

STATE FIRE MARSHAL'S OFFICE

Firefighter Fatality Investigation



Investigation Number 05-127-12

Firefighter Nito R. Guajardo

Baytown Fire Department

December 20, 2004

Texas Department of Insurance
Austin, Texas

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Summary

Firefighter Nito R. Guajardo, age 24, died of smoke inhalation and thermal injuries while conducting an interior fire attack at a residential fire on December 20, 2004. Firefighter Guajardo was a member of the Baytown, Texas Fire Department (BFD).

Firefighter Guajardo was with five other Baytown firefighters as they advanced a hose line into the residence when the fire rapidly increased in intensity causing the hose team to withdraw from the building. Firefighter Guajardo became separated from the other team members as they attempted to exit the building. It was not possible for rescue crews to reenter the building due to extensive fire involvement when it was determined firefighter Guajardo was missing.

After the fire was brought under control, firefighters entered the building and found firefighter Guajardo but he was obviously deceased. Firefighter Guajardo's body was transported to the Harris County Medical Examiner for autopsy.

Firefighter Guajardo sustained multiple injuries including extensive burns from fire exposure. The cause of death was listed as thermal burns to most of his body and upper respiratory system.

Firefighter Nito R. Guajardo served in the Baytown Fire Department for eleven months.

Introduction

The Texas State Fire Marshal's Office was notified of the death of Baytown firefighter Nito Guajardo on December 20, 2004. State Fire Marshal's Office (SFMO) Chief Inspector Richard L. Bishop was assigned as the SFMO fatality investigation team leader. Bishop and other county, state, and federal investigators traveled to the Baytown Fire Department on December 20, 2004 to conduct an investigation of the incident.

The SFMO commenced a Firefighter Fatality investigation under the authority of Texas Government Code Section 417.0075. The statute requires SFMO to investigate the circumstances surrounding the death of the firefighter, including the cause and origin of the fire, the condition of the structure, and the suppression operation, to determine the factors that may have contributed to the death of the firefighter. The State Fire Marshal is required to coordinate the investigative efforts of local government officials and may enlist established fire service organizations and private entities to assist in the investigation.

The National Fallen Firefighter's Foundation and the National Institute for Occupational Safety and Health (NIOSH) Fire Fighter Fatality Investigation and Prevention Program were notified.

Origin and Cause Investigation

Investigators from the State Fire Marshal's Office, Bureau of Alcohol, Tobacco, Firearms, Baytown Fire Department and Houston Arson Bureau conducted an examination of the scene of the fire from December 20 to December 23, 2004.

The cause of the fire was undetermined.

Investigators determined that the fire originated in the kitchen area.

Building Structure and Systems

The single-family residence located at 4803 Burning Tree Drive in Baytown, Texas is a single story, three bedroom, two-bath structure approximately 3759 square feet in area constructed in 1976. There is an attached two-car garage, part of which has been converted to a family room/den. The building is of wood frame construction with brick veneer. Roof construction utilizes standard rafter and ceiling joist construction. No prefabricated wood trusses were utilized.

The hip roof is covered with composite shingles laid over fiberglass reinforced roofing felt, which covers an existing wood shingle roof. There are multiple ridge lines on the building. Two turbine vents were located to the east and west of a masonry construction chimney to ventilate the main area of the attic over the living room. It is believed that continuous roof vents were installed over the ridge lines of the two roofs that ran north to south on either side of the "U" shaped home.

There are no gas-fired appliances in the home. All appliances in the home are electrically powered.

A tall wood privacy fence surrounds the rear of the home. There is only one gate into the fenced area located on the west side of the residence. The home is located on a 12,000 square foot lot. There are exposed structures on the west, south, and east sides and across the street to the north.

The house is located 48 feet from the curb and a sidewalk leading to the front entrance is approximately 153 feet to the street corner where the nearest fire hydrant is located.

Fire Ground Operations

NOTE: The following sequence of events was developed from known times of events based on radio transmission timestamps, and firefighter witness statements. Recorded radio transmission timestamps and computerized dispatcher printout times may not be synchronized. Those events with known times are identified. Events without discrete

times are approximated in the sequence of events based on firefighter statements regarding their individual actions and observations at the fire.

FIRE REPORTED

At 15:11:37 on December 20, 2004, Baytown 911 received a report of a house on fire at 4803 Burning Tree Drive. The person reporting the fire was a telephone company employee in the area. He told the 911 operator he could see smoke coming from the eaves all around the house and it was full of smoke. He said he could hear alarms sounding inside the residence. He stated he did not think anyone was home. He also stated the fire department would have a hard time entering because the home was covered in burglar bars. A review of the recordings from the fire dispatch center revealed the report of the presence of the burglar bars was not communicated to the responding fire department units. The only information passed was that there was fire in the back part of the residence and that the caller stated it was not known if there was anybody home.

