command that he was trapped in a void space at condo door 516, but was unharmed.

Truck 53 Captain and Firefighter (T53B) pulled BC 701 from the debris, leaving his boots buried under debris

04:55 Truck 57 ladder pipe and portable monitor shut down.

05:04 Truck 53 Firefighter (T53D) was pulled from the entry area of condo 516 by RIT members.

05:12:10 Truck 33, Engine 33 and Rescue 33 were dispatched to the incident to establish a replacement RIT.

05:20 Truck 37, Truck 19 ladder pipes and the portable monitor were shut down.

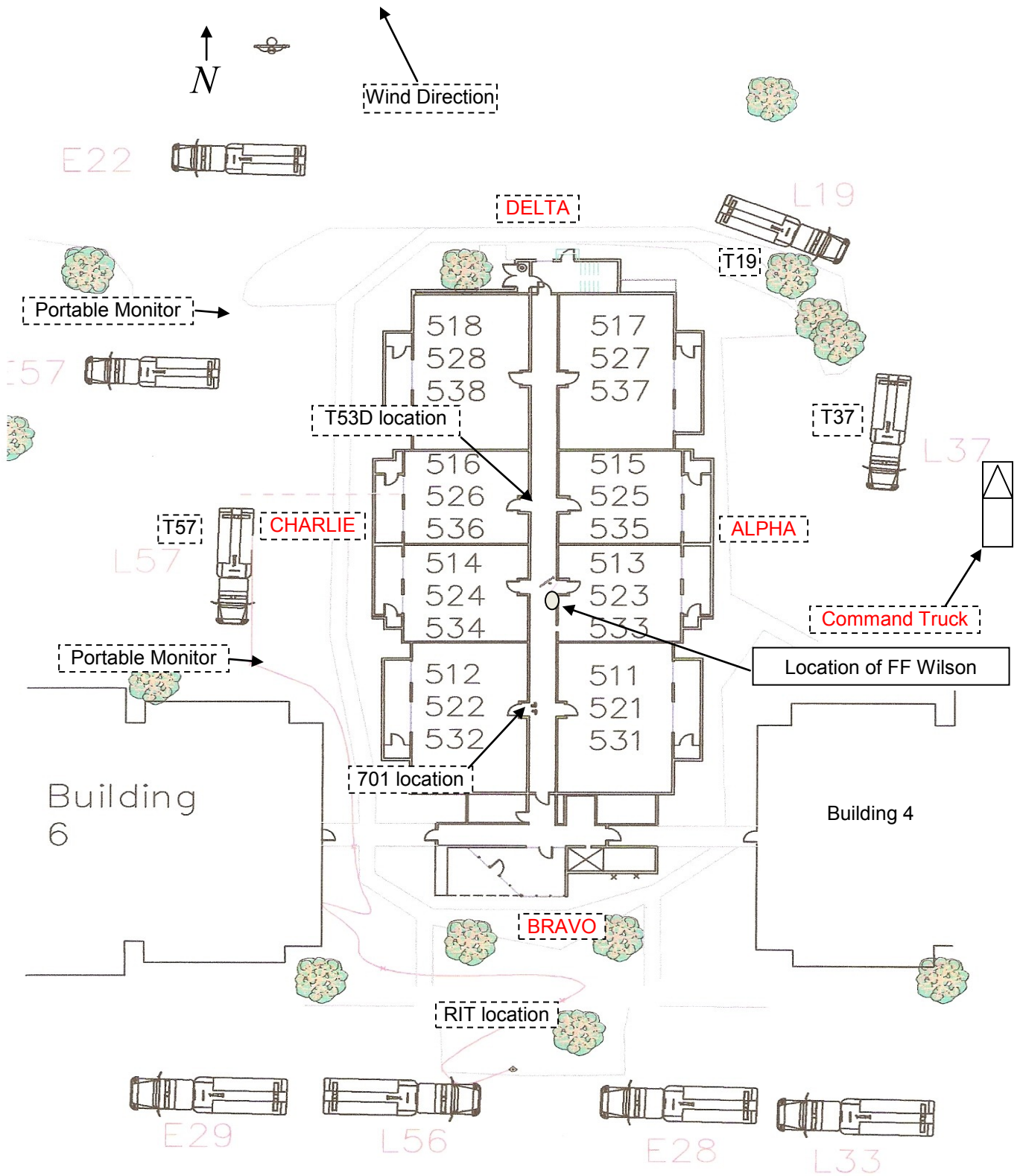
05:22 Command requested a sixth alarm.

