

NEW JERSEY DIVISION OF FIRE SAFETY

Firefighter Fatality and Serious Injury Report Series

Career Firefighter Killed While Operating at a Structure Fire

**Union City, New Jersey
September 9, 2006**

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STATE OF NEW JERSEY
Jon S. Corzine, Governor



DEPARTMENT OF COMMUNITY AFFAIRS
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INTRODUCTION

The investigation of this incident was conducted by the New Jersey Division of Fire Safety / Office of the State Fire Marshal in conjunction with the New Jersey Department of Labor and the New Jersey Department of Health. This report was prepared in accordance with N.J.S.A. 52:27D – 25d, Duties of the Division.

The purpose of these firefighter casualty investigations is to report the causes of serious firefighter injuries or deaths and identify those measures which may be required to prevent the future occurrence of deaths and serious injuries under similar circumstances. In some cases new information may be developed, or old lessons reinforced, in an effort to prevent similar events in the future.

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GLOSSARY OF TERMS

Fire Apparatus Designations:

E – Engine
SQ – Squad

L – Ladder
R – Rescue

Personnel Designations:

FF – Firefighter
DC – Deputy Chief
SO – Safety Officer

BC – Battalion Chief
IC – Incident Commander

CISD.....Critical Incident Stress Debriefing
EMS.....Emergency Medical Service
ICP.....Incident Command Post
IDLH.....Imminently Dangerous to Life & Health
IMS.....Incident Management System
NFPA.....National Fire Protection Association
PAR.....Personal Accountability Report
PASS.....Personal Alert Safety System
PEOSH.....Public Employees Occupational Safety & Health
PPE.....Personal Protection Equipment
RIC.....Rapid Intervention Crew
SCBA.....Self-Contained Breathing Apparatus
TIC.....Thermal Imaging Camera

EXECUTIVE SUMMARY

On September 9, 2006 at 05:16 hours, the North Hudson Regional Fire and Rescue Department (NHRFR) responded to a reported smoke condition in a building at 1813 Bergenline Avenue. BC Marc Johnson was first to arrive on scene and reported that no fire or smoke was showing from the exterior, but an occupant was outside. The occupant reported that there was a smoke condition on the 3rd floor, but no fire was visible. The first arriving unit, SQ-2 was instructed to investigate this report, and the crew went to the 3rd floor. Upon entering the 3rd floor apartment, the two-man crew encountered a light smoke condition, and radioed for a hoseline to be brought inside the building. The crew of L-1 was now on their way to the roof to operate as was their protocol, and additional arriving units assisted with the interior hoseline operation.

Minutes after entering the 3rd floor apartment to investigate the source of the smoke, the fire unexpectedly erupted into this apartment, forcing the immediate retreat of the firefighters. As SQ-2 FF Anthony Cospito made it through the apartment doorway into the stairway, the apartment door closed by itself behind him. However, he immediately realized that his partner, FF Vincent Neglia was still inside this apartment, which was now engulfed in flames. As personnel got the hoseline charged, the apartment door was forced open. They attempted to make entry with the hoseline to search for FF Neglia and control the fire, but were soon forced to back-out due to rapidly deteriorating conditions in the apartment and the stairway.

While this was occurring, L-1 FFs broke open a large skylight on the roof in order to ventilate smoke out of the building, which instantly erupted in what they reported as a "tornado of fire like they never saw before." Additional crews were now on scene, and they reported that heavy fire conditions now existed in apartments on all 3 floors of this building. Despite deploying numerous additional hoselines, personnel soon realized that the fire was burning uncontrollably inside a large, open ventilation shaft on the interior of the structure, which abutted the exposure structure on the Div. B side.

They evacuated the structure as the fire threatened to compromise operations on the interior stairway. Once on the outside of the structure, personnel attempted to ladder the structure to access the 3rd floor apartment to search for FF Neglia. One FF quickly reported hearing a PASS alarm coming from the 3rd floor rear of the structure, and crews immediately entered the 3rd floor apartment from the ladder through a rear window. They quickly located the unresponsive body of FF Neglia in the kitchen area only a few feet from this window. Extensive operations were needed to remove FF Neglia, as the interior area he was found in was very confined. As the fire encroached on their location, crews removed FF Neglia through the same window they had entered. Once lowered down to ground level,

both fire and EMS personnel attempted to revive him and he was immediately transported to an area hospital where he was pronounced dead.

Exterior firefighting operations continued in an attempt to contain the fire, which was still burning uncontrollably and spreading rapidly. Following the arrival of several mutual aid companies, the initial NHRFR personnel were relieved of their duties on scene. The fire was successfully extinguished later that day.

The origin and cause investigation for this incident was conducted through a joint effort of the NJ Division of Fire Safety Arson/K-9 Unit along with the following agencies: the Hudson County Prosecutor's Office; the Union City Police Arson Unit; the Jersey City FD Arson Unit, the US Bureau of Alcohol, Tobacco, Firearms and Explosives; and the NJ State Police Arson Unit. The fire was determined to have been started by carelessly discarded smoking materials into the ventilation shaft of the building. These materials then ignited combustible materials and trash located within this shaft that had been discarded by building occupants through the years.

In order to minimize the risk of similar incidents, the New Jersey Division of Fire Safety identified key issues that must be addressed and remedies that should be implemented within all departments.

- 1. FACTOR:** A 360° size-up was not initially performed to observe conditions on all sides of the structure. In urban areas where buildings are extremely close together, it is often difficult to observe all sides of a structure as they may be blocked by adjacent buildings, as was the case at this incident location.

REMEDY: *Personnel should attempt to complete a 360° size-up of all structures whenever possible, so as to gain the most amount of information regarding the incident, and to develop effective operations.*

- 2. FACTOR:** Multiple building and occupancy characteristics greatly effected the fireground operations, including a severe exposure problem to the neighboring structure, confined interior spaces that hampered rescue operations, and most especially the vertical ventilation shaft that permitted the fire to burn relatively undetected and allowed the eventual spread of fire throughout all floors of the building.

REMEDY: *Emergency responders must anticipate a wide range of dangerous conditions during their responses, especially when dealing with residential structures. It is critical that FFs avoid complacency when responding to fires, and remain vigilant for conditions that will cause them to alter normal fireground tactics and strategies.*

- 3. FACTOR:** SQ-2 FFs were unknowingly operating above the fire while attempting to locate the source of the smoke condition.

REMEDY: *Personnel must work to locate the area of fire involvement and must use extreme caution when operating above a fire, as they can be exposed to very hazardous conditions due to the nature of fire to travel upward.*

- 4. FACTOR:** Although multiple NHRFR units were equipped with TICs, they were not utilized by personnel during initial operations, while attempting to locate the source of the smoke condition.

REMEDY: *Fire departments that possess TICs should routinely employ their use during structural firefighting operations. Furthermore, the TIC should be an integral part of rescue operations, as it can save precious time in locating and removing victims.*

- 5. FACTOR:** Although Capt. Diaz issued a “Mayday” on his portable radio, his message was indiscernible, and it did not state his location or the nature of the problem.