At 15:12:12 Baytown 911 dispatched the first alarm assignment to Baytown EL1 (Ladder 1 or L1 [a quint]), Engine 5 (E5), Engine 3 (E3), Engine 2 (E2), Battalion Chief One (B1) and Baytown EMS Medic Two (M2).

E5	Enroute:	15:13:18
B1	Enroute:	15:13:21
E2	Enroute:	15:13:22
E3	Enroute:	15:13:24
EL1	Enroute:	15:13:26
M2	Enroute:	15:14:00

Note: There is a discrepancy of 2-3 minutes between the times recorded on the computerized fire dispatch radio logs and the automated timer voice recorded on the radio transmission tapes. The radio timer only breaks down announced time in increments of one minute.

Battalion One

Battalion One (B1), staffed by Battalion Chief (BC) Michael Burns, arrived on the scene at 15:15:55 and reported light smoke visible from a large one-story residence. He also observed smoke coming from the peak of the home and the peak of the attached garage. In his post-incident statement BC Burns stated he observed no smoke until he was only two to three houses from arriving on location. BC Burns stated he observed a strong south wind that was keeping the smoke low to the ground and preventing it from rising directly above the building. [Weather Bureau observations at 15:55 were winds out of the SSW at 14 mph gusting to 31 mph, temperature 66° F, RH 56%] BC Burns stated as he approached the home from the east, he observed the east, north and west sides of the residence and that he chose his command location to observe the north and west sides. BC Burns assumed Incident Command at this time.



North (main entrance) side of the building

Command initially assigned EL1 to conduct a fast attack. Command observed the crew from EL1 having difficulty entering the building front entrance due to burglar bars and heavy doors. Command then ordered E2 to assist EL1 in forcing the doors and to bring forcible entry tools to the front.

Command received a report from a neighbor that if a car was in the garage, the resident was probably at home. BC Burns stated the garage door was down and he could not see inside. Command then assigned E5 to conduct a primary search of the residence for trapped occupants.

Command assigned E3 to be the Rapid Intervention Team (RIT) upon arrival.

After EL1 and E2 entered the building, BC Burns stated he lost sight of the two teams.

BC Burns stated he tried to call EL1 or E2 while they were inside the building, but when he received no response he stated he surmised they were busy.

BC Burns stated the first indication he had that something was wrong was a radio call from E5 reporting that firefighters were down and they needed EMS, after they had been in the building about two minutes. [Automated radio recording timer records this

transmission at approximately 15:21] BC Burns stated this was the first change in fire conditions since he arrived on the scene.

Command immediately sent in the RIT team, which was unable to enter due to untenable interior conditions. BC Burns stated he observed flames exiting the front door under pressure about halfway from the top of the door to the floor.

E2 called command stating that everybody needed to back out immediately, including the RIT Team due to the amount of fire involvement of the home. E2 recommended to Command that a defensive attack be initiated and that a Personnel Accountability Report (PAR) of all companies be conducted. EL1 initially calls Command and reports that the EL1 crew is out of the building. When Command calls EL1 to confirm that all personnel are accounted for, the voices of firefighters shouting for FF Nito Guajardo are audible in the background of the radio recording. EL1 replies to Command that they were missing one firefighter. [Automated radio recording timer 15:23]

Command called for a second alarm, which brought in Baytown Engine 4. Mutual aid was also requested, with Mont Belvieu being requested as the first contact. Command then request that Baytown dispatch send all three ambulances. Command contacts other fire units on the scene to determine if they have seen FF Guajardo. After all reply that FF Guajardo has not been seen, Command confirms to Baytown Dispatch that one firefighter is missing. [Automated radio recording timer 15:26]

Command orders all firefighters to remain outside the building and only exterior firefighting is to be conducted. [Automated radio recording timer 15:28] E5's truck mounted deluge gun was utilized to knock down the large body of fire present in the home.

After the arrival of E4 and after an exterior attack on the fire was conducted to suppress the large amount of fire in the home, firefighters were able to make entry and firefighter Guajardo's body was recovered at approximately 15:41 per Baytown Dispatch [Automated radio recording timer 15:42.]

[NOTE: The following sections are the personal recollections of the members assigned to each apparatus as recorded in their post-incident statements and interviews. Many of the events occurred simultaneously and may not be in the order listed below.]

EL1 is a 1993 Smeal 1,500 GPM pumper with a 75-foot rear mount aerial ladder. On the day of the fire, EL1's crew was staffed with a Lieutenant (LT) Richard Lopez, Equipment Operator Frederick Spencer, firefighter (FF) Nito Guajardo, and FF Robert Lopez. EL1 was dispatched on the first alarm assignment and arrived at approximately the same time as BC Burns in B1.