05:22:45 Engine 7, Engine 8, Engine 15, Unit 803 and Unit 848 were dispatched.

05:37:44 Truck 33, Engine 33, and Rescue 33 arrived on scene.

- 06:16:00** The Plano Fire Department USAR Team was dispatched to the scene.
- 06:29:55** Command reported that the fire was contained to the building of origin and that search and rescue was in progress.
- 08:15** Truck 53C Firefighter Stanley Wilson was found under collapse debris in the first floor hallway of Building 5 near the door to condo 513.

Dallas Fire-Rescue Firefighter Stanley Wilson was transported to Parkland Memorial Hospital. An autopsy examination conducted by the Dallas County Medical Examiner's Office concluded that Firefighter Wilson died as the result of mechanical compression.



Apparatus locations and approximate hose lines

Equipment Evaluation: Personal Protective Equipment

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

TCFP compliance officers evaluated the protective equipment for compliance with Texas Administrative Code Title 37, Part 13, Chapter 435.1, *Protective Clothing*; Chapter 435.3, *Self-Contained Breathing Apparatus*; and associated NFPA standards adopted by TCFP for firefighter safety. Photographs taken during the examination and supporting documentation are on file at the Texas Commission on Fire Protection.

On Wednesday May 22, 2013, TCFP compliance officers Robert Manley and Lamar Ford arrived at the Dallas Fire-Rescue Department Training and Support Services Bureau, 5000 Dolphin Road, Dallas, Texas. The compliance officers met with the Texas State Fire Marshal's Office investigation team, and the fire department officer assigned to manage the department's LODD investigation process.

Compliance officers Manley and Ford collected TCFP compliance documentation from the fire department. Firefighter Wilson's personal protective equipment (PPE) and self-contained breathing apparatus (SCBA) were examined for obvious damage and TCFP compliance.

All TCFP-regulated PPE components assigned to Firefighter Wilson were examined by TCFP compliance officers assigned to the investigation.

Each TCFP-regulated PPE component examined by TCFP compliance officers was verified as being issued to Firefighter Wilson, by cross referencing serial numbers with inventory records, annual advance cleaning records, and annual advanced inspection records.

Firefighter Wilson's personal protective equipment, based on the examination and provided documentation, was NFPA 1971, NFPA 1851, and TCFP compliant at the time of the incident.

Firefighter Wilson's self-contained breathing apparatus, based on the examination and provided documentation, was NFPA 1852, NFPA 1981, NFPA 1982, NFPA 1989 and TCFP compliant at the time of the incident.

Protective Clothing and SCBA

According to Dallas Fire-Rescue, Firefighter Wilson was wearing all TCFP required protective clothing: helmet, hood, coat, pants, gloves, boots, and SCBA. Pictures were taken of all items and found to be dirty, but with no apparent thermal or physical damage. Serial numbers were recorded to be cross referenced with protective clothing and SCBA records provided by DFRD. The protective clothing had passed an advanced inspection in March 2012 and a routine inspection conducted by TCFP personnel in April 2013.

The SCBA was found in the "on" position and the cylinder gauge showed it to be empty. The SCBA had passed a flow test in March 2012 and minor maintenance had been performed in February 2013. The SCBA cylinder was hydro tested in 2011. An inspection of the SCBA had been conducted by Firefighter Wilson at the beginning of the duty shift and the inspection report showed that all benchmarks had passed.