REMEDY: *Fire Departments must train all personnel on procedures for issuing a “Mayday”, and also on the proper actions to be taken following the receipt of a “Mayday”. To this end, the NJ Division of Fire Safety has adopted regulations for standardizing “Mayday” and evacuation signal procedures since the time of this incident.*

- 6. FACTOR:** Two key issues were identified with regard to the NHRFR radio communications system and the procedures of the department regarding communications. They included the delayed switching of radios to an alternate radio channel for all fire department operations in order to minimize radio traffic and prevent dispatch and apparatus high power radios from overpowering hand-held radios with lower power capabilities; and a high amount of “open-mic” transmissions. These issues may have hampered the ability for important messages to be transmitted.

REMEDY: *Incident Management System (IMS) regulations under N.J.A.C. 5:75 require that larger fire departments have multiple radio channels, including a main dispatch channel and separate channels that can be used on the incident scene. Also, personnel must utilize their portable radios in a manner to minimize the risk for unintended radio*

transmissions. Given the size of the fire department, the NHRFR should look to increase the number of radio channels available for use at incidents with the Federal Communications Commission.

- 7. FACTOR:** Although it was determined that FF Neglia was wearing his SCBA, and had it turned “on”, it could not be definitively ascertained whether or not FF Neglia was wearing his SCBA facepiece and breathing cylinder air upon becoming trapped by the fire.

REMEDY: *FFs should wear their SCBA during all fire responses, and further, should always don their facepieces and breathe air while investigating smoke conditions, no matter how light the smoke may be to avoid inhaling hazardous gasses.*

- 8. FACTOR:** Many NHRFR personnel had no definite idea of how their department’s personnel accountability system worked.

REMEDY: *Fire departments shall utilize and provide training on their personal accountability system that is compliant with the current IMS regulations under N.J.A.C. 5:75.*

INVESTIGATION

Pursuant to New Jersey Incident Management System regulations, to provide for uniform identification of locations and operational forces within an incident scene, the scene is divided geographically into smaller parts which are designated as divisions. Specific areas of the incident scene are to be designated as follows:

- *Sides of incident scenes shall be identified as letters of the alphabet beginning with the letter "A."*
- *The side of the incident scene that bears the postal address of the location shall be designated as Division "A" by the Incident Commander. Where the incident scene has no postal address, the Incident Commander shall select any side to designate Division "A."*
- *Continuing in a clockwise rotation, the side adjacent to the Division "A" side shall be designated as Division "B." The side adjacent to the Division "B" side shall be designated as Division "C." The side adjacent to the Division "C" side shall be designated as Division "D."*
- *Floor levels shall be designated as Division "Basement" or "0", "1" (ground level – not necessarily street level); "2", "3", and so on.*

The Incident

On September 9, 2006 at 05:16 hours, the North Hudson Regional Fire and Rescue Department (NHRFR) responded to a reported smoke condition in a building at 1813 Bergenline Avenue. The initial response consisted of E-1,E-3,E-4; L-1,L-2; SQ-2; R-1; SO-1; BC-1; DC-1.

BC Marc Johnson was first to arrive on scene at 05:19 hours, 3 minutes after dispatch (D+3m), reporting that no fire or smoke was showing from the exterior, but an occupant was outside. He became the initial IC. The occupant reported that there was a smoke condition on the 3rd floor, but no fire was visible inside the building. SQ-2 arrived at 05:20 hours (D+4m); their crew was instructed to investigate this reported smoke condition. The crew, consisting of FF Neglia, who was assigned as Acting Captain of the unit, and FF Cospito proceeded to the 3rd floor. Upon entering the 3rd floor apartment, the 2-man crew encountered a light smoke condition, and radioed for a hoseline to be brought inside the building. L-1 arrived just after SQ-2. L-1 deployed their aerial ladder to the roof due to the confirmed smoke condition and they reported light smoke at the roof level. E-1 & E-4 arrived at 05:21 hours (D+5m); E-1 established a water supply for SQ-2, and E-4 prepared to supply water to L-1 if needed. It was noted during interviews that the E-4 crew, as well as responding police officers noted light smoke from the Div. 3 C/D corner area upon their arrival. The crew of E-1 assisted with evacuating the building occupants, and the crew of E-4 assisted with bringing the initial 1-3/4" attack hoseline to the 3rd floor. At no point did these crews encounter any smoke or fire within the hallway areas, and firefighters later stated that the building occupants seemed surprised upon seeing them.

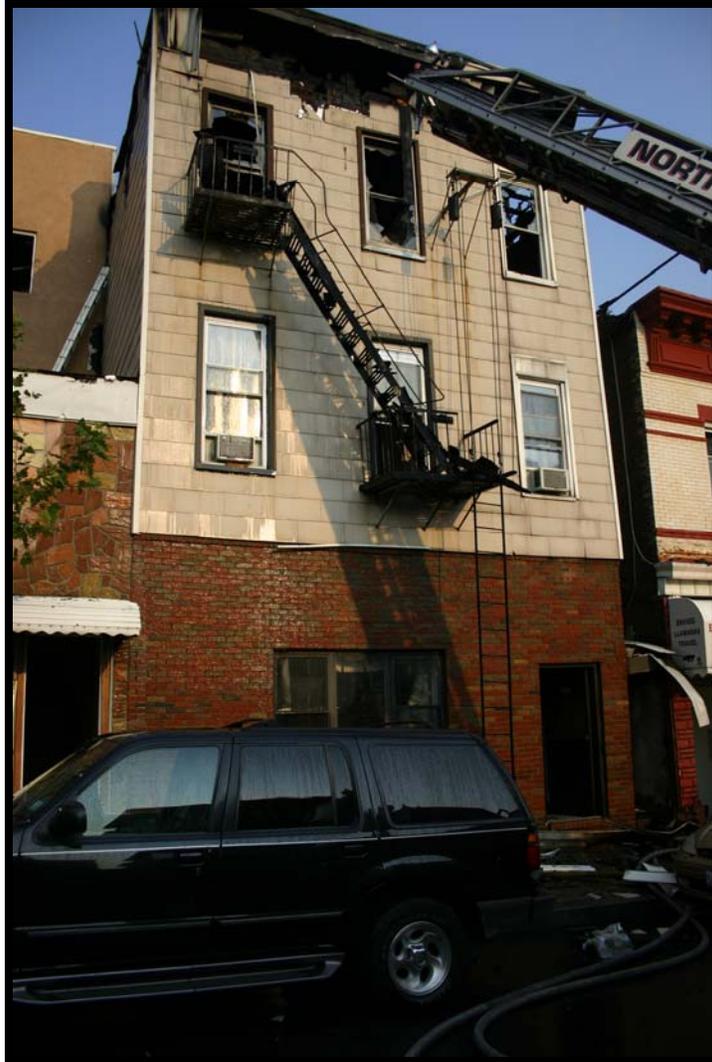


Figure 1 - Division A side of 1813 Bergenline Avenue - Note the adjoining structure on the Division B side and the alleyway on the Division D side.