Upon arrival, LT Richard Lopez stated he saw light to medium gray smoke coming from the residence. FF Robert Lopez observed light smoke from the rear of the residence and the right (west) side. EL1 Equipment Operator (E/O) Spencer described heavy brown smoke coming from the eaves of the building.

Command ordered EL1 to conduct a fast attack on the fire.



FF Lopez pulled a green 1 3/4" X 150' preconnect CAFS hose from EL1 and handed it to FF Guajardo. LT Lopez told FF Lopez to check the front door to see if it was locked. FF Lopez observed the wood front doors were locked as were the burglar bar gates covering the doors.

Window broken out before doors were forced.
Front Entrance after doors were forced.

FF Lopez reported back to LT Lopez who stated "OK, let's go to the side". LT Lopez, FF Guajardo and FF Lopez (hereafter referred to as EL1) then advanced the line to the west side of the home searching for an alternate entry point. As they rounded the west side of the home the EL1 team observed the side windows were covered with burglar bars, the garage door was closed, and LT Lopez stated he knew he did not have enough hose on the preconnect line to enter the back yard and make entry in the back of the home.

LT Lopez also stated the majority of the smoke was coming from the rear of the residence



West windows looking into dining room

EL1 then moved to the front door. FF Guajardo returned to EL1 for a circular power saw. LT Lopez instructed FF Lopez to break out a fixed window to the right of the door and to get some water on the fire because it would take some time to force entry. FF Guajardo returned from EL1 with a circular power saw and he and FF Lopez got it started. Engine 2's (E2) crew had obtained hand tools and forced open the burglar gates and wood entry doors and the power saw was not used.

FF Lopez picked up the nozzle and made entry. LT Lopez was on the left of FF Lopez, directing the operation of the nozzle. FF Lopez described encountering an obstruction

several feet in the door that forced him to turn right. [This was the back of the large living room fireplace] FF Lopez did not observe any flames when he entered. FF Lopez said LT Lopez directed him to turn to the left at which time a glowing area in the middle of the area between the floor and the ceiling was observed.

LT Lopez stated he followed FF Lopez (and E2 crew) in the front door. He remembered running into the wall, finding the hose and turning to the right. He caught up with FF Lopez just as Lopez opened the nozzle, breaking out the glass on the west wall of the dining room. LT Lopez stated during an interview that he told FF Lopez that this was not where the fire was located, that it was to their left. (Toward the rear of the home.)

LT Lopez observed a faint orange glow at ceiling level as they turned left from the east-west entry foyer and turned south toward the rear of the home. E2's crew joined LT Lopez and FF Lopez. LT Lopez recalled that he must have been right on the edge of the sunken living room because he rolled to his left onto his side off the step down into the living room. He returned to a kneeling position with his left leg on the living room floor and he was sitting on the edge of the step down into the living room.

As he directed FF Lopez to apply water at the ceiling level fire, LT Lopez noticed fire to the right (west) of him. FF Lopez recalled directing the hose up into the attic area and applied two short bursts of water followed by two short bursts of water into the room. FF Lopez stated the heat level rapidly increased to the point it felt like his hands were burning.

FF Lopez was communicating to LT Lopez that he was getting hot. E2's crew was also attempting to tell LT Lopez something, but LT Lopez stated he was mainly focusing on listening to FF Lopez.

FF Lopez laid the nozzle on the floor and passed around the right (west) side of the hose line to exit due to the heat. LT Lopez then took up the nozzle and applied some water and ordered E2's crew out of the building. LT Lopez said the fire was lapping around them and it seemed close enough to touch. LT Lopez stated in a post-fire interview that he turned back toward the entrance and shouted "Pull out! Pull out!" and he expected the hose to begin moving. LT Lopez stated he was getting very hot at this point and when the hose did not move he set the nozzle down and followed the hose toward the entrance.

FF Lopez stated he encountered several people on his way out of the building but could not recognize them. As he passed to the outside of the building, FF Lopez stated the smoke was dark and low to the ground, so much so that he did not realize he was outside until he was in the yard outside the patio gate. As he took off his gloves and SCBA face piece, FF Lopez stated he observed other firefighters running and crawling out of the house.

As LT Lopez approached the front doors, he recalled bumping into several people but he had zero visibility, his SCBA mask was glazed over by heat, and he could not tell if the people were entering or exiting. LT Lopez stated he told them they all had to get out.

LT Lopez recalled crawling out the front doors and that he crawled until he felt the grass of the front yard. He immediately started asking if everyone had gotten out. LT Lopez found FF Lopez in the front yard. LT Lopez said he was so hot, he did not want anyone to touch him. LT Lopez sustained a small burn on his right flank area about even with the bunker pants take up buckle or SCBA waist strap.