Additional TCFP Safety Requirements

A compliance inspection was conducted at DFRD in April 2013 where all required SOPs were found to be complete and in effect, and air quality tests for SCBA air compressors were up to date, having been tested quarterly. Additionally, Firefighter Wilson had met continuing education hours for the period of 2011 through 2013.

The personal protective equipment worn by Firefighter Wilson was not a contributing factor in the fatality.

Findings and Recommendations

Recommendations are based upon nationally recognized consensus standards and safety practices for the fire service. All fire department personnel should know and understand nationally recognized consensus standards, and all fire departments should create, update and follow SOGs and SOPs to ensure effective, efficient and safe firefighting operations.

Several decisions and actions taken at this incident had a positive impact and limited the loss of life and property.

- (1) First-arriving companies faced rapidly escalating fire conditions with multiple victims in need of rescue on the upper floors. Simultaneous rescues, coupled with aggressive fire suppression, saved lives.
- (2) Exposure concerns were also effectively mitigated. Tactics deployed in two adjacent and connected buildings protected both life and property.
- (3) Fire brand control in the complex and neighborhood, complicated by significant wind conditions, also kept the incident contained to the building of origin.
- (4) Following the major collapse, excellent radio discipline was exercised following the Mayday initiated by Truck 53. All companies maintained radio silence allowing Command and the Rapid Intervention Team (RIT) to communicate with Truck 53 personnel.

There were other decisions and actions that had a negative impact on the incident and either directly or indirectly contributed to the Line of Duty Death.

- (1) Fire crews had been battling this structure fire for two hours when the collapse and fatality occurred. At least sixty minutes of the incident included the deployment of several master stream devices during defensive operations. The master streams added a large amount of water and weight to the structure. A risk assessment to consider the destructive impact of the fire, coupled with the additional water weight in the structure, should have taken place prior to the decision to conduct the interior search of the fire building.
- (2) Several communications issues were observed at the scene. Some of these were attributed to the radio system in use by Dallas Fire. Other communications problems were caused by individual failures to properly communicate orders or concerns. At or about 0430 hours, the Incident Commander was informed that civilians were on the fire ground. There was confusion as to which building these civilians were actually located in. The Incident Commander ordered a search of the fire building. A search operation requires communication of the operation to all supervisors to help insure safety through awareness and accountability. Search operations carried out by Unit 701 and Truck 53 were not adequately communicated to the Team Leaders, the Division Supervisors or, the Incident Safety Officer.
- (3) Unit 701 and Truck 53 were tasked with completing a “quick” search of the first floor of the fire building. While each of these officers had only been on the fire ground for a short period of time, they both were aware that this was a major incident that included the deployment of multiple master streams. The officers did not confirm the intentions of the Incident Commander or participate in a risk analysis of the operation. It is incumbent upon company officers and Team Leaders to acknowledge and verbally repeat orders to ensure a clear understanding.
- (4) Although the Dallas Fire Rescue manual of procedures allows for a combination offensive/defensive strategy, the deployment of a team to perform this type of search after a prolonged defensive operation in the same building was inherently dangerous. The search plan should have included a deliberate use of a risk/benefit analysis, with input from the Incident Safety Officer and Division Supervisors.

Finding 1 – Continuous risk assessments were not completed. A thorough risk analysis was not completed prior to the interior search of the first floor of the fire building.

The Abrams Road fire was a dynamic, complicated incident that required constant re-evaluation of objectives and strategies. A consistent use of risk analysis during all phases of the incident must be considered. Although the Incident Commander has ultimate responsibility for risk analysis, supervisory personnel at all levels including Team Leaders are also responsible to perform risk management analysis to define unacceptable risk.

Recommendation

Continuous review of objectives and strategies, including an evaluation of the associated risks, should take place throughout a complex emergency incident. The need for a focused risk assessment is highlighted whenever personnel are placed inside an IDLH atmosphere, especially while defensive operations are taking place. The search operation for potential victims required a deliberate evaluation of the risks involved utilizing Command resources, including the Incident Safety Officer. The responsibility for risk analysis is shared by the Company Officers and Team Leaders. These leaders should evaluate the instructions they are given and determine whether the current conditions allow for safe completion of the assignment.