DC-1, L-2, and E-3 arrive on scene at 05:23 hours (D+7m). BC-1 met with DC-1 to transfer the IC responsibilities and BC-1 became the operations officer. During this time, as E-4 Captain Diaz approached the 3rd floor with the hoseline, SQ-2 FF Cospito came to the apartment door and told him that “they have something here.” Capt. Diaz radioed to the IC that they had a working fire and to charge the hoseline with water. Seconds later, Capt. Diaz heard screaming and saw FF Cospito rapidly exiting the apartment with heavy fire above his head. As he exited, the apartment door closed by itself behind him; they immediately realized that FF Neglia was still inside the apartment. Capt. Diaz radioed an indiscernible “Mayday” message, which the IC questioned for confirmation because it was unclear. The IC then radioed for all radio transmissions to cease for the Mayday, however many radio transmissions continued.

It was reported that the conditions in the 3rd floor hallway immediately became very hot with no visibility. Upon hearing the “Mayday,” the L-1 roof crew

approached a large skylight which was over a vertical shaft; they later reported to investigators that there was extreme heat coming from this skylight and upon breaking it open, they reported that a “tornado of fire” erupted into the sky. Capt. Diaz and FF Cospito forced open the apartment door and attempted to advance the hoseline inside, but the untenable conditions caused FF Cospito to fall down the stairs onto FFs below. Capt. Diaz manned the hoseline alone trying to cool the apartment until additional FFs arrived to assist him. They then re-entered the apartment with the hoseline and a TIC to search for FF Neglia, but could not locate him. Additional interior FFs now reported fire inside apartments on all 3 levels of the structure, and began deploying additional hoselines to these locations. The fire was now also extending to the exposure building on the Div. B side, which was a similar type abutting structure.

What was learned later through investigation but not immediately known at the time was that this fire was burning uncontrolled inside a large, open ventilation shaft on the interior of the structure. Inside the apartments, there were windows into the shaft for ventilation and light; it was through these windows that the fire was extending into all levels of the structure. It is believed that a failure of these shaft windows resulted in the sudden eruption of fire into the apartment, trapping FF Neglia.



Figure 2 - Rooftop view of 1813 Bergenline Avenue and adjoining exposure building - The vertical shaft is located at the center of the burned out area against the abutting structure

The IC called for a 2nd alarm to be dispatched at 05:26 hours (D+10m), ordering these companies to expedite their response. At 05:28 hours (D+12m), the IC called to make sure the police and EMS personnel were responding for a firefighter down. As additional units arrived, personnel were deployed for search

and rescue operations, attempting to access the 3rd floor apartment via the interior stairs, as well as exterior fire escapes. FFs proceeded to search the apartment from the Div. A fire escape, but did not locate FF Neglia.

At 05:37 hours (D+21m), personnel operating in the rear of the structure reported hearing an alarm coming from the interior of the 3rd floor. They immediately deployed ground ladders to access a window at the Div. 3 C/D corner. FF Jones ascended the ladder to ventilate the window; it was noted that the alarm got louder once the window was broken out. He called out for FF Neglia, but received no response; he descended the ladder to reposition it under the window sill for the rescue attempt. At 05:45 hours (D+29m) and 05:46 hours (D+30m), respectively, the IC called for 3rd and 4th alarms to bring additional units and personnel to the scene for operations. While this was occurring, Capt. Mai and FF Mancini ascended the ground ladder and entered the window. They encountered a restricted space below the window that would make the rescue difficult; there was a countertop and wall in the immediate area, creating a 3' x 3' space under the window. Despite this, at 05:46 hours (D+30m), they located FF Neglia. He was unresponsive and approximately 6' from the window into the kitchen area. FF Jones, who had followed Mai and Mancini back up the ladder, stood-by atop the ladder to assist the interior crew and monitor the conditions. As the interior personnel dragged FF Neglia to the window, they had a difficult time lifting him due to increasing heat, fatigue, space restrictions, and running low on air; they could not lift him to the window sill before having to exit.

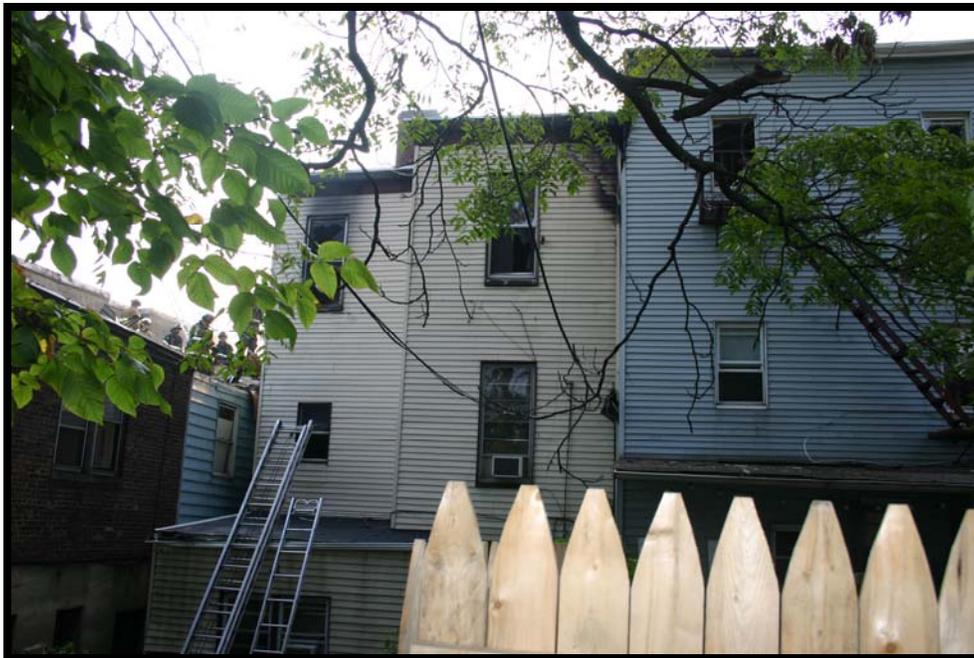


Figure 3 - Division C side of 1813 Bergenline Avenue where FF Neglia was removed from the third floor window of the structure - Note that the building to the right is the abutting structure

Capt. Isola, FF Laban, and FF Leon then entered the window via the ground ladder, knowing that FF Neglia was directly below the window sill. Personnel

placed another ground ladder adjacent to the original one to assist with the removal of FF Neglia. FFs Jones and Cowan ascended these ladders to receive FF Neglia, however, the interior personnel had to remove FF Neglia's SCBA to get him up and through the window. As high heat and fire conditions were encroaching on their position at 05:52 hours (D+36m), they successfully passed FF Neglia out the window to awaiting personnel, and then exited the structure themselves. FF Neglia was lowered to the ground where FFs immediately began CPR prior to passing him to awaiting EMS personnel who transported him to a local hospital. Personnel later reported that they believed that FF Neglia was deceased upon removing him from the structure.

Once the rescue operation was completed, the IC called for all personnel to systematically evacuate the structure for defensive firefighting operations. At 06:06 hours (D+50m), a PAR was performed, and with all personnel accounted for, exterior operations began. Multiple hoselines were deployed from the ground and on aerial ladders to knock down the fire, and halt its progress into the exposure building. Exterior firefighting operations continued to contain the fire, which was still burning relatively unchecked. Following the arrival of several mutual aid companies, the initial NHRFR personnel were relieved of their duties on scene. They returned to one of the fire stations for stress debriefing. The fire was successfully extinguished later that day.