LT Lopez remembered hearing the Incident Commander calling for a PAR report and he asked others if they had seen FF Guajardo. One firefighter (he believed it was whoever helped him take off his SCBA and bunker gear) said FF Guajardo was near the front door, so LT Lopez initially reported his crew was intact. FF Lopez stated he told LT Lopez he had not seen FF Guajardo. E/O Spencer stated that just before E2 and EL1 exited, fire was showing at the rear of the structure and smoke exiting the front door was banking down to the ground and extending horizontally all the way to the street. E/O Spencer told LT Lopez he had not seen FF Guajardo exit the building.

LT Lopez turned toward the front door and did not see FF Guajardo, so he asked again and no one knew where FF Guajardo was. LT Lopez then reported FF Guajardo missing to BC Burns, the incident commander, at approximately 15:24.

Engine 2 (E2)

Engine 2 is a 1993 Emergency-One 1,500 GPM pumper. Engine 2's crew on the day of the fire was LT John Carr, E/O Tracy Lindsay, FF Jeffery Daigle and FF Jason Tumbleson.

Engine 2 was dispatched as part of the first alarm and arrived on the scene at 15:18:47. E2 approached the scene from the east. LT Carr noted that light gray smoke was crossing the street in front of them near street level and at a speed equal to a brisk walk. FF Daigle described it as a moderate amount of ash gray smoke.

E2 staged east of the residence and was assigned by Command to assist EL1 and E5 at the front door. LT Carr asked EL1 LT Lopez if he wanted E2 (LT Carr, FF Lindsay, and FF Tumbleson) to try to pry the doors open. E2 was able to pry the burglar gates out with a Halligan tool and forced the wooden front doors open with an axe and Halligan. FF Tumbleson recalled that when the wood doors were opened, thick black smoke poured out. EL1 entered first and E2 followed them. E2's assignment by Command was to assist EL1. E2 FF Daigle and FF Tumbleson carried hand tools inside the building. FF Daigle began feeling a large amount of heat and shouted back to E5, who was at the door, to pull a second hose line.

LT Carr was carrying a thermal imaging camera (TIC). Carr observed medium gray smoke banking down almost to the middle of the door when he entered. E2 followed

EL1 to the right around the fireplace and then turned left (south). LT Carr stated he heard popping noises and was standing almost erect as he felt the heat was not significant. Through his TIC, Carr observed fire near a double doorway sized opening directly ahead (south) of him, which may have been the opening between the dining room and kitchen. LT Carr stated he tried to direct the EL1 nozzle man who was on LT Carr's right side to operate his stream onto the fire. LT Carr stated he could hear LT Lopez talking to someone behind him and not the nozzle man. LT Carr stated LT Lopez acknowledged his directions as to the seat of the fire observed on the TIC. Carr observed the EL1 nozzle man give one short and one long burst of water on the fire.

LT Carr estimated they were approximately 20 feet from the doorway he visualized with the TIC. LT Carr observed the hose line appeared tight and he ordered his E2 crew to pull some slack to assist the advance. LT Carr bent over to help advance the line and noticed that the heat level increased tremendously. LT Carr told LT Lopez they all needed to leave and LT Lopez started ordering his crew out. LT Carr could not see either of his E2 firefighters. FF Daigle said he heard members of EL1's crew shout "I'm burning up!", "Bail out!", and "I'm on fire!" FF Daigle said he was near the rear of the line of firefighters that entered so he started grabbing people and throwing them out the front doors.

FF Tumbleson stated he told FF Daigle "Don't touch me! I'm burning up!" FF Daigle said he pushed or threw LT Carr out the door and then concentrated on getting everyone else out. FF Daigle said he believes he was the last one out. FF Daigle said he heard LT Lopez calling for FF Guajardo. FF Daigle said the smoke was so thick at that time you could not see EL1, which was parked directly in front of the house.

FF Daigle stated he went back in the front entrance in zero visibility and began calling to see if anyone was still inside and listening for a PASS device. All FF Daigle heard was people screaming and shouting outside. FF Daigle stated he stayed at the door as long as he could and met LT Carr on his way out. FF Daigle said he met LT Lopez at the front door who was screaming for FF Guajardo. FF Daigle said he told LT Lopez he did not think FF Guajardo was still inside, because he (FF Daigle) had not seen or heard anybody and so he thought everyone was out.