References

NFPA 1500, Standard on Fire Department Occupational Health and Safety Program, Chapter 8, 8.1.8 - At an emergency incident, the Incident Commander shall have the responsibility for the following:

(3) Perform situation evaluation that includes risk assessment.

NFPA 1500, A.8.1.8 (4) Emergency Operations (Annex A - Explanatory Material)

“Strategic decisions establish the basic positioning of resources and the type of functions they will be assigned to perform at the scene of a fire or emergency incident.”

“Risk identification, evaluation, and management concepts should be incorporated into each stage of the command process.”

NFPA 1500, A.8.3.2 Emergency Operations (Annex A - Explanatory Material)

The risk to fire department members is the most important factor considered by the Incident Commander in determining the strategy that will be employed in each situation. The management of risk levels involves all of the following:

- (1) Routine evaluation of risk in all situations*
- (2) Standard operating procedures*

NFPA 1561, Standard on Emergency Services Incident Management System and

Command Safety, Chapter 5, 5.3.17 - *The incident commander shall evaluate the risk to responders with respect to the purpose and potential results of their actions in each situation.*

NFPA 1561, 5.3.18 - *In situations where the risk to emergency service responder is excessive, activities shall be limited to defensive operations.*

Dallas Fire Rescue Manual of Procedure 600.00 Emergency Response Proce-

dures - Effective 10-15-12 - 601.04 B - *Risk Management will be integrated into the Incident Command System. Each component of the system will maintain personnel safety as the highest priority.*

IFSTA (2004) Chief Officer (2nd Edition), Ch. 12 pg. 401 – *Continuous monitoring of risk*

and gain is the essence of a chief officer's responsibility in evaluating the strategy, LAP, and risk. The chief officer then analyzes that evaluation and translates it into safe and effective operations.

NFPA 1561, 5.8.2 - *Supervisory personnel shall assume responsibility for activities within their span of control, including responsibility for the safety and health of responders and authorized persons within their designated areas.*

Finding 2 – Fire ground Communications were not clear nor understood.

There were a variety of communications issues at the Abrams Road incident. There were several instances of information not being communicated or properly understood. An attempt was made to separate the fire ground into Divisions early in the incident. Later-arriving Incident Commanders modified the location of the Divisions, but this change was not adequately communicated to on scene personnel. When questioned, several members, including company officers, admitted a lack of information regarding the divisions on the fire ground and whether offensive or defensive operations were in place. The plan to search the first floor was not adequately communicated with the search team, the Division Supervisors, or the Incident Safety Officer prior to the operation taking place.

Recommendation

Ensuring effective communication on the incident scene is vital to effective mitigation of an emergency incident while maintaining responder safety. Orders that are issued or received must be clarified if there is any confusion or doubt regarding the order. The Incident Commander must ensure that all personnel operating on the fire ground are aware of the operational strategy in place, including the division of the fire ground and mode of Operation (Offensive versus Defensive). The Incident Commander must ensure that the Division Supervisors understand the incident objectives and strategy, including any changes. Inherently dangerous operations, such as the interior search of a fire building while defensive operations are taking place, should only be attempted after discussing the operation with the appropriate Division Supervisors and the Incident Safety Officer.

References

NFPA 1021, Standard for Fire Officer Qualifications Chapter 6, 6.6.1(B) Requisite Skills - *The ability to use evaluative methods, to delegate authority, to communicate orally and in writing, and to organize plans.*

NFPA 1561, 5.3.16 - *The Incident Commander shall keep the Safety Officer informed of strategic and tactical plans and any changing conditions.*

*IAFC, **Chief Fire Officer's Desk Reference**, (2006), Ch. 16 pg. 322 – Confusion over what strategy is being used can be disastrous to the IC and can result in fire extending both within a building and to adjacent exposed buildings, along with loss of the fire building, victims, and even fire fighters' lives.*

Finding 3 – Adequate supervision of personnel did not take place.