The Casualty Scenario

Firefighter Vincent Neglia was a 45 year old member of the North Hudson Regional Fire & Rescue Department with 23 years of firefighting experience. While operating on the 3rd floor of the structure, FF Neglia was unable to escape the sudden eruption of fire into the apartment. An autopsy performed by the Regional Medical Examiner's Office in Newark listed his cause of death as smoke inhalation and thermal burns and revealed that FF Neglia suffered third degree burns to his head and neck area, extensive sooty deposits within his mouth and respiratory system, and a carboxyhemoglobin level of 36%. Serious toxicity is often associated with carboxyhemoglobin levels above 25%.

ANALYSIS

Fire Department Profile

North Hudson Regional Fire and Rescue was formed in 1999 as a merger of the individual fire departments in the towns of Guttenberg, North Bergen, Union City, Weehawken, and West New York. Two Co-Directors oversee NHRFR, while Chief of Department Brion McEldowney commands a staff of approximately 315 Firefighters, 75 Captains, 14 Battalion Chiefs, and 6 Deputy Chiefs. NHRFR operates out of 17 stations, housing a fleet of 12 engines, 5 ladders, 2 rescues, and multiple specialty vehicles including a fire boat. The department also maintains its own dispatch center known as "Fire Control," and fleet services repair shop which houses 5 reserve engines and 3 reserve ladders. Records indicate that NHRFR responded to 8227 calls for service in 2005.

The following items are areas identified by investigators as impacting directly upon the outcome of this incident.

Incident Size-up

As previously mentioned, NHRFR personnel responded to this incident to investigate a report of a smoke condition inside the structure. BC-1 arrived and reported no fire or smoke showing from the exterior, however the occupant outside advised him of smoke inside the 3rd floor, with no readily apparent source. It was later reported that after SQ-2 personnel entered the structure, arriving personnel on the outside of the structure observed a light smoke condition coming from a window on the Div. B side. Although the smoke was reported to be similar to an unattended cooking fire, some personnel also reported the odor of wood burning from the exterior. Occupants within the structure also appeared puzzled by the FFs presence, as they did not realize that there was a fire, and even questioned personnel if they needed to evacuate.

At no time during initial operations was a 360° size-up performed by personnel to observe any conditions that may have existed on the other sides of the structure. Although it must be noted that the building was abutted on two sides by other buildings, there was a narrow alley on the Div. D side that permitted access to the Division C side of the building. The only other initial observations came from the L-1 personnel who proceeded to the roof and encountered heavy smoke and heat conditions about the same time that the interior conditions deteriorated, trapping FF Neglia inside the 3rd floor apartment.

Staffing Levels

During this incident, FF Neglia was assigned as Acting Captain of SQ-2. In this capacity, he was in charge of the operations conducted by the FFs on his apparatus. This investigation revealed that three out of the seven first-alarm apparatus had FFs serving as Acting Captains, including SQ-2 (1st due E), L-1 (1st due L), and R-1 (1st due R). There were also Acting Captains on some of the second alarm apparatus.

Staffing levels of the NHRFR apparatus consisted of three personnel per unit; two FFs (one was the driver) and an officer (who may be an “Acting Captain”). On a tiller ladder apparatus, the third firefighter was the tiller operator. As such, for this incident, 21 personnel responded on seven units in addition to the command officers for the first alarm assignment.

NFPA Standard 1710; *Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments* notes that engine companies and ladder truck companies each “shall be staffed with a minimum of four on-duty personnel.” While the total first-alarm staffing at this incident exceeded the recommended 17 as noted in NFPA 1710, it was necessary for a large number of apparatus to respond in order to provide sufficient staffing on scene.

It has been demonstrated that when staffing levels fall below four FFs per company, critical fireground operations may not be carried out when needed. Tests conducted with the Dallas, Texas Fire Department indicated that staffing below a crew size of four can overtax the operating force and lead to higher losses. Thus, it can be reasoned that increasing the number of personnel placed on apparatus from three to four firefighters would increase the overall efficiency of response and operations, and reduce the number of apparatus required at many fire scenes.

Building Considerations

Building and occupancy characteristics can play a significant role in both fire spread and personnel safety during incidents. Given this incident, some characteristics specific to this structure that played a role in this incident are as follows:

- *Obstructed 360° view* – Initial arriving personnel had a limited view of the entire structure to observe conditions due to similar size and type minimal-clearance exposures on both sides of this structure. This is a common problem in urban communities and in this case, the Div. B-1 exposure was directly abutting this structure, and the Div. D-1 exposure was separated from this structure by a narrow alleyway. This alleyway was the only means of directly accessing the Div. C side of this structure / property.

- *Self-closing doors* – The apartments in this structure had self-closing doors. Although beneficial and/or required for fire safety considerations and designed to help contain a fire originating within an apartment, these self-closers can “cut-off” firefighters from the relative safety of the interior stairway if not properly chocked or disabled, and may hamper effective hoseline operations.
- *Open vertical shaft* – This structure contained a large (approx. 10’ x 12’) open vertical shaft, which is where this fire originated. These shafts are commonly found toward the center area between these types of abutting structures, and provide for light and ventilation to the interior rooms along the abutting “exterior” walls. These shafts frequently contain accumulations of combustible trash, as was the case in this incident. Personnel must be cognizant for the existence of these shafts, especially when the source of smoke can not be immediately identified because the fire can be burning within the shaft, hidden from the direct view of FFs. These shafts also pose a fall risk to personnel, as the windows that lead into shafts can have low sill heights, or be mistaken for an emergency means of egress.
[Prior to this incident, the NHRFR experienced another incident where a fall into a similar open shaft resulted in the injury to a veteran FF. The NHRFR conducted their own internal investigation of this incident, and developed a list of recommendations for FF operations at similar structures containing shafts.]
- *Combustible construction* – This structure, as well as the exposure structures were traditional wood-framed construction, which pose an obvious threat for rapid fire spread. Additionally, the interior portion of the aforementioned vertical shaft was of combustible wooden construction, believed to be sheathed with asphalt siding, which is a known hazard to FFs, as it has been called “gasoline siding” due to the rapid rate at which it will burn. This could also explain why the conditions went from only minor smoke to sudden, extreme fire and heat throughout all three building levels, and through the roof.
- *Exposure problems* – The minimal clearances to exposure structures as noted above resulted in a severe threat for fire spread into these exposures upon the sudden outbreak of the fire. Personnel then needed to split firefighting efforts between the initial structure and the exposures, while still initiating effective rescue efforts for FF Neglia.

Searching Above the Fire Floor

It is characteristic of a spreading fire for smoke, heat, and flames to travel upward. It is, therefore, a very hazardous environment for personnel operating above a fire, as the fire can rapidly advance upward, cutting-off the FFs egress.

During this incident, although they did not immediately realize it, the SQ-2 FFs were operating on the 3rd floor, above the fire when the conditions suddenly deteriorated. As previously noted, the fire within the shaft was burning below

them. Upon the sudden outbreak of the fire, there were heavy fire conditions encountered on all three floors of this structure.