As LT Carr approached the door, he asked if anyone had see FF Daigle and FF Tumbleson. One unidentified firefighter said he had not seen them. LT Carr heard screaming inside the building. LT Carr turned back inside the structure and he met two large firefighters he believed to be FF Tumbleson and FF Daigle 8-12 feet west of the front door in the foyer area and followed the two of them out of the building. LT Carr had to crouch to get below the heat level when he reentered after his firefighters. LT Carr's SCBA facepiece distorted from heat exposure.

LT Carr heard LT Lopez looking for FF Guajardo outside the residence after they exited. After answering the PAR request by B1, LT Carr looked back at the building entrance and saw flames coming out at floor level. E2 operated hose lines in a defensive attack after that point until they were released. FF Daigle said the wind was pushing flames out

the front door almost to the street. LT Carr was taken to San Jacinto Hospital for treatment of second-degree burns to his upper arms. FF Tumbleson sustained second-degree burns from his wrist to his shoulders and was treated at San Jacinto Hospital and released. FF Tumbleson received subsequent treatment at a burn center in Galveston.

After exiting the building, FF Daigle operated the deck gun on E5 to put water in through the windows to assist firefighters operating hose lines until the fire was knocked down. Command ordered the deck gun shut down when E4 was prepared to enter with their hose line. FF Daigle assisted on a hose line until he was released to ride in E2 as it escorted the ambulance with FF Guajardo's body to the coroner's office.

Engine 5 (E5)

Engine 5 is a 1993 Emergency One 1,500 GPM pumper. On the day of the fire E5's crew was LT Weylon Robinson, E/O Charles Murrell, FF Luv-Jabarr I Bell, and FF Raul Rodriguez. E5 was dispatched as part of the first alarm assignment and arrived on the scene at 15:17:58, approaching from the west and parking facing the front of EL1.

E5 was assigned by Command to do a primary search of the building. E/O Murrell observed black and gray colored smoke blowing toward the north from the house with heavier smoke near the front door. LT Robinson saw medium to heavy black smoke with a small amount of gray/white smoke. LT Robinson said the smoke seemed to be rising from over the roof and chimney. FF Bell described the smoke color as blackish to dark gray. FF Bell walked with E5 E/O Murrell down the west side to the rear (south) side of the building and observed the same color smoke in this area.

E5 E/O Murrell was attempting to turn off the gas and electricity, but a lock on the breaker panel box forced him to return to EL1 for a bolt cutter. E/O Murrell observed the center rear section was entirely engulfed in flames with brown colored smoke coming from the eaves of the bedrooms and garage and radioed Command that the entire rear of the house was burned through. FF Bell stated he saw flames coming from the roof and back wall. After not seeing the other E5 firefighters, FF Bell returned to the front of the home and linked up with the rest of his crew. E/O Murrell returned to the back yard with the bolt cutters, opened the breaker panel, and shut off the breakers and reported this to Command. E5 E/O Murrell returned to the back yard several times to look for a gas meter to turn off, but did not find a meter.

E5 was setting up to force entry in the courtyard patio area of the front door and E2 was also in that area. The doors were forced open by E2, who entered with EL1, leaving E5's crew at the front door area. LT Carr stated that when E2 and EL1 entered the building, dark gray smoke and very high heat came out of the doorway. FF Rodriguez described dense black smoke coming from the doorway. LT Robinson ordered E5 to remain at the doorway. FF Rodriguez handed his Halligan tool to a member of EL1 as EL1 entered the building.

FF Rodriguez remained at the doorway to help feed hose to the crews inside the building. FF Rodriguez heard glass breaking and wisps of flame coming from the windows of the home. FF Rodriguez described the fire as bright orange and producing dense black smoke. The heat was so intense FF Rodriguez was forced to his knees and stated he could feel the heat through his bunker gear and flash hood. When FF Bell tried to enter, he could only get inside four feet before the heat became so intense it was painful.

E5's crew entered and started to make a turn to the left when E5 LT Robinson described a strong gust of superheated air and smoke forced them down to their knees. E5 LT Robinson, FF Bell and FF Rodriguez heard members of EL1 or E2 shouting "Get out, back out, back out!" and "I'm burning!" These crews began backing out and crawling out and LT Murrell described more smoke and heat developed with the smoke turning darker and banking all the way down to the ground. Pieces of lightweight debris were blowing out with the smoke.

LT Robinson helped LT Carr from E2 out of the building and into the yard. LT Robinson observed that LT Carr's coat was badly burned. LT Robinson tried to pull the hose line out of the house to put water on LT Carr, but he could not move the line. LT Robinson observed another firefighter exit with the back area of his bunker gear on fire. FF Rodriguez said he could tell some of the firefighters were injured. LT Robinson, FF Bell and FF Rodriguez assisted in getting bunker gear off the injured firefighters. LT Robinson observed heavy black smoke. FF Rodriguez heard people asking if everyone was accounted for, followed by everyone shouting for FF Guajardo.