The Command structure employed at the Abrams Road fire only partially provided a framework that was appropriate for mitigation of the emergency while ensuring responder safety. Initially, supervisors were in place at the Bravo, Charlie divisions and there was a designated Incident Safety Officer.

The Incident Safety Officer was reassigned and the incident was without a Safety Officer for more than an hour. The newly assigned Incident Safety Officer was unaware that a search into the fire building was taking place.

The IC was supervising the incident, the Alpha Division, and the Delta Division. Division Supervisors were not notified of a change in tactics to an offensive interior search and did not allow them to communicate the potential dangers or concerns during the search assignment. These dangers included the continued flow of master streams onto the structure to be searched as well as insufficient drain time for the large amount of water weight placed on the weakened structure.

Recommendation

Use of NIMS/ICS provides communication to the Incident Commander (and the Division Supervisors) allowing for effective coordination of resources and situational awareness.

References

***NIMS / ICS** The Incident Command System (ICS) is a standardized, on-scene, all-hazards incident management approach that:*

- *Allows for the integration of facilities, equipment, personnel, procedures and communications operating within a common organizational structure.*

- *Enables a coordinated response among various jurisdictions and functional agencies, both public and private.*
- *Establishes common processes for planning and managing resources.*

All levels of supervision, from the Company Officer to the Incident Commander, should be aware of their responsibility to supervise assigned personnel. This responsibility includes ensuring that orders are properly understood and that Command is aware of extreme conditions that endanger safe completion of an order.

Division Supervisors should be notified that personnel are being sent to operate in their Division. Incident Safety Officers should be notified anytime a transition from defensive to offensive operations is considered. The Incident Safety Officer can then perform a risk analysis of the operation and make recommendations to the Incident Commander and/or the search team.

NFPA 1500, 8.1.5 - *At an emergency incident, the Incident Commander shall be responsible for the overall management of the incident and the safety of all members involved at the scene.*

NFPA 1561, 5.3.16 - *The Incident Commander shall keep the Safety Officer informed of strategic and tactical plans and any changing conditions.*

Dallas Fire Rescue Manual of Procedure 600.00 Emergency Response Procedures - Effective 10-15-12, 601.18 E Teams - *The Team Leader will notify the next higher level of supervision of imminent hazards encountered.*

602.00 D Personnel Accountability Procedures – Awareness - *Each level of supervision must maintain an awareness of the location and function of the Commanders, companies, teams, and individual staff and support members in their command throughout the emergency incident.*

602.00 G- c) Rapid confirmation of Firefighter Safety - *Once divisions or groups have been established, Division/Group Supervisors will serve as Accountability Officers by providing direct supervision of companies. They must maintain an awareness of where their companies are and what they are doing.*

***NFPA 1561, 5.8.1** - Risk management principles shall be employed routinely by supervisory personnel at all levels of the incident management system to define the limits of acceptable and unacceptable positions and functions for all responders at the incident scene.*

***NFPA 1561, 5.8.5** - Supervisory personnel shall be alert to recognize conditions and actions that create a hazard with their spans of control.*

***NFPA 1561, 5.8.6** - All supervisory personnel shall have the authority and responsibility to take immediate action to correct imminent hazards and to advise their supervisory personnel regarding such action.*

Finding 4 – There were simultaneous offensive and defensive operations.

Master stream devices continued to flow while Unit 701 and the Truck 53 crew entered the building. Although the Dallas Fire Rescue Manual identifies this is an optional procedure, Unit 701 and Truck 53 were tasked to complete a search of the first floor of the fire building which was in the same geographical area as the defensive operations. There was no coordination by Command with the Division Supervisors and the Incident Safety Officer was unaware of the search operation in the fire building.

Recommendation

Simultaneous offensive and defensive operations in the same geographic area of a fire structure are extremely dangerous. If considered, these simultaneous operations must only be conducted after a thorough review of the risk analysis and discussion with the Division Supervisors and Incident Safety Officer.