Non-Use of Thermal Imaging Cameras (TIC)

A TIC is a device that translates a thermal picture into an electrical picture and then a visual image for the human eye. This is accomplished because the TIC relies on the thermal energy emitted by all objects and not on reflected visible light, providing vision capability even with no light present. Thermal energy is characterized by its long wavelength, and the nature of this long wave thermal energy allows it to travel through smoke. The TIC generates a true black and white image; hotter objects appear white and cooler objects appear black to gray. It is this image that allows firefighters to “see” through the smoke, providing a more rapid means of locating victims or hidden areas of fire.

At the time of this incident, the NHRFR had multiple TICs. It was reported that every ladder, rescue, squad, and Battalion vehicle carries one on all responses. However, the TICs went unutilized during the initial stages of this incident, when the TICs may have helped located the hidden fire burning inside the interior shaft prior to it suddenly becoming uncontrollable. It was not until after the conditions deteriorated, trapping FF Neglia, that TICs were utilized to assist with the rescue operations.

Coordination of Fireground Operations

During this incident, FFs from L-1 heard the reports of smoke on the interior, and proceeded on the rooftop to conduct ventilation operations. While this was occurring, FFs from additional arriving units were stretching a hoseline to the interior 3rd floor where SQ-2 was searching for the source of the smoke. Once on the roof, FFs from L-1 observed and reported a smoke condition on the roof area just prior to hearing the “Mayday” transmission. Following this, they vertically ventilated the skylight over the large shaft, as well as a roof scuttle over the interior stairway area.

Ventilation is the systematic removal of the products of combustion, including heated air, smoke, and gasses from within a structure. It replaces these products with cooler, fresh air which aids interior personnel by decreasing the temperature and improving visibility. However, if not properly coordinated with the application of water to prevent the spread of fire to uninvolved areas, ventilation can actually hinder interior operations and endanger personnel, as the fire and its products will move toward the ventilation openings. If firefighting personnel are in the path of this fire movement, conditions can rapidly deteriorate and pose life-threatening risk to those firefighters.

The ventilation of this structure was performed to relieve untenable interior conditions, which was appropriate considering the ventilation crew's knowledge of a firefighter in distress. However, it was not systematically coordinated with the interior hoseline operations, which is the ideal situation. It is not known if the lack of coordination resulted in the fire burning more intensely due to the sudden rush of fresh air from the roof ventilation.

"Mayday" Procedures

During this incident, Capt. Diaz from E-4 was at the top of the 3rd floor stairs preparing for the hoseline operation when he heard screaming and saw FF Cospito coming out of the apartment with heavy fire above his head. As he exited, the apartment door closed by itself behind him; they immediately realized that FF Neglia was still inside the apartment. As the interior conditions suddenly became untenable, Capt. Diaz radioed an indiscernible "Mayday" message, which BC-1 questioned for confirmation. The IC radioed for all radio transmissions to cease for the Mayday. It should be noted that there were no radio transmissions heard from FF Neglia at any point following this change in conditions.

Rapid Intervention Crew (RIC)

In accordance with IMS regulations in place at the time of this incident under N.J.A.C. 5:75, which adopts NFPA Standard 1561, fire departments are required to provide at least two FFs outside of an IDLH atmosphere. These FFs are tasked with searching for and rescuing lost or trapped personnel, should the need arise. It is recommended that this concept be taken to a higher level with the establishment of a RIC.

Initial operations for this incident were in compliance with the 2-in/2-out regulations which state:

- *At least two employees enter the immediately dangerous to life or health (IDLH) atmosphere and remain in visual or voice contact with one another at all times;*
- *At least two employees are located outside the IDLH atmosphere; and*
- *Visual, voice, or signal line communication is maintained between the employee(s) in the IDLH atmosphere and the employee(s) located outside the IDLH atmosphere;*
- *The employee(s) located outside the IDLH atmosphere are trained and equipped to provide effective emergency rescue;*
- *One of the two individuals located outside the IDLH atmosphere may be assigned to an additional role, such as incident commander in charge of the emergency or safety officer, so long as this individual is able to perform*

assistance or rescue activities without jeopardizing the safety or health of any firefighter working at the incident.

Typically, the NHRFR designates a responding unit as the RIC upon receipt and/or confirmation of a working fire. Since FF Neglia became trapped immediately upon personnel realizing that there was a working fire, there was no formal RIC designated yet. However, this did not significantly delay the rescue efforts, as there were multiple FFs available to conduct these operations.

Communications

This investigation revealed two key issues with the NHRFR radio communications system and the procedures of the department regarding communications.

The NHRFR possesses two radio channels but normally operates primarily on one radio channel, which is also the channel over which all incidents are dispatched. Typically, once arriving apparatus confirm a working fire, dispatch instructs all other non-involved units to switch to an alternate radio channel for any additional incidents. In this particular incident, the discovery of the working fire was not immediately made, thus the switch to the alternate channel was not immediately performed. At almost the same time the working fire was discovered, FF Neglia became trapped and emphasis shifted to his rescue and the switch to the alternate radio channel occurred shortly thereafter. Due to the delay in switching to the alternate channel, second alarm apparatus were dispatched over the primary channel, increasing the radio traffic until the switchover was made.

Additionally, NHRFR has issued each member on duty a portable radio to increase personal safety. However, throughout this incident, there was the occurrence of many “open-mic” transmissions, where the radio would be unknowingly keyed-up, tying up the radio channel with background noise. As this incident escalated prior to the radio channel switchover, this single channel became overburdened by the amount of transmissions occurring. So much, in fact, that the IC ordered personnel to cease communications on the channel after receiving a “Mayday” transmission, and the dispatcher had to advise responding units not to sign-on radio to this incident so as to not tie-up the channel with “unnecessary” radio transmissions. However, personnel still transmitted messages following this order.

SCBA Issues

During this incident, the NHRFR utilized 2216 psi / “30-minute” SCBAs manufactured by SCOTT. It should be noted that 30 minutes refers to the theoretical amount of air supply in the tank, however, this amount of air can be

drastically reduced depending on many factors, including the level of physical exertion, which will exhaust the air supply much sooner.

FF Neglia's SCBA was equipped with a PASS safety device, which is designed to assist rescuers in locating a downed or disoriented firefighter even in dense smoke. Typically, the PASS is worn on the SCBA or turnout coat and must be turned "on" prior to entering an IDLH atmosphere. Turning "on" the PASS is done manually on older models. However, newer integrated PASS models, like the one FF Neglia was wearing, are automatically activated upon turning on the SCBA air tank. Should the firefighter collapse or remain motionless for approximately 30 seconds, the PASS will emit a loud, pulsating shriek. The alarm can also be sounded manually if the firefighter needs assistance. Rescuers will follow the sound to locate the distressed firefighter.