FF Rodriguez knew they needed to reenter the building and he observed LT Robinson attempting to pull the hose from the building, but it appeared stuck. FF Bell pulled the hose from the building while FF Rodriguez was obtaining a second hose line. FF Rodriguez began spraying water in through the front door and he observed fire beginning to issue from the eaves of the home. FF Rodriguez was forced to withdraw when his SCBA air supply ran low. FF Bell remained with LT Ickes and they continued to spray water in through the front of the home.

After assisting LT Carr to the sidewalk, LT Robinson met with BC Burns at the command post to request several medic units for the 4 or 5 injured firefighters.

When LT Robinson returned to the front yard, he observed flames rolling out the front door, from the side of the house, and the garage doors were gone and there was heavy fire in the garage. LT Robinson stated this fire developed in the 30-45 seconds it took for him to go meet with Command about the injured firefighters. LT Robinson also heard a moderate sized explosion from the garage.

FF Bell noticed the rest of his crew was missing and he left the front doorway and met E5 on the west side of the home where he assisted with hose lines.

About one minute later LT Robinson recalled seeing LT John Carr and FF Daigle advancing a second hose line down the west side of the home in the garage area. LT Robinson assisted them, observing the smoke was so thick he lost sight of them but could communicate verbally with them. After 2-3 minutes, LT Robinson said the heat and smoke was so intense that he called for LT Carr to get out, who in turn called for FF Daigle. The hose line was backed out of this area.

FF Rodriguez obtained a full SCBA cylinder and joined LT Robinson on the west side. The 1 ¾" hose LT Robinson is operating was making no headway, so FF Rodriguez pulled a 2" line and operated it next to LT Robinson. FF Rodriguez and FF Bell remained in this area until Rodriguez' SCBA runs low a second time.

Upon orders of Command, E/O Murrell moved E5 closer to EL1 and connected E5 to EL1 with a 50' section of 3" hose and placed the pump in operation. E5 E/O Murrell observed FF Daigle operating the deck gun on E5 operating on the fire. LT Robinson rejoined the other members of E5, FF Bell and FF Rodriguez and the three of them took up the hose line left by LT Carr and directed the hose stream through openings in the garage into the house. FF Bell's low air alarm on his SCBA went off and he departed for another air cylinder. LT Robinson and FF Rodriguez remained for another minute until Robinson's low air alarm sounded 2-3 minutes later. LT Robinson and FF Rodriguez withdrew. LT Robinson hyperventilated after removing his SCBA face mask and was treated by EMS. Firefighter Guajardo's body was recovered while LT Robinson is in the rehab area.

Engine 3 (E3)

Engine 3 is a 1998 Pierce 1,250 GPM pumper. On the day of the fire, E3's crew is LT Jackie Ickes, E/O Rodney Foster, FF William Domask, and FF James Giles. E3 is dispatched as part of the first alarm assignment and arrives at approximately 15:21:16. E3 is staged at the fire hydrant at the corner of Quail Hollow and Burning Tree Drive, approximately 150 feet from the front door of the building on fire. Command orders E3 to be the RIT team upon arrival.

LT Ickes assigns FF Giles to obtain the RIT bag from BC Burns' vehicle. The RIT bag (extra SCBA, forcible entry tools, ropes, flashlight, etc) was obtained by FF Giles and taken to the RIT team standby location on the NW corner of the home. LT Ickes observed heavy smoke with about 15 feet of visibility. E/O Foster described the smoke as dark brown, fully filling the building. FF Domask stated there was a tremendous volume of dark gray to dark brownish colored smoke coming from the rear and front door of the house. LT Ickes ordered FF Giles to obtain a camera from B1's vehicle to assist in documenting the fire operations and the fire scene.

E/O Foster with the assistance of Probationary FF Wilburn dragged a five inch supply line from EL1 back to the fire hydrant. E/O Foster later relieved the E/O of EL1 as the incident progressed.

LT Ickes stated a firefighter approached the RIT team, complaining of burns through his bunker gear. The team assisted the firefighter in removing his gear.

Simultaneously, Command called LT Ickes to advise the RIT team that there was a trapped firefighter. LT Ickes and FF Domask walked across the yard toward the front door, readying themselves to enter. FF Giles rejoined the E3 RIT team. FF Giles never had a chance to get the camera before the emergency.

LT Ickes observed two firefighters trying to remove a green 1 ¾" hose line from the front door. LT Ickes and the RIT team took control of this line and continued to work it to free it from the building. After a minute or so, LT Ickes and the team were able to retrieve the hose line, which they felt was caught on debris west of the fireplace.