Reference

Dallas Fire Rescue Manual of Procedure 600.00 Emergency Response Procedures - Effective 10-15-12 - 601.0 B #3 Incident Strategy - Combination strategies are activities involving simultaneous offensive and defensive strategies occurring in different geographical areas. Simultaneous offensive and defensive operations must be coordinated by the incident commander and/or Division Supervisors.

Finding 5 –The IC was directly supervising up to eighteen personnel

Information from interviews indicates that the IC was actively supervising four division chiefs, the USAR, Truck 19, Truck 37, the ISO, BC701, Truck 53, Engine 48 and four command technicians.

Recommendation

Incident Commanders should maintain an appropriate span of control and assign additional personnel to the command structure as needed. Supervisors must be able to adequately supervise and control their subordinates, as well as communicate with and manage all resources under their supervision. In ICS, the span of control of any individual with incident management supervisory responsibility should range from three to seven subordinates, with five being optimal. The type of incident, nature of the tasks, hazards and safety factors, and distances between personnel and resources all influence span-of-control considerations.

References

NFPA 1561, Chapter 8, 8.2, Span of Control The command structure for each incident shall maintain an effective supervisory span of control at each level of the organization.

U.S. Department of Homeland Security - Federal Emergency Management Agency Incident Command Systems <http://www.fema.gov/emergency/nims/ICSpopup.htm#item5>
NFPA 1500 Standard on Fire Department Occupational Safety and Health Program, Chapter 8, 2007 ed.

Finding 6 – The plan and command to conduct a primary was not altered although a search was completed earlier.

The IC, Division Supervisors and Team Leaders did not alter the Action Plan to conduct a primary search nor did the Supervisors or Team Leaders advise the IC to alter the Action Plan to conduct a search of the first floor even though a search had been accomplished earlier. During interviews firefighters stated that they questioned the value and safety of conducting a search of the first floor after defensive operations had commenced and master streams were operating.

Ultimately the Incident Command has responsibility for the operation and safety at the incident scene.

NFPA 1500, 8.1.5 - At an emergency incident, the Incident Commander shall be responsible for the overall management of the incident and the safety of all members involved at the scene.

Recommendation

All firefighters and personnel operating on the fire ground should be empowered to prevent unsafe actions.

Four of the 16 Life Saving Initiatives state:

- (1) Define and advocate the need for a cultural change within the fire service relating to safety; incorporating leadership, management, supervision, accountability and personal responsibility.
- (2) Enhance the personal and organizational accountability for health and safety throughout the fire service.
- (3) Focus greater attention on the integration of risk management with incident management at all levels, including strategic, tactical, and planning responsibilities.
- (4) All firefighters must be empowered to stop unsafe practices.

The full 16 Life Safety Initiatives can be found at <http://www.lifesafetyinitiatives.com/initiatives.html>.

Participating in the “Courage to be Safe” (CTBS) program that emphasizes the message “Everyone Goes Home®.” Information on the CTBS program is available online at <http://www.everyonegoeshome.com>.

Additional Recommendation

The following recommendation may have no direct relationship to the factors contributing to the death of FF Wilson, however they should be considered to ensure the safety of all personnel on the fire ground.

Communication issues

Fire personnel at this incident reported difficulty hearing or understanding radio traffic during the incident. The simplex radio channel that Dallas FR utilizes for incident scene communications appears to have been negatively impacted by the physical structure of the fire building. Additionally, use of the simplex radio channel prevents the Dispatch Center from monitoring or recording fire ground transmissions.

Recommendation

Consideration should be given to monitoring and recording fire ground activity. Monitored fire ground channels can offer a greater degree of safety. A third party can effectively monitor/clarify sometimes hectic incident scene communications. The use of recorded tactical channels allows for improved post-incident analysis and facilitates better reconstruction of potentially critical events.