While operating inside the structure, FF Neglia was wearing his SCBA, and had it turned "on," resulting in the activation of his PASS upon becoming incapacitated. As previously stated, FFs on the exterior were alerted to FF Neglia's location by hearing his PASS alarm, helping to expedite the rescue effort. However, there are conflicting reports as to whether FF Neglia was wearing his SCBA facepiece to breathe air during the interior operations. Although his partner from SQ-2 reported seeing him wearing the facepiece and breathing air prior to the conditions deteriorating, he was not wearing it upon being located by rescue personnel. Additionally, the burn injuries observed on FF Neglia's face, head, and neck, as well as the level of smoke inhalation he received were consistent with him not wearing the SCBA facepiece upon encountering the sudden fire conditions in the apartment.

However, it was noted that FF Neglia's SCBA air tank was also recovered empty, indicating that the air supply was either used By FF Neglia and/or leaked from the facepiece upon him becoming incapacitated. It can be reasoned that if he was breathing air, he should have been able to seek refuge / alternate egress, or communicate to personnel using his portable radio, neither of which appeared to have occurred. During this investigation, investigators were unable to determine conclusively if FF Neglia was wearing his facepiece; or if at some point he removed it prior to becoming incapacitated.

Personal Accountability System

A personal accountability system is utilized to provide the IC with an improved means of tracking the location, function, and time of personnel operating at the incident scene.

NHRFR utilizes a "Command Technician," who responds with the SO to all working fires. This person assists the IC with monitoring radio transmissions and also acts as accountability officer, utilizing a command board to track units and

assignments. NHRFR utilizes a 2-tag accountability system in which one tag is kept on the firefighter's turnout gear at all times, and the other tag is placed on a ring in the apparatus. Once on scene, the apparatus officer delivers the ring to the Command Technician who then tracks the personnel on a command board regarding assignment, time and function.

However, during the interview process, it was revealed that many personnel had no definite idea on how the NHRFR accountability system worked. It was reported that 1st alarm companies sometimes leave the ring on their apparatus, but companies responding on additional alarms would bring the ring and tags to the Command Technician for tracking. Many FFs believed that the master riding lists, which were updated for each shift, were used to track the initial personnel.

Critical Incident Stress Debriefing (CISD) Team Usage

The purpose of a CISD Team is to provide individual counseling, group sessions and, if necessary, referrals to members of an emergency response organization involved in traumatic events. These events include death or serious injury of a co-worker, multiple deaths, or the death of a child. The teams are made up of specially trained fire, police and EMS personnel, along with mental health professionals who provide training and guidance to the team members and assist at the debriefing sessions. The assistance provided by the CISD Team helps to sensitize the firefighters to the possibility of stress reactions, hopefully avoiding future stress related problems. It allows the members to understand the range of normal reactions and provides a method to deal with the incident and its after-effects. CISD Teams are regionalized in New Jersey and are part of a statewide network.

PEOSH Inspections

Following this incident, a PEOSH inspection was performed upon the NHRFR by the NJ Department of Labor (DOL), and the NJ Department of Health (DOH). A PEOSH report dated November 11, 2006 indicated that during this investigation, no violations of the PEOSH Respiratory Protection or the NJ Firefighter Standards were observed that may have contributed to the death of FF Neglia.

LESSONS LEARNED

The following items are areas identified as ways to correct issues regarding this incident and other general items designed to make incident scenes safer and more efficient.

Utilizing Scene Size-Up to Determine Strategy and Tactics

Size-up is not a task that is reserved for the IC only; regardless of the extent to which each is involved, all firefighters should routinely perform size-up activities. A proper size-up should begin at the time of alarm and end at the time that the emergency is under control. To ensure a thorough size-up, the use of the following 13-point acronym for size-up considerations is suggested in Fire Officer's Handbook of Tactics:

- C – Construction type***
- O – Occupancy***
- A – Apparatus / Manpower***
- L – Life Hazard***

- W – Water Supply***
- A – Auxiliary Appliances***
- S – Street Conditions***

- W – Weather***
- E – Exposures***
- A – Area & Height***
- L – Location and Extent of Fire***
- T – Time***
- H – Hazardous Materials***

The information obtained during the size-up must be properly analyzed so as to determine an overall strategy, and implement safe and effective tactics. In implementing safe tactics, a risk / benefit analysis must be utilized in determining all operations; the risk of an action needs to be weighed against the probable benefit that may be reasonably and realistically expected. The information thus gained has a direct effect on where, when, and how firefighters operate on the fireground.

Building Considerations

Building and occupancy characteristics can play a significant role in both fire spread and personnel safety during incidents. FFs must maintain familiarity with structures within their response areas. As such, fires that occur in residential structures can be some of the most hazardous for firefighters to battle, as these structures usually do not possess the same life safety or construction design features as commercial structures. It is for this reason that firefighters must anticipate a wide range of dangerous conditions in residential structures including hazardous materials storage, shoddy construction/alterations and high numbers of occupants. This is especially true when dealing with multiple dwelling structures, as was the case in this incident where the open vertical ventilation shaft played a significant role in the outcome of this incident. It is critical that firefighters remain vigilant when responding to fires in such occupancies.

To this end, both the NJ Uniform Construction Code (UCC) under N.J.A.C 5:23-6.26, and the NJ Uniform Fire Code (UFC) under N.J.A.C. 5:70-4.13 address fire safety requirements regarding “interior stairways and vertical openings” in their Rehabilitation Subcode and Retrofit provisions, respectively. These codes state that for an R-2 structure, which is a multi-family dwelling such as the one in this incident, such vertical openings (not exceeding 3 stories) shall be protected throughout by a minimum of a 30-minute fire barrier (exemptions to this requirement include if the building is protected throughout by an approved fire alarm or suppression system). This investigation revealed that this structure did meet the aforementioned requirement in the stairway, as the surrounding walls were plaster construction, and the apartment doors were solid wood with self-closing devices.

However, this investigation revealed that the open ventilation shaft would have required a construction permit prior to being covered by the glass “skylight” enclosure as noted in this report. Typically, covering of such a ventilation shaft would be in violation of regulations from the state Bureau of Housing Inspection (BHI), as these shafts provide required light and fresh air circulation to the interior building spaces. These types of shafts are considered exterior common area space as they are intended to remain unenclosed.

Typically, these structures are inspected by either local or state housing inspection agencies on a five-year inspection cycle. The responsibility for this particular occupancy resides with the state BHI, and records show that the building was last inspected on June 17, 2004. Six violations were cited during this inspection, but none related to combustible debris within the shaft or the unapproved shaft enclosure. Although there was also a history of construction permits issued for this property, there did not appear to be any record of the top of this shaft being enclosed.

To this end, it is recommended that inspectors check these shafts at regular intervals to ensure that there is no accumulation of combustible debris within the shaft, and also that the tops of these shafts remain open, or are capped in an approved manner. Further, violations should be issued to the building(s) owner(s) if any of these “common area” issues are discovered.

Searching Above Fire Floor

As previously noted, fire will cause smoke, heat, and flames to spread upward and outward from their source. This creates a hazard for anyone operating above a fire and should be avoided unless at least one ground ladder is placed to upper windows for emergency egress, a crew with a fully charged hoseline is in place to control the fire, and personnel are ready to perform ventilation to remove the smoke and heat. Rescue, suppression, and ventilation operations must be strictly coordinated by the IC or Operations officer, and communication must be maintained with personnel reporting their status, progress, and observations. Any changes in fire conditions or problems encountered while conducting these vital operations must be conveyed immediately to all those operating in the fire building. Failure to keep all members informed of changing conditions can, and often does, result in FF injuries and deaths.