LT Ickes operated the line through the front door with no apparent effect on the fire. Ickes opened the nozzle to 200 GPM after checking the nozzle. FF Giles backed LT Ickes on the line with FF Domask third on the line. Due to the intensity of the fire, LT Ickes stated the RIT team was not able to enter more than three feet in from the front door, just barely touching the back of the fireplace. When the nozzle was directed to the west, LT Ickes said fire would attack the back of the crew from the east side of the fireplace. Attempts to enter the building were made for several more minutes without success.

LT Ickes called Command on the radio to update him on the RIT team's inability to make entry at which time the deck gun on E5 was employed. LT Ickes obtained a full SCBA cylinder while the deck gun was in use. After the main body of fire was knocked down, LT Ickes relinquished control over the hose line at the front doors to off-duty LT Angelle who was able to make entry about four feet into the building. LT Ickes stated two firefighters he could not identify entered the building despite LT Ickes objections and were able to travel about 10 feet from the edge of the fireplace.

These firefighters located FF Guajardo, and LT Ickes assisted them in attempting to remove FF Guajardo from the building while summoning assistance from other firefighters in the front door area. LT Ickes said six firefighters removed firefighter Guajardo from the residence. Firefighter Guajardo was set down about ten feet from the front door, but paramedics requested he be moved about 40 feet further to get out of the smoke. Resuscitation procedures were started, but paramedics stopped these efforts, explaining that firefighter Guajardo was obviously deceased.

E3 continued firefighting operations from the building exterior until the fire was brought under control.

Engine 4 (E4)

Engine 4 is a 1986 Grumman 1,000 GPM pumper. On the day of the fire, E4's crew was LT Thomas Carr, E/O Patrick Mahoney, FF Hugo Garza and FF James Weaver.

Engine 4 was requested on the second alarm from the fire scene after FF Guajardo was missing.

Based on radio transmissions from the fire scene monitored at the station, E4's crew had donned protective gear, boarded the apparatus, and was just leaving the station when the second alarm was officially dispatched. E4 arrived at the fire scene at 15:31:58. Upon arrival, E/O Mahoney stated the dark toffee gray smoke was so thick he could not see EL1 or E2 parked in front of the fire scene. Mahoney said he could barely see the rear of E2 so he parked right behind it. LT Carr stated he could not see any of the crews in the yard in front of the building. LT Carr ordered E/O Mahoney to don his bunker gear and SCBA and assist the rest of E4.

E4 proceeded to the west of the building where LT Thomas Carr met LT John Carr, who was in respiratory distress and coughing. LT Thomas Carr, FF Weaver and FF Garza assisted LT John Carr to the EMS sector for treatment.

E4 picked up a hand line on the west side and advanced it to the rear of the building. LT Carr sent FF Weaver to get additional hose to extend the line. Upon FF Weaver's return, LT Carr instructed FF Weaver and FF Garza to stand by while he met with Command to get an additional hose brought to the rear of the home.



Command instructed LT Thomas Carr to obtain an additional firefighter to team up with and attempt to make entry into the building to locate FF Guajardo. LT Carr took E/O Mahoney and moved to the front entrance where three firefighters were operating a hose line. LT Carr described smoke conditions as heavy at the doorway.

LT Carr and E/O Mahoney entered the building and turned to the right. Carr stated it appeared E/O Mahoney had found something about six feet to the right of the front door. LT Carr stated he could feel an SCBA cylinder. After moving some debris to the side, they were able to determine it was FF Guajardo. Firefighter Guajardo was prone, facing toward the front (north) of the structure.

Approximate location of Firefighter Guajardo

LT Carr stated he and E/O Mahoney started trying to remove FF Guajardo from the building, but one of the SCBA shoulder straps broke when LT Carr pulled it. LT Carr and E/O Mahoney turned FF Guajardo and began pulling him headfirst to the front doorway. LT Carr requested the assistance of the other firefighters at the door and they dragged firefighter Guajardo about six feet out of the building. Due to heavy smoke and fire, FF Guajardo was moved an additional distance from the building. LT Carr separated from the group of firefighters and medics attending FF Guajardo and returned to the building to continue suppression efforts.

LT Carr checked on FF Guajardo several minutes later and was told he was deceased. LT Carr requested medics place FF Guajardo in an ambulance. E4 E/O Mahoney was assigned by LT Carr to assist EMS. LT Carr returned to the rear of the building where he rejoined FF Weaver and FF Garza where they finished extinguishing the fire.

Personal Protective Equipment and Injury Evaluation

FF Guajardo was wearing full PPE including a Scott self-contained breathing apparatus (SCBA) with integral PASS alarm, flame resistant hood covered by a Clifford Reed type flame resistant hood, bunker coat and pants, fire helmet, and rubber boots. FF Guajardo was wearing standard leather fire gloves. FF Guajardo was wearing a departmental shirt and long uniform pants.