Reference

NFPA 1221-16, 7.6.1– *Communications centers shall have a logging voice recorder with one channel for each of the following:*

- (1) Each transmitted or received radio channel or talkgroup.*

Appendix 1: Timeline

May 20, 2013

- 02:51:22 911 call received from the fire alarm monitoring firm.
- 02:52:40 Dispatch of T57 and E57 to Alarm Activation at 12363 Abrams Road.
- 02:54:54 E57 replaced with E29 due to proximity to incident.
- Unknown T57 arrived at complex and upgraded to a Box Alarm due to fire visible from roadway.
- 02:58:42 Box alarm was dispatched: E57, E28, T37, BC4, BC2 and R57.
- 02:59 T57 observed fire at north end of building at the roof level and requested a second alarm because of significant amount of fire and the requirement for rescuing civilians. Advanced to third floor (by stairs at southern end of fire building and by elevated aerial ladder) to rescue civilians on balconies. Deployed stinger line to assist with defensive operations.
- 03:00:11 Engine 29 arrived on scene.
- 03:00:23 Second alarm was dispatched: E22, E37, E20, T20, T56, R19, E19, T19, BC7, BC3, R29, 806, 829, 896, 685, 684, 782 and 820.
- 03:01:37 Engine 57 arrived on scene.
- 03:02:19 R57 arrived on scene.
- 03:03:51 E28 arrived on scene.
- 03:05:06 BC4 (first Chief Officer) arrived on scene, assumed Command and positioned himself on the west-side of the fire building. Command Tech positioned Command Post on the east-side of the fire building.
- 03:07:08 R29 arrived on scene.
- 03:08:28 T37 arrived on scene. Rescued female from balcony of living unit 533.

03:09:14 E22 arrived on scene.

03:10:36 806 arrived on scene. Chief assumed Command. Command Tech assisted with organization of Command Post. Command Post and Staging locations announced. Fire ground divisions established (Command Post on east side was Alpha Division).

03:10:45 E37 arrived on scene. Deployed stinger line at Bravo/Charlie corner once defensive operations were ordered.

03:11:06 E20 arrived on scene. Assisted with evacuation of civilians from living unit 514. Went to second floor, but thermal imaging camera revealed significant amount of fire in walls and overhead.

03:12:41 BC2 arrived on scene. Assigned as initial Incident Safety Officer.

03:12:47 R19 arrived on scene.

03:13:23 T56 arrived on scene.

03:13:44 BC3 arrived on scene. BC assigned to floors 2 and 3 at Bravo end of fire building. Command Tech assisted at the Command Post with organization of Command Board. Monitored Dispatch Channel (Channel 1).

03:15:16 T20 arrived on scene. Assisted with efforts to cut off fire from exposure buildings.

03:20 BC2 reassigned to supervise efforts to cut off fire from the exposure buildings (buildings 4 and 6).

03:21:37 E19 arrived on scene.

03:21:39 T19 arrived on scene. Crews of T19, E19 and R19 assembled to form Rapid Intervention Team (RIT).

03:27 Engine 20 and Engine 37 completed primary search of first and second floors.

03:27:57 USAR19 arrived on scene.

03:28:02 BC7 arrived on scene. Chief assigned to Bravo division.

03:30 Civilian rescue from third-floor balcony on Alpha side by Truck 37.

03:31:17 R28 added to the incident.

03:33 Third alarm requested.

03:33:57 Third alarm was dispatched: E39, E55, E56, T39, 825, 784 and 881.

03:36:48 R28 arrived on scene.

03:38 Transition to defensive began.

03:38:11 E39 arrived on scene.

03:40:40 T39 arrived on scene.

03:41:46 E55 arrived on scene. Assisted with efforts to cut off fire from exposure buildings.

03:43:00 Dispatch notified the IC that they were receiving calls from citizens concerned about embers being generated by the fire.

03:45 BC2 reassigned to supervise efforts to cut off fire from the exposure buildings (buildings 4 and 6).

03:48:35 E56 arrived on scene.

04:03:50 Fourth alarm was dispatched: E48, E31, E2, T53 and 802.

04:07:30 T41 added to the incident.

04:11:31 T53 arrived on scene.

04:13:24 E48 arrived on scene.

04:17:36 E31 arrived on scene.