Search team staff should be equipped with hand tools that can be used for forcible entry and tools that can extend a firefighter’s reach. These tools will allow even a limited number of personnel to conduct an efficient search.

Thermal Imaging Cameras (TIC)

Fire departments that possess TICs should routinely employ them during structural firefighting operations, as well as search and rescue operations. While TICs do not replace time-honored skills, they serve as an important tool to make searches for victims more efficient and result in a higher level of safety for FFs. Just as FFs outfit themselves with a set of irons and flashlight, they must equip themselves with a TIC every time they enter a situation where visibility is reduced.

The TIC must be an integral part of rescue operations for lost or trapped firefighters from the inception of the rescue, as it can help speed a RIC to the firefighter saving precious time in locating and removing the victim(s). Fire departments must continually train utilizing their TIC so that all FFs become proficient in its use.

Ventilation Factors

The decision to perform ventilation depends on several factors which can be determined by the proper coordination and communication between ventilation and fire suppression teams. These factors are as follows:

- *Ventilation must be needed* – This will be determined by the heat, smoke, and gas conditions experienced by the interior personnel.
- *Ventilation location must be determined* – Typically, ventilation should be performed as close to the seat of the fire as possible. A hose team must be positioned and ready to attack the seat of the fire in unison with the ventilation. Additionally, interior personnel must be advised of any change in ventilation location or method.
- *Ventilation method should be determined* – The decision to perform vertical or horizontal ventilation (or both) should be made by considering the anticipated effects the ventilation will have on both the fire and the interior personnel.
- *Personnel safety and ability is paramount* – This is especially true when dealing with lightweight truss construction.

“Mayday” Procedures

FFs must be taught that if they become lost or trapped the most important thing they can do is notify others of their plight and their best guess of their location. For this reason, every interior crew should be equipped with a portable radio equipped with a sufficient number of operational frequencies as well as a dedicated command frequency. Utilizing their radio, they need to notify the incident commander of their situation using a pre-determined emergency term such as “Mayday”, and giving their name, location, and nature of the problem. Additionally, FFs need to immediately activate their PASS devices manually so as to help rescue crews locate them quickly, and all non-essential radio transmissions should cease so that the IC or rescue personnel can communicate with the distressed FF(s).

The NJ Division of Fire Safety has adopted regulations since the time of this incident for standardizing “Mayday” and evacuation procedures. These regulations have been added to the current IMS regulations under N.J.A.C. 5:75-2.5 through 2.10.

Rapid Intervention Crews (RIC)

As previously mentioned, IMS regulations under N.J.A.C. 5:75-5.28 require fire departments to provide at least two FFs outside of an IDLH atmosphere. These FFs are tasked with searching for and rescuing lost or trapped personnel, should

the need arise. It is recommended that this concept be taken to a higher level with the establishment of dedicated RIC comprised of additional staff.

These crews should be specially trained and equipped to deal with rescue of FFs under the worst possible conditions. The crews can be composed of departmental personnel or mutual aid personnel. It is important for the IC to request a RIC as soon as possible after dispatch to allow for the crew to arrive quickly. Some fire departments, such as the NHRFR, have refined their response plans to dispatch a RIC automatically upon receipt of a report of a working fire.

If this concept is adopted by the fire department, it is crucial that the members of the RIC obtain all necessary training and equipment. Once on scene, crew members should not be utilized for any other tasks. Other FD members need to be well versed in the duties, responsibilities and operations of the RIC.

Communications

The aforementioned IMS regulations state that a communications system should meet the demands of the fire department for both routine and large-scale emergencies. The regulations further state that larger fire departments *shall* require several additional radio channels (in addition to the main dispatch channel) to provide for the volume of communications associated with multiple incident situations that can be common in larger municipalities. The communications system should be compatible with typical mutual aid departments, and should provide reserve capacity for unusually complex situations. To this end and given the size of the fire department, the NHRFR should look to increase the number of radio channels available for use at incidents with the Federal Communications Commission.

The radio is often the only link between personnel operating inside and outside of a hazardous area or situation. With this in mind, it is strongly recommended that the NHRFR communications system operating procedures be updated to provide a reliable method for their personnel to operate during emergency incidents utilizing various available radio channels, possibly determined by function or location on the fire ground. In this regard, excess radio traffic on a single channel will be reduced and the chances of urgent messages being received may be enhanced. Further, these procedures should stress radio discipline that will limit unnecessary communications and include measures to allow for moving personnel off channels that are needed for exclusive use between the IC, RICs and trapped FFs.

All fire departments should possess communications recording equipment capable of recording multiple frequencies simultaneously in various formats - abridged, real-time, merged with dispatch phone calls. Also, dispatchers must make it standard practice to continually update times over the radio upon receipt

of “significant” fireground transmissions. NFPA 1221; *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems* recommends that communications centers shall have a logging voice recorder, with one channel for each of the following:

- Each transmitted or received radio channel or talk group
- Each dispatch alarm circuit
- Each telecommunicator telephone

Additionally, NFPA 1221 recommends that records of the dispatch of emergency response units in response to alarms shall be maintained and shall identify the following:

- Units
- Companies and supervisors for emergencies and subsequent emergencies
- Supervisory officers for alarms and subsequent alarms
- Time of acknowledgment by each unit
- Time of arrival of each unit at the scene
- Time each unit returned to service

While operating at scenes that require the response of outside agencies and/or departments, the concept of Unified Command must be utilized. Under this concept, a representative from each agency involved with an incident will contact and/or stand-by at the ICP for orders from the IC. These representatives will exchange pertinent information with the IC to reduce the chance of freelancing and increase accountability of personnel on the scene.

SCBA Issues

As previously stated, the air supply of an SCBA can be drastically reduced depending on many factors, including physical exertion, which will exhaust the air supply much sooner. In fact, the Philadelphia Fire Department conducted extensive testing in a firefighting skills proficiency course with FFs using SCBA. For the 750 FFs tested, the average air consumption for a SCBA rated for 30 minutes was less than 15 minutes from full tank to low air pressure alarm.

The low air pressure alarm is designed to activate when the air supply reaches approximately $\frac{1}{4}$ capacity. However, FFs should not rely solely on this alarm to alert them to exit the hazardous area, as all mechanical devices are subject to failure. Even with proper SCBA maintenance, FFs must periodically monitor their SCBA air pressure gauge during operations. Also, during routine checks, the SCBA air pressures should be logged to track any possible problems with air leaks.

PASS devices can save lives, however they must be provided by the employer and used and maintained in accordance with PEOSH regulations under N.J.A.C. 12:100-10 et seq. Although newer technology automatically activates an

integrated PASS device upon turning-on an SCBA, many departments still rely on PASS devices that must be activated manually. Although these devices are acceptable by NFPA standards, the burden is on the FF to remember to activate the PASS device. As is the case with anything else, adding the human factor into the equation increases the chance for error.