The helmet was heavily damaged and the internal harness consumed. The bunker coat was partially burned away on the right shoulder area, front and rear. The Clifford Reed hood was partially consumed, but the underlying flame resistant hood was intact. The leather gloves had shrunk from heat and flame exposure to the point they tightly encapsulated FF Guajardo's hands and had to be cut away during autopsy. There was no significant damage noted to the exterior of the bunker pants and rubber boots. FF Guajardo sustained burns to approximately 72% of his body surface. The burns ranged from first to third degree in severity. It was noted that many of these burns occurred in areas protected by firefighter bunker clothing that did not appear to be significantly damaged on the exterior. The liners of the coat and pants had sustained heat damage.

The SCBA facepiece was soot-covered, the lens distorted by heat but intact and the regulator was damaged. The SCBA high pressure hose from the cylinder to the regulator had burned in two near the cylinder end of the hose. Due to the damage, the SCBA was not tested for proper function.

Cause of Death

The Harris County Medical Examiner listed the cause of death as smoke inhalation and thermal injuries.

Based on the burn patterns on FF Guajardo's face, it is surmised that his SCBA face mask was dislodged at some point enough to ride up on his face and break the seal, permitting smoke and fire gases to enter FF Guajardo's respiratory system. Soot was

found in the larynx, trachea, and lungs. The blood carbohemoglobin saturation was 25%-a level that could cause disorientation and weakness, but not usually a fatal level.

Findings & Recommendations

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

FINDING #1

There were security bars or gates covering all doors and windows of the building. Only the security gate on the front entrance was forced open, placing firefighters at a tactical disadvantage due to the strong prevailing winds and did not provide them with an alternate means of escaping the building.

Recommendation: Fire departments should ensure that, whenever a building is known to be on fire and is occupied by firefighters, all exits are forced and blocked open. When fire fighters are in a building, all exits should be available, even if the doors or security gates must be torn down. The doorways should be clear and free of any debris, so fire fighters and any other occupants can exit if needed. Fire fighters should be aware of the building's exits and be trained how to force open different doors or security measures they may encounter in a building.

National Institute of Occupational Safety and Health Firefighter Fatality Investigation FACE-F 2000-13 (Houston Restaurant Fire). Brunacini, A, Fire Command. Quincy, MA: National Fire Protection Association.

FINDING #2

The initial hose line taken into the building was advanced in a direction directly opposed to the wind that was gusting to 31 mph. When a window or roof area failed upwind from the firefighters, the wind pressure drove flames and hot fire gasses down upon the firefighters, forcing an emergency escape from the building in which FF Guajardo became separated.

Recommendation: Fire departments should develop standard procedures that protect firefighters by developing alternate strategies, including defensive attack if necessary, in incidents with high-wind conditions. When the exterior wind velocity is in excess of 30 miles per hour, the chances of successful advance of an initial hose line attack on a structure fire are diminished. The firefighters cannot make forward hose line progress because the flame and heat, under the wind's additional force, will blow into the path of advancement.

Incident commanders must remain aware of changing weather conditions and identify hazards to firefighters.

Klaene B, Sanders R. Structural fire fighting. Quincy, MA: National Fire Protection Association. Brunacini, A, Fire Command. Quincy, MA: National Fire Protection Association.

FINDING #3

The hose line taken into the building by the initial attack team was removed by the E-3 RIT team after they believed all firefighters had exited the building. The removal of the hose line removed a potential lifeline that a trapped firefighter could follow out of the building.

Recommendation: Hose lines should not be removed from a building until it is positively ascertained that all firefighters have escaped. Hose lines can be the last chance for a lost firefighter to find egress from a burning building. Fire academies teach firefighter trainees how to escape a zero-visibility environment by locating and following the hose line through, and ultimately out of, a building.

Oklahoma State University, Essentials of Firefighting. Stillwater OK: OSU Fire Protection Publications

FINDING #4

No back-up hose line was pulled prior to the entry of the initial team into the building. When conditions deteriorated, the E-3 RIT team did not have a hose line to utilize in assisting those interior firefighters in their escape. The lack of the back-up hose line resulted in the RIT team removing the initial attack hose line from the building prior to FF Guajardo's escape.

Recommendation: Deploy backup hose lines as part of the initial fire attack. Backup hose lines are needed to protect the crew on the initial attack line and to provide additional flow if needed. Backup lines should be at least as large as the initial attack line, preferably at least one size larger than the initial hose line. Backup lines should be placed to protect exit routes.

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, Chapter 5.2.4.2.2, Quincy, MA: National Fire Protection Association; Richman H, Engine Company Fireground Operations, Bowie, MD: Brady Publishing Co.