04:20:35 IC notified Dispatch that the incident had transitioned to defensive operations. Three ladder nozzles, a ground monitor and a stinger line were in operation on the fire building.

04:21:46 E2 arrived on scene.

04:22 T53 assigned to search building adjacent to fire building (Building 4).

04:23:53 T41 arrived on scene. T41 Captain was assigned to relieve BC2 as Incident Safety Officer.

04:31:36 701 arrived on scene; instructed to put on structural gear.

Unknown IC requested RIT (T17) Captain to evaluate the stability of the fire structure to determine the viability of conducting a primary search.

Unknown IC ordered 701 to have a company search the ground floor of fire building.

Unknown Based on information from BC4, RIT Captain advised IC that primary search had been completed on floors 1 and 3 and approximately 2/3 of floor 2.

Unknown 701 and T53 crew entered fire building at south (Bravo) end.

04:48 Balcony of living unit 534 collapsed onto balcony of unit 524.

04:50 Mayday transmitted by T53 Captain.

04:51:10 Fifth alarm was dispatched: E41, E3, E11 and 800.

Unknown All master streams were shut down.

04:56:58 E41 arrived on scene.

04:58:53 E3 arrived on scene.

04:59:58 E11 arrived on scene.

05:09:08 R22 added to the incident.
05:12:10 R33, T33 and E33 added to the incident to establish replacement Rapid Intervention Team.
05:16:00 Trapped T53 FF rescued by USAR19.
05:18:30 R22 arrived on scene.
05:22:45 Sixth alarm was dispatched: E7, E8, E15, 803 and 848.
05:28:03 E8 arrived on scene.
05:30:48 R33 arrived on scene.
05:33:05 E15 arrived on scene.
05:33:55 T33 arrived on scene.
05:36:15 E33 arrived on scene.
05:37:44 USAR33 arrived on scene.
05:50:11 E7 arrived on scene.

Appendix 2: Dallas Fire-Rescue Department Statistics

The Dallas Fire-Rescue Department consists of 1750 members at 57 fire stations serving a population of more than 1.2 million people in an area of approximately 370 square miles. Four firefighters respond on each fire engine and aerial ladder truck company. The 57 fire stations house 56 fire engines, 22 aerial ladder trucks, 5 aircraft rescue firefighting apparatus, 9 booster pumpers, 1 haz-mat unit, 40 front line rescue trucks and 3 peak demand rescues.

Dallas Fire-Rescue is an ISO Class 2 department.

Appendix 3: National Response Framework, Second Edition

Executive Summary

The National Response Framework is a guide to how the Nation responds to all types of disasters and emergencies. It is built on scalable, flexible, and adaptable concepts identified in the National Incident Management System to align key roles and responsibilities across the Nation. This Framework describes specific authorities and best practices for managing incidents that range from the serious but purely local to large-scale terrorist attacks or catastrophic natural disasters. The National Response Framework describes the principles, roles and responsibilities, and coordinating structures for delivering the core capabilities required to respond to an incident and further describes how response efforts integrate with those of the other mission areas. **This Framework is always in effect, and elements can be implemented at any time ...**

Relationship to NIMS (Page 3)

The response protocols and structures described in the NRF align with NIMS. NIMS provides the incident management basis for the NRF and defines standard command and management structures. Standardizing national response doctrine on NIMS provides a consistent, nationwide template to enable the whole community to work together to prevent, protect against, mitigate, respond to, and recover from the effects of incidents regardless of cause, size, location, or complexity.

All of the components of the NIMS—including preparedness, communications and information management, resource management, and command and management—support response. The NIMS concepts of multi-agency coordination and unified command are described in the command and management component of NIMS. These two concepts are essential to effective response operations because they address the importance of:

- (1) developing a single set of objectives;
- (2) using a collective, strategic approach;
- (3) improving information flow and coordination;
- (4) creating a common understanding of joint priorities and limitations;
- (5) ensuring that no agency's legal authorities are compromised or neglected; and
- (6) optimizing the combined efforts of all participants under a single plan.