Fire Departments must comply with Respiratory Protection Standards under 29 CFR 1910-134, whereas all FFs shall obtain a “fit test” annually, attesting to their ability to maintain a proper face mask seal. Should any FFs not receive a passing score on this analysis, they should be refitted with a different size / style SCBA face piece and retested until a passing score is obtained.

Current technology can assist with the communication difficulties typically encountered by FFs that have their SCBA facepiece donned. All SCBA manufacturers now offer voice amplification modules that are integrated on the facepiece to allow for normal-voice communication. This greatly increases the effectiveness of fireground communications by virtually eliminating the muffling and garbling that was commonplace. It is strongly recommended that all FDs consider upgrading their SCBAs with these devices for the safety of their personnel.

It is essential that fire departments preserve any equipment involved in FF injuries or fatalities so that a complete investigation of said equipment can be performed at a later date. This preservation should occur immediately following the incident, without cleaning or changing any components, such as to minimize the possibility of altering the conditions that may have contributed to the possible equipment failure.

Personal Accountability System

Regulations for the NJ Personal Accountability System (NJPAS) under N.J.A.C 5:75 require that fire departments utilize a two-tag accountability system. The first tag is placed by the FF on the responding apparatus, and the second tag is given to a designated accountability officer prior to entering the IDLH. This system includes the use of PARs / roll calls, all within the framework of the IMS that is required to be utilized at all incidents.

The NJPAS is more than simply handing tags to the designated officer. It is also a system that requires communication between crews working inside the structure or hazardous area and company officers and the IC. Fire departments must continually train their personnel on the personnel accountability system in order for all to be proficient and allow for the greatest level of effectiveness and safety.

Firefighter Survival Techniques

No matter how cautious FFs are, fires are dynamic and conditions can deteriorate rapidly. It is imperative that they be prepared for dire situations should they occur. Fire departments need to train personnel to deal with the possibility of becoming lost or trapped. While it is difficult to simulate a training scenario in which a FF actually feels his/her life is threatened, creative, realistic and safe training exercises can be developed to help prepare them for dire situations.

Through repetitive training, FFs can learn such emergency survival techniques as “skip-breathing” to conserve precious air supply, entrapment self-extrication techniques, wall breaching techniques, ladder escape “bail-out” methods and so forth. It is also important that they be equipped with small items such as wire cutters, personal flashlights and personal lengths of rope or nylon webbing.

Above all, FFs must be conditioned to respond to individual emergencies calmly in order to make reasoned decisions. They must be taught that if they become lost or trapped the most important thing they can do is notify others of their plight and location as best they can. For this reason, every interior crew member should have a portable radio equipped with a sufficient number of operational frequencies and a dedicated command frequency. Further, they should use a pre-determined emergency term such as “May-Day” to notify the incident commander of their situation. Finally, FFs need to immediately activate their PASS devices manually so that rescue crews can locate them quickly.

Emergency Care of Firefighters

The NJ Department of Health and Senior Services (NJ DOH) has issued a guide book, “Emergency Management Considerations for Firefighters” (also known as the “Pink Book”) to the emergency departments of all hospitals in the State. Although these protocols did not impact upon this incident, this book covers the proper medical procedures and considerations for treating and/or stabilizing various firefighter injuries. It should be noted that the NJ DOH is currently updating the “Pink Book”, and changing the title to “Guidelines for the Emergency Care of Firefighters”. All FDs should check their local hospitals to ensure that emergency room staff do possess, and are familiar with, this guide book.

In accordance with American Burn Association recommended guidelines, and in keeping with the policies of The Burn Center at Saint Barnabas, a certified burn treatment facility for care and transport of burn patients, all individuals meeting the following criteria should be referred to the nearest certified burn center:

- *All Partial thickness (2nd degree) burns \geq 10% TBSA*
- *All Full thickness (3rd degree) burns, regardless of size*

- *All chemical, inhalation and electrical burns*
- *Any burns to the face, feet, joints or genitalia*
- *Patients with pre-existing medical disorders compromising outcome*
- *Patients with burns and concomitant trauma (Follow regional medical control and triage protocols)*
- *Patients requiring extensive social, emotional or long-term rehabilitation*
- *Pediatric burns without qualified personnel or equipment*

In New Jersey, consult with The Burn Center directly at (973) 322-5920, or the NJ DOH at (609) 984-1863

Critical Incident Stress Debriefing (CISD)

The purpose of a CISD Team is to provide individual counseling, group sessions and, if necessary, referrals to members of an emergency response organization involved in traumatic events. The teams are made up of specially trained fire, police and EMS personnel, along with mental health professionals who provide training and guidance to the team members and assist at the debriefing sessions.

The assistance provided by the CISD Team helps to sensitize the FFs to the possibility of stress reactions, hopefully avoiding future stress related problems. It allows the members to understand the range of normal reactions and provides a method to deal with the incident and its after-effects. The use of a CISD Team in situations such as this is not a sign of weakness on the part of emergency personnel. Failure to deal completely with the emotional stress of such a traumatic occurrence can negatively affect both the professional and personal lives of those involved.

The Division of Fire Safety recommends the notification and use of CISD teams when the CISD trigger events are found to be present. Such significant events may include:

- *line of duty death of a co-worker*
- *mass casualty incidents*
- *death of a child*
- *death occurring after prolonged rescue efforts*
- *when a victim reminds an emergency worker of a loved one*
- *during highly dangerous or highly visible events*
- *when the emergency worker influences death or injury*
- *co-worker suicides*
- *any other unspecified highly traumatic event*

Currently, CISD Teams are regionalized in New Jersey and are part of a statewide network. These teams will respond on a 24-hour basis whenever

requested. Emergency contact numbers for activation of a CISD team are as follows:

The Statewide CISD Network – (609) 394-3600

The NJ Fire & EMS Lifeline – (866) 653-3367

CONCLUSION

The death of Firefighter Neglia was found to be a result of the undiscovered and uncontrolled fire progressing up the vertical shaft and into the apartment where Neglia perished. However, other contributing factors were also found to have impacted upon the overall outcome of this incident including the non-use of thermal imaging cameras and garbled radio communications during the time of dire need.

Firefighting is one of the most hazardous occupations that exists. Firefighters understand that every fire they respond to is different in many ways from others they have fought. However, there are also many similarities between nearly all fires that must be identified by firefighters. A major similarity is the way fire typically behaves. Fire will progress vertically as far as it can until it meets vertical resistance, then it will begin to progress horizontally. Keeping this in mind, another similarity between incidents is building construction. While there are many variations with regard to building construction, there are a very limited number of primary types of construction; each with its own unique characteristics with regard to how fire spreads in a building. Typically, in urban areas especially, most buildings of a certain age are built similarly. Such is the case with many multiple occupancy residential structures in the towns served by the NHRFR. A major commonality of these structures that are constructed tightly together to one another is the use of vertical ventilation shafts. Time and time again, these shafts have permitted smoke and fire to spread rapidly and often undetected for some time until fire breaks through to apartments in a highly active state. In this case, this is what happened and the result was the death of a veteran firefighter.

It is the NJ Division of Fire Safety's sincere hope that the lessons learned from this and other similar incidents will serve to educate the fire service and inspire them to take all necessary measures to reduce firefighter injuries and deaths to the greatest extent possible.

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